The project was designed to help high school students with industrial occupational goals achieve practical communication skills necessary for efficient employment entry. Industrial arts and language arts teachers together developed major essential categories for vocational English (reading skills, correspondence skills, reference skills, technical terminology, and job hunting skills) and subdivided these into specific communication skills. Multiple job sheets were developed for each skill utilizing content from the occupational fields (auto mechanics, drafting, electronics, and metals). A total of 277 job sheets, each about a 50 minute assignment, were developed and reviewed by an advisory committee for each industrial area. After completing 45 sheets a student received a grade and credit for the class. Student response was positive and evaluations by the instructors indicate their satisfaction with the program and the need for its continuation. The course materials (most of the document) are: student progress record sheets, performance evaluation sheet, separate job sheets for the four industrial areas covering skills in the essential categories (presenting objectives, materials, and procedures for students to use independently), and a bibliography for each area. Also included are notes from the advisory committee meetings, and favorable program evaluations from parents and outside educators. (Author/MS)
Communication Skills Program for Vocational Students

by

Language Arts Consultants:
Ms. Marilyn Schuberg
Ms. Betty Jean Canon

Project Director:
Dr. Alvin K. Pfahl

MAY, 1972

Developmental Project of
West Linn-Public Schools
West Linn, Oregon 97068

in cooperation with
Oregon State Department of Education
942 Lancaster Drive, NE
Salem, Oregon 97310

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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DEVELOPMENT OF COMMUNICATION SKILLS PROGRAM FOR VOCATIONAL STUDENTS

Introduction: This was an exemplary project aimed to extend a program designed to help high school students with industrial occupational goals and achieve practical communication skills necessary to efficient employment entry.

Background: The original developmental planning was undertaken by four industrial teachers, (James Simpson, Gerald Quinn, Andy Espino, and Don Schmeiser), two language arts teachers, (Norma Cameron and Marilyn Schuberg), chairman of English (Betty Canon), and the director of vocational education (Dr. Alvin K. Pfahl). The language arts teachers conferenced a minimum of four hours in each of the four industrial curriculum areas observing operation of each machine or piece of equipment, viewing the course content, surveying the occupational publications for each field, reviewing the cluster communication skills as suggested in the state guide, and interrogating the occupationally competent industrial instructors about the nature of communications processes in the respective occupational areas.

Major essential categories of vocational English were established as follows:
1. Reading skills
2. Correspondence skills
3. Reference skills
4. Technical terminology, symbols, abbreviations, spelling
5. Job hunting skills

Each major category was subdivided into specific communication skills. For each specific skill multiple job sheets were developed to utilize the differentiated skills. The language arts personnel subdivided the established communication categories into differentiated skills. Job sheets were developed for each differentiated skill. As the language arts teachers developed job sheets, the vocational instructors "plugged in" content for their respective occupational field. The aim was to accumulate a minimum of two hundred useable job sheets usable in each industrial area.

Accumulation of a large number of job sheets was necessary for the class to become functional fall semester. It was aimed that each job sheet would be equated to about a fifty minute assignment. Some job sheets were assigned a multiple value. When a student completed forty-five jobs he received his completed grade and credit for this class.

The program operated (1970-71) in a facility where students had access to the vocational resources of the West Linn School libraries and had access to
the occupational expertise of the vocational instructors. The student response to the course was very positive. The program had definite value to interdisciplinary curriculum developments.

The unique features of the exercise were:

1. The identification of specific job skills for communication in the delimited industrial areas of drafting, mechanics, metals, and electronics.
2. The teaching of the communication skills using relevant occupational content.
3. The bridging of a gap between "academic" and vocational to a purposeful communications education for students.

The original developmental work was accomplished by the developmental team spring-1970. In-service days prior to school closure were utilized. The teachers volunteered much additional time.

The Funded Exemplary Project

All the job sheets that existed were revised. Many were extended in content. The original experience with them in the classroom evidenced that students operated and produced completed assignments much faster than in the traditional language arts classroom. The teachers rough estimate was approximately 200% faster!

The English modules on file at the Northwest Educational Regional Laboratory were reviewed. Some ideas were adapted and incorporated. These were not as helpful as originally planned.

The ultimate productivity goal was to revise, complete, or write two hundred job sheets instructionally usable for each of the delimited industrial areas. Some job sheets could be used in each instructional area; some were limited to one or several of the areas.

A total of 277 job sheets were completed and used in the instructional program.
The specified objectives were:

Objective #1 - Have all existing job sheets reviewed by respective industrial Advisory Committee to ascertain their occupational relevance.

An Advisory Committee for each delimited industrial area was convened. The vocational-english instructor, Marilyn Schuberg, presented all of the then existing job sheets to the committee for review. Notes pertaining to the meeting are attached in appendix addendum.

Advisory Committee feedback was very positive for further implementing and revising the program. What was surprising to the educators involved was the difference.

Objective #2 - Re-edit the existing job sheets, revising and extending the industrial content.

This was accomplished by the team of heretofore mentioned industrial teachers. The language arts teachers assisted in editing.

Objective #3 - Update and correct biographical materials.

This was accomplished by the team of industrial and language arts teachers.

Objective #4 - New job sheets will be added.

Approximately 30% of the total job sheets were added during this proposal.

Objective #5 - Improve the differentiation of language arts categories 4 and 5.

This was accomplished.
RECORD SHEETS
FOR
STUDENT PROGRESS
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### VI. Skill Finding & Getting A Job

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<td>#3</td>
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### Chapter Text

- You and Your Job
  - #1
  - #2
  - #3
  - #4
  - #5
  - #6
  - #7

- Specific service order
  - #1
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<td>3. Analyzing</td>
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<td>Write 3 letters of request: Letter #1</td>
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<td>Exam. &amp; Eval. Order letter</td>
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<td>Write 3 Order letters: Letter #1</td>
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Chapter Text Completed

You and Your Job

#1

#2

#3

#4

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#6

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#9
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### A. OVERTVIEWING I


### B. OVERTVIEWING II

2. Classification

### C. SCANNING PRE-TEST

3. Cause and Effect

### D. SCANNING I

4. Effect and Cause

### E. SCANNING II

5. Major and Minor Details

### F. SCANNING III

6. Statement of Fact

### G. SCANNING POST-TEST

7. Outlining

### H. SKIMMING

8. Recognizing Prop.

### I. TRADE JOURNALS


### J. ORGANIZING WHAT YOU HAVE READ

10. Complete a Check

11. Complete a Money Order
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<th>III. TECHNICAL TERMINOLOGY</th>
<th>VI. SKILL FINDING &amp; GETTING A JOB</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABBREV.</td>
<td>SYMBOLS</td>
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<tr>
<td>PRE-TEST #1</td>
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<tr>
<td>JOB SHEET NUMBER</td>
<td>YOU AND YOUR JOB</td>
</tr>
<tr>
<td>A. ALPHABETIZING</td>
<td>1 &quot;Job Opportunities&quot;</td>
</tr>
<tr>
<td>B. GUIDE WORDS</td>
<td>2 &quot;Pick Your Goal!&quot;</td>
</tr>
<tr>
<td>C. TABLE OF CONTENTS</td>
<td>3 &quot;Summer Employment&quot;</td>
</tr>
<tr>
<td>D. INDEX</td>
<td>4 &quot;Selling Your Talents&quot;</td>
</tr>
<tr>
<td>E. GLOSSARY</td>
<td>5 &quot;Letter of Application&quot;</td>
</tr>
<tr>
<td>F. REFERENCE TABLES</td>
<td>6 &quot;Application Blank&quot;</td>
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<tr>
<td></td>
<td>7 &quot;Personal Interior&quot;</td>
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<td></td>
<td>8 &quot;First Day on the Job&quot;</td>
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<p>| 13 |</p>
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<tr>
<th>I. READING</th>
<th>II. GENERAL REFERENCE</th>
<th>III. SPECIAL MET. SH. REFERENCE</th>
<th>IV. TECHNICAL TERMINOLOGY</th>
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<tr>
<td>A. OVERVIEWING I</td>
<td>A. ALPHABETIZING</td>
<td>A. ALPHABETIZING</td>
<td>A. ABBREVIATIONS</td>
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<td>B. COPYRIGHT</td>
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<td>C. INDEX</td>
<td>2. Pre-Test #1</td>
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<td>D. INDEX</td>
<td>D. TABLE OF CONTENTS</td>
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<td>4. Pre-Test #3</td>
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<td>Post-Test #5</td>
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<tr>
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<td>F. ORGANIZING WHAT YOU HAVE READ</td>
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<td>2. Pre-Test #2</td>
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<tr>
<td>V. CORRESPONDENCE SKILLS</td>
<td>VI. SKILL - FINDING AND GETTING A JOB</td>
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<tr>
<td><strong>Job Sheet No.</strong></td>
<td><strong>Type</strong></td>
<td><strong>Completed</strong></td>
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</tr>
<tr>
<td>1. Exam. &amp; Eval. Letter</td>
<td>Job Survey Sheet</td>
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<tr>
<td>2. Exam. &amp; Eval. Letter</td>
<td>Job Exploration</td>
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<tr>
<td>3. Write 3 Letters of</td>
<td>(Do three of these)</td>
<td></td>
<td></td>
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<tr>
<td>Request</td>
<td>#1 #2 #3</td>
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<tr>
<td>4. Exam. &amp; Eval. Order</td>
<td>Work Permit</td>
<td></td>
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<tr>
<td>5. Write 3 Order Letters</td>
<td>Social Security</td>
<td></td>
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<td>6. Order using an Order</td>
<td>Letter of Application</td>
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<tr>
<td>Form</td>
<td>6. Application Forms</td>
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<td></td>
<td>(Do three of these)</td>
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<td></td>
<td>#1 #2 #3</td>
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<tr>
<td>7. Complete a check</td>
<td>Apprenticeship Training</td>
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<tr>
<td>8. Complete a money order</td>
<td>Apprenticeship Training</td>
<td></td>
<td></td>
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<tr>
<td>9. Memo writing</td>
<td>Films/Guest Speakers</td>
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**YOU AND YOUR JOB**

<table>
<thead>
<tr>
<th>Chapter</th>
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<td>#9</td>
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</tbody>
</table>
* Performance Evaluation for
  Grading Purposes

Voc. English Evaluation
2nd 9-weeks

The following evaluation form is based on a reference check used by a
large company. Fill it out as though you were writing a reference for
yourself, based on your performance in this class.

Date: ______________________________________
Name: ______________________________________

Write a statement regarding each of the following:
Amount of Work Produced Since November Evaluation:

____________________________________________________

Quality of Work: ______________________________________

Attitude:
  Effort ______________________________________
  Honesty & ______________________________________

Work Habits:
  Efficient Use of Time ______________________________________
  Ability to Concentrate on Job ______________________________________
  Comes Prepared to Work ______________________________________

Attendance: ______________________________________
            (Number of days present)

On the basis of the above information rate yourself on the following
grading scale: A B C D F

State your reasons for arriving at the above evaluation:

____________________________________________________
____________________________________________________
____________________________________________________
____________________________________________________
____________________________________________________

* Adapted from personnel evaluation forms obtained from Northwestern Glass
  Inc., Seattle, Washington
## WORK HABITS RECORD SHEET

<table>
<thead>
<tr>
<th>M</th>
<th>T</th>
<th>W</th>
<th>Th</th>
<th>F</th>
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<th>T</th>
<th>W</th>
<th>Th</th>
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<th>T</th>
<th>W</th>
<th>Th</th>
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</table>

### Attendance
- **In class on time with equipment**
- **Begin work immediately work until bell**
- **No disruptive behavior**

### Productivity
- **Return all materials**

### BONUS PTS.

### Total Points for 9-Weeks

<table>
<thead>
<tr>
<th>GRADE</th>
<th>TOTAL POINTS</th>
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<tbody>
<tr>
<td>A</td>
<td>266-290</td>
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<tr>
<td>B</td>
<td>241-265</td>
</tr>
<tr>
<td>C</td>
<td>226-240</td>
</tr>
</tbody>
</table>

### DEDUCTIONS

\[
\text{Total} = \frac{1 \times 3}{13} = \frac{3}{13}
\]
SUMMARY EVALUATION

BY INSTRUCTORS
EVALUATION
by Marilyn Schuberg, Vocational English Teacher

Vocational English, as it evolved from an idea in interdisciplinary education to a semester course in our English elective program, has achieved an impressive degree of success for students and teacher alike. From the point of view of the teacher, I can not help but look back to the time when I taught a traditional English program to the vocationally-oriented student, who, in spite of the best efforts of both teacher and curriculum, was turned off by whatever was offered him. This type of student was impatient at being given reading material in which he had no interest, and writing assignments for which he could see no immediate purpose; lack of interest invariably bred behavior problems. By contrast, this same type of student in the Vocational English program has responded with enthusiasm to the job sheet concept, has eagerly read materials directly connected with the vocational area of his consuming interest, and has worked diligently; behavior problems have become virtually non-existent. Students who previously had experienced only frustration and failure in English were working hard and achieving success; without being presumptuous, it is fair to state that many students acquired an improved self-image regarding their ability to use their reading and writing skills.

The students in Vocational English enjoyed the content material of the reading assignments; they could see some purpose in acquiring refined reading skills, and furthermore, they wanted the information contained in the assigned material. Also, the short assignment concept upon which the job sheet is based was appealing; there was satisfaction in being able to complete a job sheet, turn it in, start another, and oftentimes complete several during a class period. As the instructor, I tried to give students daily feedback by correcting their job sheets and returning them the following class period. Each student worked at his own speed, kept his own records, and was remarkably self-motivated.

My role as the teacher became one of a facilitator of learning. I spent each class period moving around the room, assisting students at whatever point they needed help. The structure of the class permitted a high degree of individualized teaching and produced a positive student-teacher relationship.

All of the preceding contributed toward making Vocational English a worthwhile course, but, in my opinion, the key factor to the success of the
program was the inter-disciplinary approach and the close working relationship between this English class and the vocational teachers who co-authored the job sheets. Since the classroom was located in the shop wing of West Linn High School, students were able to move freely between the classroom and their shop if technical questions arose which I could not answer, or if materials needed to be shared. Because the communication skills which were being taught and the materials being used had been selected by the vocational teachers for whom these students have an enormous respect, there was a new value placed upon the importance of English skills in reading, writing, correspondence, and reference work became meaningful in a way in which they never had before.
EVALUATION
by Mr. Gerald Quinn, Vocational Mechanics

1. Content:
   a. Subject matter is very relevant to vocational areas.
   b. Student response has been extremely satisfying.
   c. The students seem to respond towards the idea of moving along at individual rate rather than as a group.
   d. I can see that Vocational English will need constant revision and monitoring each year.
   e. The teacher is a very important tool in the subject and has to personally be responsive as Mrs. Schuberg has been.
   f. A true evaluation can be reached after about three years of exploration and student response.
   g. At this time the subject has indicated that the students are ready to accept the change, and can truly see the subject of English when it is relevant to the trade or vocation they intend to pursue in their field of work.

2. Summary:

   It is my personal opinion that the program can be of great value to all students even those not pursuing vocational courses. With a yearly evaluation and updating this course can become a most rewarding subject to the students who participate, and be of great value to the school system as a whole in the inducement to have students accept English as a need rather than being something that is just required.

   The true evaluation I believe can be more firmly assessed by the English teacher who teaches the subject, in comparison use of a student in the regularly required English course of the same student.
EVALUATION
by Don Schmeiser, Electronics Teacher

The Vocational English project was a huge undertaking, but the effort, I believe, was well worth it.

This program has been great for the student not only in English but has made the student more aware of his electronics in the electronics classes.
EVALUATION
by A.G. Espino, Vocational Drafting Teacher

As society becomes more complex, the role of Vocational English becomes more enhanced. It is our wish that Vocational English serves as a liaison between the public and world of work.

Vocational English added to the curriculum gave meaningful experience to the students. It supplemented their learned skills in understanding fully the specified course. The students communicated more and better, regarding their experiences in the world of work.

The new course further encouraged the students to challenge the world of work because of its newness and its use to integrate the two field media of instructions.

The students did research, since they were curious and at ease with the printed words. Their research gave meaningful experiences because they understood what they were doing.

Recommendations

The course should be required the whole year, instead of a semestral basis because of its continuous need.

The teacher concern should be given an opportunity to work with the students in the shop, for a complete and better understanding with technical terms applied.

Adequate reference materials should be provided.

Technical knowledge and skills go hand in hand, therefore, Vocational English should be used, to communicate better in this ever changing society.
EVALUATION
by James B. Simpson, Vocational Metals Teacher

I must draw conclusions from feedback of students in the shop.

Pro:
1. Relationship to actuality.
2. Job packet type program.
3. Presentation of program by Mrs. Schuberg.
4. Use of shop manuals and catalogs to gather information.
5. Vocational texts (reading skills).
6. Individualized attention.
7. Job interview training.

Con:
1. Not enough depth for those students enrolled who do well in standard academic English classes.
2. Need for more periodical literature (up to date).
3. More realistic movies.

This program as I see it, is very successful. In order to remain successful we are going to have to council more closely and be sure the students who enroll are those who are definitely vocationally oriented.
1. What is the name of this course? Vocational English

2. How do you rate this course as to ease or difficulty?
   1. truly a snap course
   2. not a great effort required
   3. just about my level
   4. keeps me on the ball
   5. usually over my head

3. Has this course been interesting to you?
   1. has been boring
   2. very little interest
   3. occasionally interesting
   4. as a rule quite interesting
   5. quite exciting

4. Has the course been applicable to your life and interest?
   1. seems personally directed to me
   2. usually has application
   3. sometimes appeals to my interests
   4. only occasionally has practical meaning to me
   5. almost all no value

5. Have you benefited from the course?
   1. practically a total loss
   2. little gain in understanding
   3. a fairly useful course
   4. have learned quite a bit
   5. has changed my whole outlook

6. Is the instructor capable in making things understandable?
   1. can make anything understandable
   2. quite good at explaining difficult concepts
   3. usually makes points fairly clear
   4. frequently is not clear
   5. very vague and confusing

7. How do you feel about the instructor's attitude toward students and teaching?
   1. treats students as necessary evils
   2. not much interest in students
   3. rather impersonal
   4. usually cooperative
   5. shows he really wants to help students

8. Does the class session and course organization show evidence of sufficient preparation by the instructor?
   1. very well planned and carried out
   2. uses time quite well
   3. fairly well prepared
   4. not too well prepared
   5. mostly spur-of-the-moment organization
Student Evaluation (cont.)

9. How much effort did you as a student exert in this course?

1. none at all 1
2. a little now and then 3
3. busy about half the time 6
4. busy most of the time 5
5. more than ever before 7
OBJECTIVE: To develop the skill of overviewing a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1). To examine new material to find out what it contains, and (2). To determine whether a specific book contains information you want.

MATERIALS: Motors Repair Manual.

PROCEDURE:
1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title.

3. Quickly scan:
   (a). The table of contents
   (b). The preface or forward
   (c). The introduction
   (d). The pictures, maps, graphs, or tables
   (e). The appendix
   (f). The index

4. Record your findings below:
   (a). The title of this book is ____________________________

   (b). Read the introduction or forward and in your own words state the purpose of the book:

   (c). The Table Of Contents shows that this book contains ___ of sections, broken down into ___ of chapters.

   (d). Your overview shows that this book also contains the following:
   Check if applicable
   (1). Index
   (2). Appendix
   (3). Introduction
   (4). Other (List)

5. From your overview state the purposes for which you believe this book would be useful:
   (1).
   (2).
   (3).
OBJECTIVE: To develop the skill of overviewing a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1). To examine new material to find out what it contains, and (2). To determine whether a specific book contains information you want.

MATERIALS: Motors Flat Rate and Parts Manual

PROCEDURE: 1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title.

3. Quickly scan:
   a. The Table of Contents
   b. The Preface or Forward
   c. The Introduction
   d. The pictures, maps, graph, or tables
   e. The Appendix
   f. The Index

4. Record your findings below:
   a. The title of this book is
   b. Read the introduction or forward and in your own words state the purpose of the book:
   c. The Table of Contents shows that this book contains _____ no. of sections, broken down into _____ no. of chapters.
   d. Your overview shows that this book also contains the following:

      Check if applicable

      (1). Index
      (2). Appendix
      (3). Introduction
      (4). Other (List)

5. From your overview state the purposes for which you believe this book would be useful:

   (1).
   (2).
   (3).
READING SKILLS - Auto Mech
OVERVIEWING 1

Job Sheet # 3

OBJECTIVE: To develop the skill of overviewing a textbook.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every work he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific book contains information you want.


PROCEDURE: 1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title.

3. Quickly scan:
   a. The Table of Contents
   b. The Preface or Forward
   c. The Introduction
   d. The pictures, maps, graphs, or tables
   e. The Appendix
   f. The Index

4. Record your findings below:
   a. The title of this book is
   b. Read the Introduction or Forward and in your own words state the purpose of the book:
   c. The table of Contents shows that this book contains ______ no. of sections, broken down into ______ of chapters.
   d. Your overview shows that this book also contains the following:

Check if applicable

(1). Index  
(2). Appendix  
(3). Introduction  
(4). Other (List)  

5. From your overview state the purposes for which you believe this book would be useful:

(1).  
(2).  
(3).  

3024
Objective: To develop the skill of overviewing a textbook.

Overviewing is a quick and efficient way to get a general idea about what is in a book, chapter, or an article. By overviewing you find out what a writer is saying without reading every work he has written. There are two reasons for overviewing; (1). To examine new material to find out what it contains, and (2). To determine whether a specific book contains information you want.


Procedure: 1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title.

3. Quickly scan:
   a. the table of contents
   b. the preface or forward
   c. the introduction
   d. the pictures, maps, graphs, or tables
   e. the appendix
   f. the index

4. Record your findings below:
   a. The title of this book is ____________________________
   b. Read the Introduction or Forward and in your own words state the purpose of the book:
   c. The Table of Contents shows that this book contains _____ of sections, broken down into _____ of chapters.
   d. Your overview shows that this book contains the following:

   Check if applicable
   (1). Index
   (2). Appendix
   (3). Introduction
   (4). Other (List)

5. From your overview state the purposes for which you believe this book would be useful:
   (1).
   (2).
   (3).
OBJECTIVE: To develop the skill of overviewing a chapter in a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you want and need.


PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. Record your findings below:
   a. The title of this chapter is ____________________________.
   b. This chapter is divided into _______ of sections.
   c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraph of this chapter and in your own words state the purpose!
   d. List all the bold-face headings which develop the chapter.
   e. State the technical purpose for which the information in this chapter would be useful!
OBJECTIVE: To develop the skill of overviewing a chapter in a textbook or in a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you want and need.

MATERIALS: Crouse, William H., Automotive Mechanics, Chapter #32, "Transmissions with Fluid Coupling."

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. Record your findings below.
   a. The title of this chapter is _____________________________.
   b. This chapter is divided into _______ of sections.
   c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraph of this chapter and in your own words state the purpose.
   d. List all the bold-face headings which develop the chapter:
   e. State the technical purpose for which the information in this chapter would be useful.
Job Sheet #3

OBJECTIVE: To overview a chapter in a textbook without writing all the information down.


PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly followed the process of overviewing a chapter, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheets #1 and #2. Complete the following statement:

The purpose of this chapter is:

OVERVIEWING II

Job Sheet #4

OBJECTIVE: To overview a chapter in a textbook without writing all the information down.

MATERIALS: Crouse, William H., Automotive Mechanics, Chapters 13, "Electrical System."

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly followed the process of overviewing a chapter, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheets #1 and #2. Complete the following statement:

The purpose of this chapter is:
**OBJECTIONS:** To develop the skill of previewing an article.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

**MATERIALS:** 1. Pamphlet, "Charging, Ignition and Cranking Systems" - Section II  
2. Pen or pencil.

**PROCEDURE:** 1. Obtain the pamphlet from the file.  
2. Preview Section II of the assigned text as follows:  
   a. Read the title.  
   b. Read the introduction.  
   c. Read the headings and subheadings.  
   d. Read words, phrases, and sentences in boldface, italic, or other special type.  
   e. Read the last paragraph and any summary that you might find.  
   f. Look at the pictures, tables, maps, and graphs. Read the captions.
3. Answer the following questions:
   a. The title of the section is __________________________.  
   b. This section of the book deals with __________________________.  
   c. The first main heading of the section tells __________________________.  
   d. What is the second main heading of the section?  
   e. What information can you expect under this heading?  
   f. What kinds of illustration can you find in this section, and for what would they be useful?  
   g. For what purpose would the information in this chapter be useful?  
4. Return the pamphlet to the file.
OBJECTIVE: To develop the skill of previewing an article.

Previewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings, and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

               2. Pen or pencil

PROCEDURE: 1. Obtain the specified pamphlet from the file.
2. Preview the assigned pages as follows:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read words, phrases, and sentences in boldface, italic, or other special type.
   d. Read any summary that you might find.
   e. Look at the pictures, tables, maps, and graphs. Read the captions.
3. Answer the following questions:
   a. The title of the section is ____________________________.
   b. This section of the book deals with ____________________.
   c. The first main heading of the section tells ________________.
   d. What is the second main heading of the section?
   e. What information can you expect under this heading?
   f. What kinds of lists can you find in this section, and for what would they be useful?
4. Return the pamphlet to the file.
OBJECTIVE: To develop the skill of previewing an article.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing, you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings, and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: Energizers and Batteries - pamphlet

Pen or Pencil

PROCEDURE: 1. Obtain the assigned pamphlet from the file.
2. Preview the pamphlet as follows:
   a. Read the title.
   b. Read the introduction.
   c. Read the headings and subheadings.
   d. Read words, phrases, and sentences in boldface, italic, or other special type.
   e. Read any summary that you might find.
   f. Look at the pictures, table, maps, and graphs. Read the captions.
3. Answer the following questions:
   a. The title of the pamphlet is ____________________________
   b. This pamphlet deals with ____________________________
   c. The first main heading of the pamphlet tells ____________________________
   d. What is the second main heading of the pamphlet?
   e. What information can you expect under this heading?
   f. Summarize in your own words the information contained in this pamphlet.
4. Return the pamphlet to the file.
OBJECTIVE: The development of skill of previewing an article.

Previewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing, you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings, and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: 1. 20,000 Volts Under the Hood pamphlet
2. Pen or pencil.

PROCEDURE: 1. Obtain the assigned pamphlet from the file.
2. Preview the assigned pamphlet as follows:
   a. Read the title.
   b. Read the headings.
   c. Read words, phrases, and sentences in boldface, or other special type.
   d. Read any summary that you might find.
   e. Look at the pictures. Read the captions.
3. Answer the following questions:
   a. The title of the pamphlet is ____________________
   b. This pamphlet deals with ____________________
   c. The heading of the pamphlet tells ____________________
   d. What information can you expect under this heading?
   e. In your own words summarize the information discussed in this pamphlet.
4. Return the pamphlet to the file.
OBJECTIVE: To develop the skill of previewing an article.

Previewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing, you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the titles, headings and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: Introducing the D-electron Generator and the Charging Circuit. (pamphlet)

Equipment: Pen or pencil.

PROCEDURE: 1. Obtain the assigned pamphlet from the file.
2. Preview the assigned pamphlet as follows:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the preface.
   d. Read the introduction.
   e. Read words, phrases, and sentences in boldface, italic, or other special type.
   f. Read any summary that you might find.
   g. Look at the pictures. Read the captions.
3. Answer the following questions:
   a. The title of the pamphlet is ________________________
   b. This pamphlet deals with ________________________
   c. The first main heading of the pamphlet tells ________________
   d. What is the second main heading of the pamphlet?
   e. What information can you expect under this heading?
   f. Summarize in your own words the information contained in the pamphlet.
4. Return the pamphlet to the file.
PRE-TEST

OBJECTIVE: The purpose of the Scanning Pre-Test is to help you become aware of the importance of having skills in location specific information both quickly and accurately.

MATERIALS: Motors Repair Manual, 1970; Automotive Mechanics testbook; and Motors Flat Rate Manual, 1970

PROCEDURE: 1. When you begin the test, record your time on the line provided.

2. Working as rapidly as possible, find all the information asked for in each question.

3. When you finish the Pre-test, record your time and figure your total time. Put your total time in the space provided on your Record Sheet.

BEGINNING TIME

TOTAL TIME

QUESTIONS:

1. What are specification?

2. A 1965 Dodge 101 H.P. has how many cylinders?

3. Crankshaft and Cam shaft sprockets with chain show timing marks on the ___________?

4. Define Friction Horsepower?

5. The heater blower cost for a 1965 Chevy II is ___________?

6. What is the number and cost of a compressor shaft seal kit for a 1965 Camaro?

7. The symbol 13 appears under Tune Up specs. for a 1967 6-240, std. transmission. What does this symbol mean?

8. Define energy.

9. What is inertia?

10. Power is the rate or ___________ at which ___________ is done.

Concluding time _________

Total Time _________
Job Sheet #1

OBJECTIVE: To develop the skill of scanning for specific facts.

Scanning is a planned hunt—skip—read process for finding specific facts—names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

Chapter # 2. "Shop Practice."

PROCEDURE: 1. Read the questions below, and scan for the answers one at a time, following these guides:

   a. Keep clearly in mind the question you want answered.
   b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the answer, read more carefully.
   e. Stop reading when you have found the correct answer.
   f. Record the answer in the space provided.

2. Time yourself. You should be able to scan the material and answer the question in ______ minutes.

QUESTIONS:

1. What are specifications?
2. How are they used in shopwork?
3. What is meant by thread "Pitch"?
4. How is pitch measured?
5. What are the six basic steps in automotive shopwork?
   (1.)
   (2.)
   (3.)
   (4.)
   (5.)
   (6.)
6. With which kinds of Nuts are cotter pins used?
7. Describe the correct manner of using a hammer.
3. Describe the proper method of installing a blade in a hacksaw frame.

9. What is the proper method of using a hacksaw?

Record Time
OBJECTIVE: To develop the skill of scanning for specific facts. Scanning is a planned hunt-skip-read process for finding specific facts, names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it. When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.


PROCEDURE: 1. Read the questions below, and scan for the answers one at a time, following these guidelines:
   a. Keep clearly in mind the question you want answered.
   b. Decide in what form the question should appear. For example, should the answer be a word, a name, a number, or a date.
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the right answer, read more carefully.
   e. Stop reading when you have found the correct answer.
   f. Record the answer in the space provided.

2. Time yourself. Note your time on your record sheet.

QUESTIONS:

1. On a 1965 Chrysler V8 413, what is the cubic inch displacement, the bore, the stroke, and the oil pressures (min. & max.)?
2. On a 1966 Plymouth 145 horsepower, how many cylinders does it have and what is the cubic inch displacement?
3. Using a Dodge V'-340, 1970 model, what is the compression ratio?
4. On a 1964 Chrysler 300K w/2 carbs, no air conditioner, the hot idle speed is how many R.P.M.?
5. A 1970 Plymouth V8/375 H.P., the piston displacement is?
6. A 1965 Dodge, 10L-H.P. has how many cylinders?
7. For Chrysler cars made from 1945-1963, the turn-up specifications are found where in this book?
8. A 1969 Dodge V8-426 engine develops how many brake H.P. at 5000 R.P.M.?
9. A 1964 Chrysler Newport V8-361 uses what number of spark plugs?
10. A 1969 Dodge 425 H.P. engine has an oil pressure during operation of?
11. A V8-426 Hemi, has how many carburetors?
12. What is the bore & stroke of a 1966 Plymouth 425 horsepower HEMI HP2 ?
READING SKILLS - Auto Mech.

SCANNING I

Job Sheet # 3

OBJECTIVE: To develop the skill of scanning for specific facts.

Scanning is a planned hunt-skip-read process for finding specific facts: names, numbers, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it. When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.


PROCEDURE: 1. Read the questions below, and scan for the answers, one at a time, following these guidelines:

   a. Keep clearly in mind the question you want answered.
   b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date.
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the right answer, read more carefully.
   e. Stop reading when you have found the right answer.
   f. Record the answer in the space provided.

2. Time yourself. Note your time on your record sheet.

QUESTIONS:

1. On a 1960 Ford Thunderbird V8-390 with the engine built prior to Nov. 18, 1963 the valve clearance for the intake and exhaust valves are?

2. In fitting the pistons on a 1969 8-429 the cylinder wall clearance is?

3. The ring gear and pinion backlash inch are how much on a 1965 thunderbird?

4. On a 1965 Thunderbird V8-429 the cooling system w/heater and automatic transmission capacities are what?

5. On a 1967 T-bird the master cylinder bore w/disc brakes and front disc brakes are?

6. What type of rear axel does the 1966 T-bird carry?

7. The pinion bearing pre-load is how much on a 1969 T-bird; use bearing w/seal?

8. The cooling system capacity on a 1967 T-bird w/air conditioner is?

9. To replace the starter on a 1968 T-Bird it may be necessary to do what with front wheels and steering idler arm?

10. To properly engage the oil pump intermediate shaft when installing the distributor, it may be necessary to do what?
READING SKILLS— Auto Mech.
SCANNING:

Job Sheet # 4

OBJECTIVE: To develop the skill of scanning for specific facts.

Scanning is a planned hunt-skip-read process for finding specific facts, names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it. When you scan for specific fact, you do very little reading. Instead, you allow your eyes to move more rapidly over the material until you find what you are looking for.


PROCEDURE: 1. Read the following questions below, and scan for the answers one at a time, following these guidelines:
   a. Keep clearly in mind the question you want answered.
   b. Decide in what form the answer should appear. For example should the answer be a word, a name, a number, or a date?
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the answer, read more carefully.
   e. Stop reading when you have found the correct answer.
   f. Record the answer in the space provided.

2. Time yourself. Note your time on your Record Sheet.

QUESTIONS:
1. Paragraph 109 states that crankshaft spoolallons w/chain show timing on the?
2. Under paragraph 110 the parts of a valve are?
3. The valve face passes heat to the valve seat, which helps the valve to do what?
4. Complete this sentence: Sodium is a highly _____________
5. In the F-head engine, one valve is in the head and the other valve is where?
6. If the exhaust valve were to rotate a little each time it opened, many valve problems would be what?
7. a V8 engine using ball-pivoted valve rocker arms, (Pontiac Motor division of General Motors Corporation) has what valve system components?
8. In the construction of position-rotation type valve rotator, there are how many parts?
9. In the space below describe the operation of a hydraulic valve lifter?
10. In fig. 3-24 for how many degrees of the crankshaft rotation is the exhaust valve open?
SCANNING II

Job Sheet #1

OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS:
   pages 1-150, through 1-154 AVS Carter Carb.
2. Pencil

PROCEDURE: To scan the pages for answers to the following questions, proceeding one at a time.

Time yourself.

QUESTIONS:

1. What is the pump travel on a 4632S carburetor?

2. Using a 4101S carburetor, write out the specs of adjustment for a) idle screw, b) float drop, c) fast idle throttle valve clearance, and d) choke vacuum break.
   a) ____________________  b) ____________________
   c) ____________________  d) ____________________

3. How do you make a float level adjustment?

4. How do you adjust the float drop?

5. What is the secondary lockout and fast idle throttle valve clearance on a 17413 carb?

6. What is the pump travel, the float level, and the idle screw measurements on a Chevy II 402 3-6A carburetor?
   a) ____________________  b) ____________________
   c) ____________________

7. The method of measuring float drop is indicated in which figure?

8. In what figure is AVS pump adjustment shown?

9. On a Plymouth 1970 Model 4934S carburetor, the secondary throttle lockout is measured in what units?

10. The AVS carburetor adjustments chart for Imperial and for Chevelle is located where in the Manual?

Record time ____________________
OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS:
   Pages 2-270 through 2-305
2. Pencil

PROCEDURE: In section 2 Corvair scan the section for answers to the following questions, one at a time.

QUESTIONS:
1. Engine No. beginning with the Qs indicate the engine year model for what year?
2. The letters T;C indicate the engine has what equipment?
3. Under 1966 Model Corvair engine, 140 h.p. auto tr. 9 indicates the engine has what?
4. How many volts would a Model 1100693 alternator with a field current (12 volts) C 300 P. have?
5. What would be the amp. output on alternator Model 1100639 at 5000 R.P.M.?
6. What would be the caster for the front wheels on a 1965 Corvair?
7. The camber on the rear wheels of a 1963 Corvair would be what?
8. The valve seat and the valve face angles on a 1964 Corvair are?
9. If the cyl. bore is worn in excess of .0005 on an inch, what should you do?
10. What is the maximum main bearing clearance for a 1969 Corvair?
11. What is the measurement of the brake drum diameter of a 1967 Corvair?
12. What is the measurement of the rear wheel brake cylinder bore?

Record time
OBJECTIVE: To develop the skill of scanning for numerical facts.

2. Pencil

PROCEDURE: In Section 2, Full size models, Ford and Mercury, scan the pages for answers to the following questions, one at a time.

QUESTIONS: 1. When the symbol Engine Code appears, it means what?
2. A starting motor number of C5TZ-11002-A has a Brush Spring Tension of how much?
3. A starter #C8VY-11002-C indicates 70 amperes 12 volts at R.P.M. and a torque test at 5.0 volts, 15.5 ft. lbs indicates amperes?
4. Under Tune Up Specs for a 1967 6-240, the symbol 13 appears for std. transmission. What does this mean?
5. What are the tune up specs for a 1970 Model V8351
   (a) Spark plugs?
   (b) Firing order?
   (c) Hod idle std. Trans.?
6. What is the distributor point gap on a 1970 Model V8-429? What is the dwell angle degree?
7. In Figure G, Page 2-311 does the pointer indicate that the engine has been timed advanced or retarded and how many degrees?
8. The engine timing in Figure I, Page 2-311 tells you the timing is set at?
9. What is the firing order of the Ford 6 cylinder engines?
10. Under Valve Specs., Page 2-315 a 1968 8-302 valve last. is indicated 3/4 turn 8. What does the symbol 8 mean?
11. We have a Ford Sedan with a V8-428 5 9 Basic Dist. C73f-B. What is the rotation on the distributor?

Record time
Objective: To develop the skill of scanning for a name and number.

Materials: Motors Flat Rate And Parts Manual, 1970, pp. 621-22

Procedure:
1. In the assigned material find a list of Parts & Time Requirements.
2. Following the procedure for scanning which you learned in Scanning I and Scanning II, scan for the answers to the questions below.
3. Scan for the answers, one question at a time, as rapidly and accurately as you can.
4. Time yourself. Note your time on your Record Sheet.

Questions:
1. The required time to overhaul w/c wipe motor 1968 model Olds is
2. The time required to replace a windshield washer pump valve in a 1965 Olds F-85 is
3. Labor cost to replace wiper motor of a 1966 Olds, taking 0.5 hours at $11.00 per hour is
4. The fuel gauge (Dash Unit) replacement time for an Olds F-85, 1969 is
5. List the time and labor charge for replacing a speedometer cable and housing $12.00 per hour on a 1970 Olds.
6. The cost and number of fuel tank gauge unit on a 1969 Olds Station Wagon with air conditioner is
7. The time required to lubricate a speedometer cable on a 1969 model Olds is
8. What is the time required to renew an oil gauge sending unit on a 1965 Olds sedan?
9. What are the part number and price of the Fuel Gauge (Dash Unit) for a 1966 Olds sedan?
10. What are the part number and the price of the Fuel Gauge (Tank Unit) for a 1964 Olds Station Wagon w/air conditioner?
11. The part number of the windshield wiper transmission for a 1964 Olds leftside (Tandem Type) is
12. The shop time required to R. & R. the speedometer head on a 1964 Olds F-85 is
OBJECTIVE: To develop skill in scanning for a specific name and number.

MATERIALS: Spark Plug 1964 Dealer Catalog: AUTOLITE.

PROCEDURE: 1. Go to the file to obtain the assigned material.
2. Using the scanning skills you have been practising, find the answers to the following questions as quickly as you can.
3. Return the catalog to the file.

QUESTIONS:

1. On what page will you find plugs for a John Deere B Series, Normal Service, w/13 NN head?
   a. Give Autolite type.
   b. Give the AC number.
   c. What is the Champion number?
   d. What is the Champion to Autolite number?
   e. Give the Champion to AC number.

2. What is the standard plug number for an Austin H 55 MK, 1959 model?
   What is the standard plug number for an Austin H 55 MK, 1959 model and gap?

3. Give the plug number for a 1964 VW, 40 HP 1500 series, resistor type.
   Give the plug number for a 1964 VW, 40 HP, 1500 series, Standard type.

4. Locate the page where the plug number for a 1963 Dodge Dart, 6 cyl. is listed.
   What is the plug number by Champion?
   What is the Gap?

5. Give the Champion Spark Plug # and Cap for a 1961 Dodge Lancer.

6. Give the page where Plug Gap can be found for a 1941 Willys with aluminum head.
   What is the AC Plug #?

7. What is the torque for an 18 MM plug with a tapered seat and cast iron heads?

8. What is the Autolite number cross reference to a Champion Plug # Y8?

9. Give the AC number C96 to Autolite.

10. Give the Champion # for an Autolite plug #AR42.
OBJECTIVE: To develop the skill of skimming for main ideas.

Skimming for main ideas is a paragraph-by-paragraph search for ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.


PROCEDURE:
1. Read the title.
2. Read the headings and subheadings.
3. Read the first sentence of every paragraph.
4. Read the last sentence of every paragraph more than five lines long.
5. Answer the questions.

QUESTIONS:
1. What are the six basic steps in automotive shopwork?
   a. d.
   b. e.
   c. f.
2. Name three types of fasteners.
3. What type of threads do bolts, studs and screws have?
4. What should be done to a mushroomed chisel before it is used?
5. What is a file likely to do if it is hit with a hammer?
6. A hacksaw is designed for sawing metal, wood, or plastic. True or false?
7. State the importance of the measure of linear distance.
Job Sheet #2

OBJECTIVE: To develop the skill of **skimming for main ideas**

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.


PROCEDURE:
1. Read the title.
2. Read the headings and subheadings.
3. Read the first sentence of every paragraph.
4. Read the last sentence of every paragraph more than five lines long.
5. Answer the questions.

QUESTIONS:
1. In what figure can you find a simplified drawing of a steering system?
2. Name the various factors that enter into front end geometry.
3. The weight of the car tends to bring the wheels back to _______ after the turn is completed and the steering wheel is released.
4. Even though the wheels are set to toe in slightly when the car is standing still, they tend to roll _______ on the road when the car is moving _______.
5. The steering gear is a device that converts rotary motion into what?
6. There are two models of power steering units used on General Motors cars. Name them.
   a. 
   b. 
7. Chrysler power steering consists of two models. Name them.
   a. 
   b.
OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

MATERIAL: Miller, James Nathan; "It's a Dead-End Road for the Dropout"

PROCEDURE:
1. Obtain the specified article from the file.
2. Read the title.
3. Read the headings and subheadings.
4. Read the first sentence of every paragraph.
5. Read the last sentence of every paragraph.
6. Answer the questions below.

QUESTIONS:
1. What happens to the person who tries to "fake" having a high school diploma?
2. List three reasons, according to the article, why students drop out of school:
   a. 
   b. 
   c. 
3. Compare working conditions with school conditions, as often experienced by the dropout. How do they differ? In what ways are they alike?
4. Some jobs are "learning by doing" situations where the employer trains you. Are such jobs increasing or decreasing? Are there more or less people in competition for these jobs?
5. The article states that the high school diploma has come to mean three things. Name them.
   a. 
   b. 
   c. 
6. A high school dropout can always enlist in the Army if he can't find a job. Yes  No
   Explain your answer.
7. An employer from Portland, Oregon, is quoted on his feelings regarding the hiring of dropouts. Summarize what he says.
Job Sheet #1

OBJECTIVE: To test your present knowledge of a trade newspaper.

PROCEDURE: Write answers to the following questions.

QUESTIONS:

1. List the titles of all trade newspapers with which you are presently familiar.

2. What is the principal function of a trade newspaper?

3. What kinds of information would you expect to find in a trade newspaper?

4. What kinds of division and/or departments would you expect to be included in each issue?
Job Sheet # 2

OBJECTIVE: To become familiar with the format and purpose of The Machinist.

MATERIALS: 3 issues of The Machinist.

PROCEDURE: Note: To complete this job sheet you will be expected to make use of all the reading skills you have been practicing.

1. Go to the magazine rack and choose any 3 issues of The Machinist.
2. Overview each issue of the newspaper.
3. Preview each section.
4. Answer the following questions.

QUESTIONS:
1. Who publishes The Machinist?
2. Where is it published?
3. How often is it published?
4. For whom is it published?
5. To find out what is in a newspaper, examine all the parts. List below the special sections which appear in each issue.
6. How many pages are in an average issue?
7. What kind of advertising does The Machinist contain?
8. On the basis of your overviewing and previewing, state in your own words what you consider to be the purpose of The Machinist?
Job Sheet #3

**OBJECTIVE:**
To read and comment on a variety of articles which appear in The Machinist.

**MATERIALS:**
Copies of The Machinist.
Pen
Scissors, paste, and blank paper.

**PROCEDURE:**
1. Skim and scan and organize your thoughts so that you can comment on the following variety of articles.
2. Cut out samples of the following kinds of articles.
3. Paste and label each article on a blank sheet of paper.
4. Beneath each article write your own comments as directed.

**SPECIAL ARTICLES:**
1. Clip an article which contains opinion, marked either by a by-line or the use of quotation marks. Summarize the opinion.
2. Clip an article that is completely objective; that is, it seems to present both sides of an issue accurately and fairly. Summarize the article.
3. Clip an article which gives specific information that is new to you. State what it is.
4. Clip an editorial. State the issue being discussed and the point of view which is being presented.
5. Clip a swap add which you would be interested in.
6. Clip an article which deals with the skills required for a job in your field.
7. Clip an article which shows the concern of the newspaper for you as a wage earner, for you as a citizen, or for as your leisure time is involved.
OBJECTIVE: To determine how much you know about a trade newspaper.

MATERIALS: Your mind and your memory!

PROCEDURE: Write answers to the following questions.

QUESTIONS:
1. What is the title of the trade newspaper which pertains to your vocational interest?
2. How often is it published?
3. What did you discover to be the principal function of a trade newspaper?
4. What kinds of information did you find in a trade newspaper?
5. List four ways in which a trade newspaper might be of service to you in your career.
   (a).
   (b).
   (c).
   (d).
OBJECTIVE: To gain experience in reading the written and diagrammatic explanation of a technical process; to be able to organize in a list the sequence of events in a process.

MATERIALS: "Wheel Alignment," Snap-On Tool Co. Manual, p. 19, Fig. 31, 32, & 33

INSTRUCTIONS: This is a technical selection and you should read it differently than you read literature or social studies. This selection explains a process which involves adjusting with a eccentric ball joint.

These instructions tell you how to read material that describes a process:

1. Study the diagram. Read the names of the parts. Then try to name them without rereading the labels.
2. Read all of the boldfaced headings in the selection to find out what process is will be described.
3. Read the introductory paragraph. Read the first section; read just one sentence at a time. If it mentions something shown in the diagram, look back at the diagram after reading the sentence. Then you are sure that you understand that sentence, read the next one in the same way. Stop and think about each sentence after you have read it to make sure that the meaning is clear to you.
4. After reading the entire section in this way, try to explain to yourself without looking at the book just how the process takes place.
5. Work with each of the remaining sections in the same way that you worked with the first one.
6. Then do the following on a separate sheet of paper:
   a. List in order the steps that take place in the process which has been described.
   b. Draw a diagram illustrating the process you have just outlined.
   c. Attach the above to this job sheet and hand in.
Job Sheet #1

**OBJECTIVE:** To recognize propaganda techniques

**MATERIALS:** Information packet on recognizing propaganda

**PROCEDURE:**
1. Read the information packet on recognizing propaganda.
2. List below the six propaganda tricks.
3. Read the following advertisements. Try to identify the tricks used. Write their name or names on the lines below the advertisement.

<table>
<thead>
<tr>
<th>Propaganda Tricks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
</tr>
<tr>
<td>4.</td>
</tr>
<tr>
<td>5.</td>
</tr>
<tr>
<td>6.</td>
</tr>
</tbody>
</table>

**A.** Wherever you go, you see the new Streamjet car. You can hardly drive a block without seeing a new Streamjet. And you can't miss its years-ahead glamour styling. Its muscular engine gives you effortless super-power performance from idling to top speed in seconds. Streamjet's stratosphere ride gives you featherbed riding over the roughest roads or smoothest superhighways. You can't make a better investment for supreme driving pleasure than the new Streamjet. No wonder it's the most popular car in its price class, first in sales all over the nation! See your Streamjet dealer for your best buy in luxury with amazing economy. Once you drive the new Streamjet, you'll never want to own any other car.

**Trick or tricks used?**

**B.** Are you suffering from Athlete's Itch? Dryfoot brings fast relief through a new scientific formula containing a medically proven ingredient. Your doctor will tell you that keeping your feet dry is important to control Athlete's Foot Itch. Damp, sweaty areas help the fungus which causes burning, stinging discomfort. Your skin in these areas blisters, cracks, peels, and becomes infected, causing intense itching and pain. This condition is accompanied by an offensive odor, too. But fortunately quick relief can be yours with Dryfoot. Medical science knows today that many methods of treating fungus infections do more harm than good because they are too strong and cause greater irritation. Dryfoot soothes infected places because it is the only leading preparation that contains the medically proven ingredient H-7 to keep skin dry and aid healing by checking the growth of fungi which cause Athlete's Itch. Get Dryfoot today at all leading drug counters, and enjoy wonderful comfort.
C. Are you putting off that much-needed vacation because you don't have ready cash? Then you should know that fun-bound families stop first at the E-Z Credit Bank for an easy-to-budget vacation loan. E-Z Credit is a neighborly bank where you'll find fast, friendly service from folks who understand your money problems. You can have complete confidence in the service E-Z Credit Bank offers. Borrow up to $500.00 with repayment terms you select. More than a million loans in five years are your assurance that people have confidence in E-Z Credit service. And you can be sure of complete privacy and prompt, courteous, friendly service at the E-Z Credit Bank. Make your vacation dream come true. See our man at the office nearest you.

Trick or tricks used?

D. A pleasant-looking service station attendant is pictured cleaning the windshield of the shiny car in which a smiling customer is seated at the wheel. Below appears the following:

With Mixo Hygrade gasoline you're miles ahead. Mixo scientists used atomic research to bring you new Mixo Hygrade. Now you can be protected against engine deposits that waste gasoline, cause costly repairs, and rob your car of the power it should deliver. Mixo gives you fast starts, smooth power, and sure response at all speeds, with the best mileage economy of any gasoline. Fill up at your friendly Mixo-dealer—he'll be glad to see that your car is treated to the best possible service.

Trick or tricks used?
OBJECTIVE: To learn to analyze propaganda

MATERIAL: Information packet on analyzing propaganda

PROCEDURE: 1. Read information packet on analyzing propaganda.
2. Analyze the examples of propaganda which are given below.
3. For each example, answer the five following questions:
   a. Who is the propagandist?
   b. Whom is he serving?
   c. What is his aim in writing on this subject?
   d. To what human interests, desires, emotions, does he appeal?
   e. What techniques does he use? (Propaganda tricks)

A. Do you want roads that are defaced and disfigured by billboard advertising? All over America, beautiful views have been spoiled by the billboard scourge. These eyesores have been put up so thickly along some highways that they are now billboard alleys, dangerous to motorists. Don't let our new national highways be cluttered by ugly billboards as other roads have been. Write to your Congressman today and urge him to oppose this menace.

1. Who is the propagandist?
2. Whom is he serving?
3. What is his aim in writing on this subject?
4. To what human interests, desires, and emotions does he appeal?
5. What techniques does he use?

B. Our right to work is as important as any other one protected by the Bill of Rights. Yet labor unions have denied the right to earn a living to millions of Americans by forcing employers to sign compulsory union contracts. Crooked union bosses, using all kinds of skulduggery, have kept many members from voting in union elections, creating slave labor conditions. Right-to-work laws have been passed in many of our states to protect this right of Americans. As a patriotic citizen interested in preserving our way of life, you should write to members of your state legislature urging them to vote for a right-to-work law.

1. Who is the propagandist?
2. Whom is he serving?
3. What is his aim in writing on this subject?
4. To what human interests, desires, and emotions does he appeal?
5. What techniques does he use?
Job Sheet #1

C. Steve Jones is a man who understands your problems because he’s lived them. Born in a small town, he made his way up the ladder the hard way. As a boy he helped put two brothers and a sister through college by carrying groceries, shoveling snowy sidewalks, and mowing lawns. He still found time to sing in his church choir and become an Eagle Scout. In high school he starred on the baseball and basketball teams and was elected class president in his junior year.

When war came, he slugged it out with the Nazis in North Africa, Italy, and France. Returning to work his way through college, he soon married the lovely Betty Smith and now has three fine children. Steve founded his own successful business in our town. He has always taken an active part in community affairs, serving actively in PTA, church, and charity activities.

"If elected," says Steve, "I promise to do my best for my many good friends and neighbors in Milltown. They’re my kind of folks."

Vote for Steve Jones for mayor, the kind of honest, hardworking, fearless leader we need. He’s your kind of guy.

a. Who is the propagandist?
b. Whom is he serving?
c. What is his aim in writing on this subject?
d. To what human interests, desires, and emotions does he appeal?
e. What techniques does he use?
**OBJECTIVE:** To learn to analyze propaganda

**MATERIALS:** Information packet on analyzing propaganda
LIFE magazine, June 11, 1971, pp 37; pp 56-56A.

**PROCEDURE:**
1. Review the information packet on analyzing propaganda.
2. Obtain the assigned issue of LIFE magazine from the file.
3. Examine the assigned advertisements and answer the following questions on each.
4. Return the magazine to the file.

**QUESTIONS:**

A. Vega Kammback, p. 37
   1. Who is the propagandist?
   2. Whom is he serving?
   3. What is his aim in writing on this subject?
   4. To what human interests, desires, and emotions does he appeal?
   5. What techniques does he use?

B. Goodyear Tire and Rubber Co., pp. 56-56A
   1. Who is the propagandist?
   2. Whom is he serving?
   3. What is his aim in writing on this subject?
   4. To what human interests, desires, and emotions does he appeal?
   5. What techniques does he use?
OVERVIEWING I

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick way to get an idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) to examine new material to find out what it contains, and (2) to determine whether a specific book contains information you want.


PROCEDURE: Imagine you are looking at this book for the first time and want to find out what it contains.

1. Read the title.

2. Quickly scan:
   (a). the table of contents
   (b). the preface or forward
   (c). the introduction
   (d). the pictures, maps, graphs, or tables
   (e). the appendix
   (f). the index

3. Record your findings below:
   (a). The title of this book is __________________________
   (b). Read the introduction and in your own words state the purpose of the book.
   (c). The table of Contents shows that this book contains _______ sections
       broken down into _______ of chapters.
   (d). Your overview shows that this book also contains the following: Check if applicable
       (1). index
       (2). appendix
       (3). introduction
       (4). other (list)
   (e). From your overview, state the purposes for which you believe this book would be useful.
       (1). 
       (2). 
       (3).
READING SKILLS - Draft
OVERVIEWING I

Job Sheet #2

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific book contains information you want.


2. Pen

PROCEDURE: Imagine you are looking at this book for the first time and want to find out what it contains.

1. Read the title

2. Quickly scan:

   (a). the table of contents
   (b). the preface or forward
   (c). the introduction
   (d). the pictures, maps, graphs, or tables
   (e). the appendix
   (f). the index

3. Record your findings below:

   (a). The title of this book is ____________________________

   (b). Read the introduction and in your own words state the purpose of the book.

   (c). The table of Contents shows that this book contains ______ no. of sections, broken down into ______ no. of chapters.

   (d). Your overview shows that this book also contains the following: Check if applicable

      (1). index
      (2). appendix
      (3). introduction
      (4). other (list)

   (e). From your overview, state the purpose for which you believe this book would be useful:

      (1).
      (2).
      (3).
Job Sheet #3

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1). To examine new material to find out what it contains, and (2). To determine whether a specific book contains information you want.

MATERIALS: 1. Architecture, Drafting, and Design, Hepler, Donald & Wallach; Paul McGraw-Hill Co.

2. Pen

PROCEDURE: Imagine you are looking at this book for the first time and want to find out what it contains.

1. Read the title

2. Scan Quickly:

(a). the table of contents
(b). the preface
(c). the introduction
(d). the pictures, maps, graphs, or tables
(e). the appendix
(f). the index

3. Record your findings below:

(a). The title of this book is ____________________________

(b). Read the introduction and in your own words state the purpose of the book.

(c). The Table of Contents shows that this book contains _________

of sections, broken down into _________ of chapters.

(d). Your overview shows that this book also contains the following:

Check if applicable

(1). index __________
(2). appendix __________
(3). introduction __________
(4). other (list) __________

(e). From your overview, state the purpose for which you believe this book would be useful:

(1). __________
(2). __________
(3). __________
OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine material to find out what it contains, and (2) To determine whether a specific book contains information you want.

2. Pen

PROCEDURE: Imagine you are looking at this book for the first time and want to find out what it contains.

1. Read the title
2. Quickly scan:
   (a). the table of contents
   (b). the preface or forward
   (c). the introduction
   (d). the pictures, maps, graphs, or tables
   (e). the appendix
   (f). the index
3. Record your findings below:
   (a). The title of this book is ________________________________
   (b). Read the introduction and in your own words state the purpose of the book.
   (c). The Table of Contents shows that this book contains ________ of sections, broken down into ________ of chapters.
   (d). Your overview shows that this book also contains the following: Check if applicable
      (1). index
      (2). appendix
      (3). introduction
      (4). other (list)
   (e). From your overview, state the purpose for which you believe this book would be useful:
      (1).
      (2).
      (3).
JOB SHEET #1

OBJECTIVE: To develop the skill of overviewing a chapter in a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you want and need.

MATERIALS: 1. French, Thomas, and Vierck, Charles, Engineering Drawing, chapter 8, "Sections and Conventions."
2. Pen

PROCEDURE: Overview the chapter as follows:

1. Read the title
2. Read the bold-face headings
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. Record your findings below:
   a. The title of this chapter is ________________________
   b. This chapter is divided into _____ of sections
   c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraphs of this chapter and in your own words state its purpose:

   d. List all the bold-face headings which develop the chapter!
   e. State the technical purpose for which the information in this chapter would be useful:
OVERVIEWING II

Job Sheet #2

OBJECTIVE: To develop the skill of overviewing a chapter in a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you want and need.

MATERIALS:
2. Pen

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. Record your findings below.

a. The title of this chapter is __________________________

b. This chapter is divided into _____ of sections.

   no.

c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraphs of this chapter and in your own words state its purpose:

d. List all the bold-face headings which develop the chapter:

e. State the technical purpose for which the information in this chapter would be useful.
OBJECTIVE: To overview a chapter in a textbook without writing all the information down.

MATERIALS: French and Svenson, Mechanical Drawing, Chapter 1, "The Language of Drawing."

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly following the process of overviewing a chapter, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheets #1 and #2. Complete the following statement.

The purpose of this chapter is
READING SKILLS - Drafting

OVERVIEWING II

Job Sheet #4

OBJECTIVE: To overview a chapter in a textbook without writing all the information down.


PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly followed the process of overviewing a chapter, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheets #1 and #2. Complete the following statement:

The purpose of this chapter is
JOB SHEET A1

OBJECTIVE: To develop the skill of previewing an article.

Previewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing, you take a closer look at a chapter, an article, or a booklet to get a more specific idea of its contents. You now read the title, headings, and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: 1. Magazine article, "Flexible Space"
2. Pen or pencil.

PROCEDURE: 1. Go to the file cabinet and obtain the magazine article.
2. Preview the assigned material using the following as your guide.
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first and last paragraphs.
   d. Read words, phrases, and sentences in boldface, italic, or other special type.
   e. Read any summary that you might find.
   f. Look at the pictures, tables, maps, and graphs. Read the captions.
3. Answer the following questions only as they apply to this manual.
   a. The title of the article is _________________________.
   b. The article deals with _________________________.
   c. The first main heading of the article tells _________________________.
   d. What is the second main heading of the article?
   e. How do the illustrations, pictures, or diagrams help?
   f. What kind of lists can you find in this article, and for what would they be useful?
4. Return the article to the file cabinet.
OBJECTIVE: To develop the skill of previewing an article.

Previewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a book to get a more specific idea of its contents. You now read the title, headings and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: 1. Magazine article, "New Idiom of Strength and Texture"
2. Pen

PROCEDURE: 1. Go to the file and obtain the magazine article, "New Idiom of Strength and Texture"
2. Previewing in the assigned material using the following as your guide:
a. Read the title
b. Read the heading and subheading
c. Read the first and last paragraphs
d. Read words, phrases, and sentences in boldface, italic, or other special type.
e. Read any summary that you might find.
f. Look at the pictures, tables, maps, and graphs. Read the captions.
3. Answer the following questions only as they apply to this article.
a. The title of the article is ____________________________.
b. The article deals with ____________________________.
c. The first main heading of the article tells ____________________________.
d. What is the second main heading of the article?
e. How do the illustrations, pictures, or diagrams help you?
f. What kinds of lists can you find in this article, and for what would they be useful.
4. Return the article to the file cabinet.
OBJECTIVE: To develop the skill of previewing an article.

Previewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of its contents. You now read the titles, headings and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

METHOD: 1. Magazine article, "Current work in New Mexico and Utah"
2. Preview the assigned material, using the following as your guide:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first and last paragraphs.
   d. Read words, phrases, and sentences in boldface, italic, or other special type.
   e. Read any summary that you might find.
   f. Look at the pictures, tables, maps, and graphs. Read the captions.
3. Answer the following questions only as they apply to this article:
   a. The title of the article is ____________________________
   b. The article deals with ____________________________
   c. The first main heading of the article tells ____________________________
   d. What is the second main heading of the article?
   e. How do the illustrations, pictures, and diagrams help?
   f. What kinds of lists can you find in this article, and for what would they be useful?
4. Return the article to the file cabinet.
OBJECTIVE: To develop the skill of previewing an article.

Previewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, or a booklet to get a more specific idea of its contents. You now read the title, headings and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: 1. Magazine article, "Techniques: Western Parking Garages"
2. Pen

PROCEDURE: 1. Go to the file cabinet and obtain the magazine article.
2. Preview the assigned material using the following as your guide:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first and last paragraphs.
   d. Read the words, phrases, and sentences in boldface, italic, or other special type.
   e. Read any summary you might find.
   f. Look at the pictures, tables, maps, and graphs. Read the captions.
3. Answer the following questions only as they apply to this material.
   a. The title of the article is ____________________
   b. The article deals with ____________________
   c. The first main heading of the article tells ____________________
   d. What is the second main heading of the article? ____________________
   e. How do the illustrations, pictures, or diagrams help?
   f. What kinds of lists can you find in this article and for what would they be useful?
4. Return the article to the file cabinet when you finish.
OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read process for finding specific facts, names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS:
2. Pen

PROCEDURE:
1. Read the questions below, and scan for the answers one at a time, following these guides:
   a. Keep clearly in mind the question you want answered.
   b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the answer, read more carefully.
   e. Stop reading when you have found the correct answer.
   f. Record the answer in the space provided.
2. Time yourself. You should be able to scan the material and answer the questions in _______ minutes.

QUESTIONS:
1. When an architect designs a school building, what are the areas involved?
2. What is meant by a closed plan?
3. What are the means of closing an open plan living room in order to provide privacy?
4. What is one major separation that can divide living room and dining room other than a wall?
5. The living room should appear inviting, comfortable, and spacious. This appearance can be accomplished by:
   1. ____________________________  2. ____________________________
   3. ____________________________
6. Living room lighting is divided into two types:
   1. ____________________________  2. ____________________________
7. What is the function of a dining room?
OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read process for finding specific facts, names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: French & Svenson, Mechanical Drawing, pp. 295-306
Pen

PROCEDURE: 1. Read the questions below, and scan for the answers, one at a time, following these guides:
   a. Keep clearly in mind the questions you want answered.
   b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the answer, read more carefully.
   e. Stop reading when you have found the correct answer.
   f. Record the answer in the space provided.

2. Time yourself. You should be able to scan the material and answer the question in _______ minutes.

QUESTIONS: 1. Give two considerations of a general design?
2. What kind of lettering is needed in making an architectural working drawing?
3. Give two criteria in house styles regarding construction, appearance of the house.
4. State at least 3 characteristics of a Georgian house.
5. Write 2 examples of contemporary architecture.
6. What is a thumbnail sketch?
7. What are the parts of a working drawing?
READING SKILLS - Draft.
Scanning - I

Job Sheet #3

OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read process for finding specific facts, names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you scan for a specific fact, you do the little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: Hepler & Wallach, Architecture, Drafting and Design, "Area Planning" pp. 28-40

PROCEDURE: 1. Read the questions below, and scan for the answers, one at a time, following these guides:
   a. Keep clearly in mind the questions you want answered.
   b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number or a date?
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the answer, read more carefully.
   e. Stop reading when you have found the correct answer.
   f. Record the answer in the space provided.

2. Time yourself. You should be able to scan the material and answer the questions in ______ minutes. 

QUESTIONS: 1. What is the purpose of the family room?
2. What are the recommended materials to keep the noise of the various activities from spreading to other parts of the house.
3. Other than recreation room, give two names that apply to it.
   1. __________ 2. __________
4. A covered platform leading into an entrance of a building is called
5. Large porches extending around several sides of a home are called?
6. A projection from a building similar to a porch is known as?
7. The portion of a house which is a place adjacent or directly accessible to the house is called?
8. Loggia, breezeway, and terrace are other names applied to the
Job Sheet #4

OBJECTIVE: To develop the skill of scanning for specific facts.

Scanning is a planned hunt-skip-read process for finding specific facts, names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the way to do it.

When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: Hepler-Wallach, Architecture, Drafting and Design, Area Planning pp. 49-56 Pen

PROCEDURE: 1. Read the questions below, and scan for the answers, one at a time, following these guides:
   a. Keep clearly in mind the questions you want answered.
   b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the answer, read more carefully.
   e. Stop reading when you found the correct answer.
   f. Record the answer in the space provided.

2. Time yourself. You should be able to scan the material and answer the questions in _______ minutes.

QUESTIONS: 1. What is the Hawaiian word for porch?
   2. Enumerate five areas that are involved in the traffic areas of a house?
   3. Name one method of determining the effectiveness of the traffic pattern of a house?
   4. What are the requirements in building a hallway in the house?
   5. What do stairs provide?
   7. The overall width of the stairs is the distance across the tread a minimum of 3 feet is allowed. However, a width of _______ and _______ are preferred.
Job Sheet #1

OBJECTIVE: To develop the skill of scanning for numerical facts.


PROCEDURE: 1. In Appendix D is a table of Decimal of Equivalents.
2. Scan the table for answers to the questions which are below.
3. Time yourself. You should be able to scan the table and answer questions 1-6 in ________ minutes.

QUESTIONS:

1. How many threads per inch does a 5/16 diameter bolt contain?
2. With a coarse thread series 6 and 1 1/2 diameter bolt, what size of tap drill is needed?
3. What is the basic diameter wood screw with a nominal size of 16?
4. What is the outside and inside diameter of a washer, size 24?
5. What is the minimum thickness of lock washer having 5/16 diameter and specified as heavy duty?
6. Define taper:

7. In Norse Taper series, the diameter of gage line is 1.500 and the No. of taper is 4, what is the taper in foot?

8. A wire with 23 gage, what is the equivalent gage as in imperial wire gage?
Job Sheet #2

OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS: Douglas Fir Use Book.
Structural Data & Design Tables, pp. 60-63.

PROCEDURE: 1. On the specified pages is a table of sawn lumber.
2. Scan the table for answers to the questions which are below.
3. Time yourself. You should be able to scan the table and answer questions 1-6 in ________ minutes.

QUESTIONS:

1. What is the size of a surface stock with an nominal dimension of 6x10?

2. How many board foot per lineal foot does a piece for a beam having a measurement of 6 x 10 contain?

3. With a nominal size of joist 3 x 8, what is the moment of inertia and deflection?

4. What is the area of a 18 x 28 beam?

5. Find the sizes of the joists with 1,803,000 moment of resistance, and 1,200 fiber stress.

6. Find the section modulus of a stock with 2,547,000 moment of resistance.

7. What is the surfaced size of a 14 x 24 beam?

8. What size of plank is needed to have a plank with 3,040 fiber stress?

Record Time ________
READING SKILLS - Drafting
SCANNING II

Job Sheet #3

OBJECTIVE: To develop the skill of scanning for numerical facts.


PROCEDURE: 1. On the specified pages is a table of standard dimensions.
2. Scan the table for answers to the questions which are below.
3. Time yourself. You should be able to scan the table and answer questions 1-5 in ________ minutes.

QUESTIONS: 1. What is the minimum depth for wardrobe closets?
2. What is a wardrobe closet?
3. Enumerate two parts of a room divider?
   a. ________
   b. ________
4. The primary function of a bedroom is to provide facilities for sleeping. What other function does it provide?
5. List the furniture a minimum size bedroom should accommodate.
6. The wall space needed for twin beds is ________.
7. The average square footage of a small bedroom is from ________ to ________ square feet.
8. When complete soundproofing is desired, what materials are needed?

Record Time: ________
OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS: Douglas Fir Use Book
Uniformly Distributed Loads for Joist and Beam pg. 76-93

PROCEDURE: 1. In the Douglas Fir Use Book locate the sizes, fiber, stresses, shear stress in pounds per square inch.
2. Scan the table for answers to the questions listed below.
3. Time yourself. Record your time in the space below.

QUESTIONS:

1. What is the total load in pounds, including the weight of the beam if you will use 2x4 material with a 3'0" span and having a 1200 fiber stress?

2. What is the modulus of elasticity of a beam at a deflection of 1/360 of the span, the total load in pounds, including weight of the beam?

3. What is the load in pounds per lineal foot, including weight of beam per foot, for a 2x6 material with a 1750 stresses and 7'0" span?

4. A 6'0" span with a 3,150 pounds beam, including the weight of it, what size of beam is required?

5. What's the weight in pounds per foot of a 6/10 beam with a span of 6'0"?

6. With a 2,050 stress on a 7'0" span beam, using 6x18 beam, what is the total load in pounds including the weight of it?

7. A joist with 18,500 pounds per lineal foot, with a 9'0" span, requires what size of joist?
Job Sheet #1

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: Architecture, Drafting and Design.
             Unit 71. "Building Costs", Pp. 459-463

PROCEDURE: 1. You are to scan a list of cost analysis.
            2. Read the questions that follow in the list below.
            3. Scan for the answers, one question at a time.
            4. Time yourself. Note your time on your Record Sheet.

QUESTIONS:
1. Approximately 40 percent of the cost of the average home is for materials. What is the distributed cost for labor and lot?
2. What are two basic methods of determining the cost of a house?
   a. 
   b. 
3. In addition to these aforementioned methods enumerate three more methods.
   a. 
   b. 
   c. 
4. What is F.H.A.?
5. The cubic foot method of determining the cost of building a house is multiplying the cubic volume and the construction cost. If the total cubic volume is 14,400 cu. ft., what is the total cost?
6. In accordance with the Engineering News Record, what is the price of acoustical ceilings and structural frames?
   a. Structural frames ____________________
   b. Acoustical ceilings ____________________
7. The lawyer's, architect's, and surveyor's fees are sometimes included in the closing costs. State the average closing cost fees of the above mentioned.
   a. Lawyer ____________________
   b. Surveyor ____________________
   c. Architect ____________________
Job Sheet #2

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: Architecture, Drafting and Design.
Section 19, Pp. 452-459
Pen

PROCEDURE: 1. You are to scan methods of checking.
2. Read the questions that follow below.
3. Scan for the answers, one question at a time.
4. Time yourself. Note time on your record sheet.

QUESTIONS: 1. Give one method of determining the adequacy of room sizes and give proportions.

2. Give the sizes of the following:
   a. Freezer
   b. 8 cubic foot refrigerator
   c. Stove
   d. Dryer
   e. Double Bed
   f. Vanity
   g. Corner Bathtub
   h. Large Sofa
   i. Dining table for eight persons
   j. Round dining table for six persons

3. One of the most effective methods of checking architectural drawings is
Job Sheet #1

OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: French, Thomas, Engineering Drawing, Chapter 6, p. 157

PROCEDURE: 1. Skim the chapter for the main idea.
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first sentence of every paragraph.
   d. Read the last sentence of every paragraph.
   2. Answer these questions.
      a. When details are not clearly presented in orthographic projection, what type of illustration can be used in order to show them clearly?
      b. Theoretically what type of projection is similar to axonometric projection?
      c. What pictorial drawing is the simplest to draw?
      d. What are nonisometric lines?
      e. What method of drawing is used in presenting an object with many nonisometric lines?
      f. What axonometric drawing is seldom used, due to the difficulty of presenting circles in the projection?
      g. What projection or pictorial drawing has axeses which are unequally foreshortened?
OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: Hepler and Wallach. Architecture - Drafting and Design
Unit 24, pp. 145-151

PROCEDURE: 1. Skim the assigned unit for the main idea.
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first sentence of every paragraph.
   d. Read the last sentence of every paragraph.

2. Answer these questions.
   a. How do architects and designers develop and record their ideas?
   b. What rooms and facilities are placed in the basement?
   c. What is the preliminary step in designing the floor plan?
   d. What is meant by closed plan?
   e. Where is the open plan mostly used?
   f. Why is it desirable to construct a house over a long period of time?
   g. What part of the house can be added in the future years of need?
   h. Before the initial construction begins, what part of the plan should be drawn?
Job Sheet # 3

OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writers. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: French, Thomas, Engineering Drawing, Chapter 10, pp. 289-299

PROCEDURE: 1. Read the title.
2. Read the headings and subheadings.
3. Read the first sentence of every paragraph.
4. Read the last sentence of every paragraph.
5. Answer the questions below.

QUESTIONS: 1. For the production of any part a ________ is necessary, complete with shape and size description and giving, where needed, the operations that are to be performed by the ________

2. What is a casting drawing?
3. ________ are made of cast iron, coated on the molding surfaces with a refractory material.
4. Types of operations that are made by heating metal to make it plastic and then forming it to shape on a power hammer with or without the aid of special steel dies are called ________.
5. Name two classes of machining methods in accordance with the operating principle of the machine performing the work.
a. ________
b. ________
6. A machine capable of producing all other machine tools is called a ________.
7. The general purpose of grinding is to make a ________ and more ________ than can be obtained by turning, planing, and milling.
8. What is a broach?
9. The processing of metals by heat and chemicals to change the physical properties of the material is called ________.
10. Careful ________ is an important feature of modern production.
**Objective:** To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writers. You still don't read every word, but you now go deeper into the material than before.

**Materials:** Repler and Wallach, *Architecture - Drafting and Design*, Unit 35, pp. 218-232

**Procedure:**
1. Read the title.
2. Read the headings and subheadings.
3. Read the first sentence of every paragraph.
4. Read the last sentence of every paragraph.
5. Answer the questions below.

**Questions:**
1. What are the two main purposes of drawing a plot plan?
   a. 
   b. 
2. The plan showing the types and location of vegetation for the lot is called __________________.
3. Give two reasons why landscaping a lot may be prolonged through several years.
   a. 
   b. 
4. Define survey:
5. A survey drawing should be ______________, and should do what? ______________.
6. What is lot dimension?
7. The angle of each property line from north is known as an __________________.
8. What is a transit?
9. A drawing board mounted on a tripod is called a __________________.
10. Geographical survey maps show the general contour of the area, including ______________ features of the terrain such as ______________ and ______________.
Job Sheet # 5

READING SKILLS - Draft.
SKIMMING FOR MAIN IDEAS

OBJECTIVE: To check how well you have learned the procedure of skimming

MATERIALS: Miller, James Nathan, "It's a Dead-End Road for the Dropout"

PROCEDURE: 1. Obtain the specified article from the file.
2. Follow the skimming procedure you have been practicing in the preceding job sheets, and skim the article.
3. Answer the questions below.

QUESTIONS: 1. What happens to the person who tries to "fake" having a high school diploma?
2. List three reasons why students often drop out of school, according to the article:
   a. __________________________________________
   b. __________________________________________
   c. __________________________________________
3. Compare working conditions and school conditions as often experienced by the dropout.
   How do they differ?
   In what ways are they alike?
4. Some jobs are "learning by doing" situations where the employer trains you. Are these increasing or decreasing?
   Are there more or less people in competition for these jobs?
5. The article states that the high school diploma has come to mean three things. Name them.
   a. __________________________________________
   b. __________________________________________
   c. __________________________________________
6. A high school dropout can always enlist in the Army if he can't find a job. Yes ___ No ___
   Explain your answer.
7. An employer from Portland, Oregon, is quoted on his feelings regarding the hiring of dropouts. Summarize what he says.
Job Sheet #1

**OBJECTIVE:** To be able to identify a classification pattern, its subdivisions, and the differentiating characteristics of each.

**MATERIALS:** French and Wierck, Engineering Drawing, p. 18, fig. 2.2 and p. 19, sect. 2.9

**PROCEDURE:**

1. The selection assigned is a classification article about drafting pencils.
2. The caption under the illustration tells you what the general pencil classifications are.
3. Scan the article to find the general classifications.
4. Now read the article carefully to find the sub-divisions.
5. In the outline below fill in the correct sub-divisions.

I. Kinds of pencils
   A. 
   B.

II. Grading of pencils
   A. Soft
      1. (list)
   B. Medium
      1. (list)
   C. Hard
      1. 

III. Uses for graded pencils
   A. Soft
      1. 
      2. 
   B. Hard
      1. 


OBJECTIVE: To be able to identify a classification pattern, its subdivisions, and the differentiating characteristics of each.


PROCEDURE: 1. The selection assigned is a classification article about Alphabet of Lines.
2. The drawings for the Alphabet of Lines tell you about kinds of lines.
3. Scan the section, "The Alphabet of Lines," to find the two types of drawing lines.
4. Examine the drawings and read the article #2.39.
5. Fill in the sub-headings in the outline below.

I. Kinds of drawings
   A. ____________
   B. ____________

II. Widths of lines for finished drawings
   A. ____________
   B. ____________
   C. ____________
Job Sheet #1

OBJECTIVE: To become familiar with the format and purpose of ENGINEER

MATERIALS: 3 issues of ENGINEER

PROCEDURE: Note: To complete this job sheet you will be expected to make use of all the reading skills you have been practicing.

1. Go to the file and choose any 3 issues of ENGINEER.
2. Overview each issue of the magazine.
3. Preview each section.
4. Answer the following questions.
5. Return the magazines to the file.

QUESTIONS:
1. Who publishes ENGINEER?
2. For whom is it published?
3. Where is it published?
4. How often is it published?
5. What is the price of a subscription?
6. To become familiar with the magazine, examine all the parts. List below the special sections which appear in each issue.

7. How many pages are in an average issue?
8. Examine the advertising in ENGINEER. List below four specialized products which you find advertised.

   a.   b.   c.   d.

9. On the basis of your overviewing and previewing, state in your own words what you consider to be the purpose of ENGINEER.
Job Sheet #2

OBJECTIVE: To skim and to comment on a variety of articles which appear in ENGINEER.

MATERIALS: 3 issues of ENGINEER

PROCEDURE: 1. Go to the file and obtain any 3 issues of ENGINEER.
2. Skim a variety of articles as suggested in the questions below.
3. Answer the questions.
4. Return the magazines to the file.

SPECIAL ARTICLES:

1. Skim one feature article. State the title of the article and the issue (date) in which it appears.
   In your own words, state what the article is about and what information you learned by skimming it.

2. Skim one editorial. State the issue (date) in which it appears.
   In your own words, state the topic which the editorial discusses and the position which the writer takes.

3. Examine the "New Products" section. In your own words describe a product which is featured which you have never heard of before.

4. What is the Reader Service card? How does it work?

5. Read one Letter to the Editor. What is the writer saying in his letter?

6. List four ways in which reading ENGINEER would be useful to a draftsman or an engineer.
   1.
   2.
   3.
   4.
READING SKILLS - Elec.
OVERVIEWING I

Job Sheet # 1

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1). To examine new material to find out what it contains, and (2). To determine whether a specific book contains information you want.

MATERIALS: Zbar, Paul, Industrial Electronics.

PROCEDURE: 1. Imagine you are looking at this book for the first time and want to find out what it contains.
2. Read the title.
3. Quickly scan:
   (a). the table of contents
   (b). the preface or forward
   (c). the introduction
   (d). the pictures, maps, graphs, or tables
   (e). the appendix
   (f). the index
4. Record your findings below:
   (a). The title of this book is _____________________________
   (b). Read the introduction and in your own words state the purpose of the book.
   (c). The table of contents shows that this book contains _______ no. of sections, broken down into _______ no. of chapters.
   (d). Your overview shows that this book also contains the following: Check if applicable
      (1). index
      (2). appendix
      (3). introduction
      (4). other (list)
5. From your overview state the purpose for which you believe this book would be useful.
   (1).
   (2).
   (3).
Job Sheet #2

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific book contains information you want.

MATERIALS: Kiver, Milton, Transistors.

PROCEDURE: Imagine you are looking at this book for the first time and want to find out what it contains.

1. Read the title.
2. Quickly scan:
   a. The table of contents
   b. The preface or forward
   c. The introduction
   d. The pictures, maps, graphs, or tables
   e. The appendix
   f. The index
3. Record your findings below:
   a. The title of this book is ____________________________
   b. Read the introduction and in your own words state the purpose of the book:
   c. The table of contents shows that this book contains ________
of sections, broken down into ________ of chapters.
   d. Your overview shows that this book also contains the following:
      Check if applicable
      1. Index
      2. Appendix
      3. Introduction
      4. Other (list)
   e. From your overview, state the purpose for which you believe this book would be useful:
      1.
      2.
      3.
Job Sheet #3

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) to examine new material to find out what it contains, and (2) to determine whether a specific book contains information you want.

MATERIALS: Duarte and Duarte, Electronics Assembly Methods.

PROCEDURE: Imagine you are looking at this book for the first time and want to find out what it contains.

1. Read the title.
2. Quickly scan:
   a. The table of contents
   b. The preface or forward
   c. The introduction
   d. The pictures, maps, graphs, or tables
   e. The appendix
   f. The index
3. Record your findings below:
   a. The title of this book is ____________________________
   b. Read the introduction and in your own words state the purpose of the book.
   c. The table of contents shows that this book contains ____________ of sections broken down into ____________ of chapters.
   d. Your overview shows that this book also contains the following:
      Check if applicable
      1. Index
      2. Appendix
      3. Introduction
      4. Other (list)
   e. From your overview, state the purpose for which you believe this book would be useful:
      1.
      2.
      3.
READ SKILLS - Elec.
OVERVIEWING I

Job Sheet #4

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific book contains information you want.

MATERIALS: Faber, Rodney B. and Heiserman, Russel L. Introduction to Amplifier

PROCEDURE: Imagine you are looking at this book for the first time and want to find out what it contains.

1. Read the title.
2. Quickly scan:
   a. The table of contents
   b. The preface or forward
   c. The introduction
   d. The pictures, maps, graphs, or tables
   e. The appendix
   f. The index
3. Record your findings below:
   a. The title of this book is ____________________________
   b. Read the introduction and in your own words state the purpose of the book.
   c. The table of contents shows that this book contains ________ no
      of sections broken down into ________ no
      of chapters.
   d. Your overview shows that this book also contains the following:
      Check if applicable
      1. Index
      2. Appendix
      3. Introduction
      4. Other (list)
   e. From your overview, state the purpose for which you believe this book would be useful:
      1.
      2.
      3.
Job Sheet #1

OBJECTIVE: To develop the skill of **overviewing a chapter** in a textbook or a technical book.

**Overviewing** is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing, you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you want and need.

MATERIALS: Introduction to Amplifiers, Exp. #4, "An Introduction to Tube Amplifiers."

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc.
   Read the captions.
5. Record your findings below:

a. The title of this chapter is ____________________________

b. This chapter is divided into _______ of sections.

   no.

c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraphs of this chapter and in your own words state its purpose;

d. List all the bold-face headings which develop the chapter:

e. State the technical purposes for which the information in this chapter would be useful:
OVERVIEWING II

OBJECTIVE: To develop the skill of overviewing a chapter in a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is typing without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine what a specific chapter contains information which you want and need.

MATERIALS: Introduction to amplifiers, Exp. 15, "Introduction to graphical analysis of a transistor amplifier"

PROCEDURE: Overview the chapter as follows;

1. Read the title.
2. Read the boldface heading.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc.
5. Read the captions.
6. Record your findings below:

a. The title of this chapter is ________________________________

b. This chapter is divided into ________ sections.

c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraphs of this chapter and in your own words state its purpose:

______________________________

d. List all the bold-face headings which develop the chapter:

______________________________

e. State the technical purposes for which the information in this chapter would be useful:

______________________________
OBJECTIVE: To overview a chapter in a textbook without writing all the information down.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you want and need.

MATERIALS: Electronics in Action, Circuit 11, "The Oscilloscope"

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the boldface heading.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly followed the process of overviewing, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheet #1 and #2.

The purpose of this chapter is:
OBJECTIVE: To overview a chapter in a textbook without writing all the information down.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you want and need.

MATERIALS: Electronics in Action, Circuit 27, "Introduction to Transistors"

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly followed the process of overviewing, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheets #1 and #2.

The purpose of this chapter is:
Objective: To develop the skill of previewing a chapter.

Previewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing, you take a closer look at a chapter, an article, or a book to get a more specific idea of its contents. You now read the title, headings, and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like textbooks. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.


Procedure: 1. Go to the library and obtain a copy of the above book.
2. Do not check this book out of the library; work on this job sheet in the library.
3. Preview chapter 2 of the assigned book as follows:
   a. Read the title.
   b. Read the heading and subheadings.
   c. Read the first and last paragraphs.
   d. Read words, phrases, and sentences in boldface, italics, or other special type.
   e. Read any summary that you might find.
   f. Look at the pictures, tables, maps, and graphs. Read the captions.
4. Answer the following questions:
   a. The title of this chapter is ________________________
   b. The chapter deals with ________________________
   c. The first main heading of the chapter tells ________________________
   d. What is the second main heading of the chapter?
   e. What information can you expect under this heading?
   f. What kinds of lists can you find in this chapter, and for what would they be useful?
   g. For what purpose would the information in this chapter be useful?
5. Return the book to the library desk.
OBJECTIVE: To develop the skill of previewing a chapter.

Previewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing, you take a closer look at a chapter, an article, or a book to get a more specific idea of its contents. You now read the title, headings, and subheadings, words in special type, captions, and notes.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: Davis, Speaker-Enclosures, Howard Sams & Co.

PROCEDURE: 1. Go to the library and obtain a copy of the above book.
2. Do not check this book out of the library; work in the library.
3. Preview chapter 1 in the assigned book as follows:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first and last paragraphs.
   d. Read words, phrases, and sentences in boldface, italics, or other special type.
   e. Read any summary that you might find.
   f. Look at the pictures, tables, maps, and graphs. Read the captions.
4. Answer the following questions:
   a. The title of this chapter is _______________________
   b. The chapter deals with _______________________
   c. The first main heading of the chapter is _______________________
   d. What is the second main heading in the chapter?
   e. What information can you expect under this heading?
   f. What kinds of lists can you find in this chapter, and for what would they be useful?
   g. For what purpose would the information in this chapter be useful?
5. Return the book to the library desk. ___
OBJECTIVE: To develop the skill of previewing a chapter.

Previewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of its contents. You may read the title, headings, and subheadings, words in specific type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy materials, like textbooks. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIAL: Badansky & Davis, Speaker-Enclosures, Howard Sams & Co.

PROCEDURE: 1. Go to the library and obtain a copy of the above book.
2. Do not check this book out of the library; work on this job sheet in the library.
3. Preview the chapter entitled "Crossover Networks," as follows:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first and last paragraphs.
   d. Read words, phrases, and sentences in boldface, italics, or other special type.
   e. Read any summary that you might find.
   f. Look at the pictures, tables, maps, and graphs.
   g. Read the captions.
   h. Answer the following questions:
      a. The title of the chapter is ________________________________
      b. The chapter deals with ________________________________
      c. The first main heading of the chapter tells ________________________________
      d. What is the second main heading in the chapter?
      e. What kinds of lists can you find in this chapter, and for what would they be used?
      f. Summarize in your own words the information contained in this chapter and the purpose for which it would be useful?
5. Return the book to the library desk.
READING SKILLS - Elec.

SCANNING

Pre-Test

OBJECTIVE: The purpose of the Scanning Pre-Test is to help you become aware of the importance of having skills in locating specific information both quickly and accurately.

PROCEDURE: 1. Obtain from the file a copy of the article "What to look for in a Miniscreen TV."  
2. When you begin the test, record your time on the line provided.  
3. Working as rapidly as possible, find all the information asked for in each question.  
4. When you finish the Pre-Test record your time and figure the total time it took you to do this. Put your total time in the space provided on your record sheet.

BEGINNING TIME
CONCLUDING TIME
TOTAL TIME

QUESTIONS: 1. One manufacturer boasts that his miniscreen set contains number of solid state devices.  
2. What is the size of the smallest TV screen made?  
3. How many ways can a portable TV be powered?  
4. What is the basic cost for a battery pack for a TV set?  
5. The antenna on most miniscreen TV sets is a single rod. What is it called?  
6. Is a color miniscreen available?  
7. List three other features available with a miniscreen TV:  
   a.  
   b.  
   c.  
8. Do all sets come with UHF?  
9. What channels does UHF cover?  
10. What is the name of the new color picture tube which will be used in miniscreen TV?  
11. Give the typical price of an eight-inch black-and-white T.V.  
12. What is the highest price that you can pay for a miniscreen T.V.  
13. A T.V. is classified as a miniscreen if it measures less than square inches.  
14. How many transistors does a miniscreen TV contain?  
15. How many times can the battery which comes with a miniscreen TV be recharged?  
16. List three problems encountered when putting a miniscreen T.V. in a car or boat:  
   a.  
   b.  
   c.  

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OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read process for finding specific facts, names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.


PROCEDURE: 1. Read the following questions, and scan for the answers one at a time, following these guides:
   a. Keep clearly in mind the question you want to answer.
   b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the answer, read more carefully.
   e. Stop reading when you have found the correct answer.
   f. Record the answer in the space provided.

2. Time yourself. Note your time on your record sheet.

QUESTIONS: 1. How is the resistance value of a resistor identified?
   2. How is the capacitance value of a capacitor identified?
   3. What is the difference in basing between an octal tube and a 7 pin miniature?
   4. How many leads are there on a resistor? In a capacitor?
   5. Why is a power transformer so heavy?
   6. List three ways in which transistors are used?
   a.
   b.
   c.
   7. What do the letters EIA stand for?
OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read process for finding specific facts—names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you have found what you are looking for.


PROCEDURE: 1. Read the questions below, and scan for the answers one at a time, following these guides:
   a. Keep clearly in mind the question you want answered.
   b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the answer, read more carefully.
   e. Stop reading when you have found the correct answer.
   f. Record your answer in the space provided.
   
   2. Time yourself. Note your time on your record sheet.

QUESTIONS: 1. List the hand tools which an electronics technician uses. State the purpose of each.

<table>
<thead>
<tr>
<th>Tool</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   2. How does a soldering pencil differ from a soldering gun?
   3. Does the diameter of a wire affect its current carrying capacity?
   4. Where is coaxial cable used?
   5. What is the braided shield on coaxial cable for?
   6. What is a heat sink?
   7. What is a heat sink used for?
   8. What is the difference between standard and solid hook-up wire?
   9. What is the wattage of heavier soldering irons?
  10. What is the wattage of a popular soldering gun?
READING SKILLS - Elec.
SCANNING I

Job Sheet #3

OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read process for finding specific facts—names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you scan for a specific fact, you do very little reading. Instead you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: ZBar, Paul, Electricity-Electronics Fundamentals: A Text-Lab Manual Exp. #4

PROCEDURE: 1. Read the questions below, and scan for the answers one at a time, following these guides:

   a. Keep clearly in mind the question you want answered.
   b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the answer, read more carefully.
   e. Stop reading when you have found the correct answer.
   f. Record the answer in the space provided.

2. Time yourself. Note your time on your record sheet.

QUESTIONS: 1. Why are electrical connections soldered?
2. What is a cold soldered joint?
3. What kind of fix is used in soldering electronic components?
4. What kinds of solder is used in electronic components?
5. What precautions must be taken in soldering electronic components to a printed circuit board?
6. What is the purpose of tinning an iron?
7. What is the purpose of tinning a wire?
8. What is a soldering aid?
9. What is a mechanical connection?
10. What happens if excessive heat is applied to a printed circuit board?
READING SKILLS - Elec.
SCANNING I

Job Sheet #4

OBJECTIVE: To develop the skill of scanning for specific facts.

Scanning is a planned hunt—skip—read process for finding specific facts—names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the page (material) until you find what you are looking for.

MATERIALS: Delpit and Johnson, Electronics in Action, Circuit 27

PROCEDURE: 1. Read the questions below and scan for the answers, one at a time, following these guides:
   a. Keep clearly in mind the question you want answered.
   b. Decide in what form the answer should appear. For example should the answer be a word, a name, a number, or a date?
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the answer, read more carefully.
   e. Stop reading when you have found the correct answer.
   f. Record the answer in the space provided.

2. Time yourself. Note your time on your record sheet.

QUESTIONS: 1. Why is the term solid state used in connection with transistor?
2. What does semi-conductor mean?
3. Name two basic materials which are used in the construction of transistors?
4. What is the letter symbol for a transistor?
5. The base of a transistor is comparable to what element in a vacuum tube?
6. What is the name that is being used in the electronics industry to replace the word "cycle"?
7. What are two types of transistors?
8. What do the letters E - B - C stand for?
Job Sheet #1

OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS: RCA Receiving Tube Manual, pp. 530-31

PROCEDURE: 1. On the specified pages in the assigned material is a table of letters. Using the following procedure, scan the table for answers to the questions listed below:
   a. Keep clearly in mind the questions you want answered.
   b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the answer, read more carefully.
   e. Stop reading when you have found the correct answer. Write the answer on this job sheet.

2. Time yourself. Note your time on your record sheet.

QUESTIONS:
1. What is the basing diagram number for a 7B3 tube?
2. Is there any other tube on the page that has the same basing diagram?
3. To what tube must you refer to find all the characteristics of the 7B3 tube?
4. Are the heater ampers of the 7B3 typical of all the tubes on this page?
5. Is the outline of the 7B3 tube typical of the other tubes on the page?
6. The 717 has plate volts of 100. List other tubes on the page that also have 100 plate volts.
OBJECTIVE: To develop the skill of scanning for numerical facts

MATERIALS: Attached Table of Transformers

PROCEDURE: 1. Using the following procedure scan the Table of Transformers for answers to the questions which are below:
   a. Keep clearly in mind the question you want answered.
   b. Decide in what form the answer should appear, for example, should the answer be a word, a name, a number, or a date?
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the answer, read more carefully.
   e. Stop reading when you have found the right answer.

2. Time yourself. Note your time on your record sheet.

QUESTIONS: 1. What are the three types of transformers?
2. Which are usually the larger ohms, primary or secondary?
3. Is a TMO-6 an input or output transformer?
4. Is a TMO-8 transformer 369 for a hundred or more?
5. Can you get an 8 ohm secondary transformer in miniature and sub-miniature?
6. Does an input transformer have less than 1K secondary in miniature transformers?
7. What does the * stand for?
8. Does a TMO-1 transformer cost less than a TOS-1 for 10-99?
9. Can you get an input with a CT either in miniature or sub-miniature?
10. Does a driver come in a LOOK primary?
Miniature and sub-miniature transformers are selected for maximum reliability. Windings are sealed and all cores are of a high quality heat-treated core material. Pins on the printed circuit types (#) are spaced for mounting ease.

NOTE: * is for printed circuit mounting.

**DIMENSIONS**

MINIATURE: 5/3 X 5/8 X 1/2 inches  
SUB-MINIATURE: 1/2 X 1/2 X 1/2 inches

### MINIATURE

<table>
<thead>
<tr>
<th>STOCK NO.</th>
<th>TYPE</th>
<th>PRIMARY</th>
<th>SECONDARY</th>
<th>1-9</th>
<th>10-99</th>
<th>100-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMO-1</td>
<td>Output</td>
<td>500 CT</td>
<td>8</td>
<td>.49</td>
<td>.44</td>
<td>.36</td>
</tr>
<tr>
<td>TMO-1P</td>
<td>Output</td>
<td>500 CT</td>
<td>4 &amp; 8</td>
<td>.49</td>
<td>.44</td>
<td>.36</td>
</tr>
<tr>
<td>TMI-2</td>
<td>Driver</td>
<td>10K</td>
<td>2K CT</td>
<td>.59</td>
<td>.49</td>
<td>.39</td>
</tr>
<tr>
<td>TMI-2P</td>
<td>Driver</td>
<td>10K</td>
<td>2K CT</td>
<td>.59</td>
<td>.49</td>
<td>.39</td>
</tr>
<tr>
<td>*TMO-3P</td>
<td>Output</td>
<td>1.2K CT</td>
<td>4 &amp; 8</td>
<td>.59</td>
<td>.49</td>
<td>.39</td>
</tr>
<tr>
<td>*TMO-4P</td>
<td>Output</td>
<td>1.2K CT</td>
<td>4 &amp; 8</td>
<td>.59</td>
<td>.49</td>
<td>.39</td>
</tr>
<tr>
<td>TMO-5</td>
<td>Input</td>
<td>100K</td>
<td>1K CT</td>
<td>.89</td>
<td>.79</td>
<td>.69</td>
</tr>
<tr>
<td>*TMO-5P</td>
<td>Input</td>
<td>100K</td>
<td>1K CT</td>
<td>.79</td>
<td>.69</td>
<td>.63</td>
</tr>
<tr>
<td>TMO-6</td>
<td>Input</td>
<td>20K</td>
<td>1K CT</td>
<td>.69</td>
<td>.59</td>
<td>.49</td>
</tr>
<tr>
<td>*TMO-6P</td>
<td>Input</td>
<td>20K</td>
<td>1K CT</td>
<td>.69</td>
<td>.59</td>
<td>.49</td>
</tr>
<tr>
<td>TMO-7</td>
<td>Input</td>
<td>500K</td>
<td>1K CT</td>
<td>.89</td>
<td>.79</td>
<td>.74</td>
</tr>
<tr>
<td>*TMO-7P</td>
<td>Input</td>
<td>500K</td>
<td>1K CT</td>
<td>.99</td>
<td>.89</td>
<td>.84</td>
</tr>
<tr>
<td>TMO-3</td>
<td>Output</td>
<td>800</td>
<td>4 &amp; 8</td>
<td>.49</td>
<td>.44</td>
<td>.36</td>
</tr>
<tr>
<td>*TMO-3P</td>
<td>Output</td>
<td>800</td>
<td>4 &amp; 8</td>
<td>.59</td>
<td>.49</td>
<td>.39</td>
</tr>
</tbody>
</table>

### SUB-MINIATURE

<table>
<thead>
<tr>
<th>STOCK NO.</th>
<th>TYPE</th>
<th>PRIMARY</th>
<th>SECONDARY</th>
<th>1-9</th>
<th>10-99</th>
<th>100-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOS-1</td>
<td>Output</td>
<td>500 CT</td>
<td>8</td>
<td>.49</td>
<td>.39</td>
<td>.35</td>
</tr>
<tr>
<td>TOS-1P</td>
<td>Output</td>
<td>500 CT</td>
<td>8</td>
<td>.49</td>
<td>.39</td>
<td>.35</td>
</tr>
<tr>
<td>TOS-2</td>
<td>Driver</td>
<td>10K</td>
<td>2K CT</td>
<td>.49</td>
<td>.39</td>
<td>.35</td>
</tr>
<tr>
<td>TOS-2P</td>
<td>Driver</td>
<td>10K</td>
<td>2K CT</td>
<td>.47</td>
<td>.37</td>
<td>.33</td>
</tr>
<tr>
<td>TOS-5</td>
<td>Input</td>
<td>100K</td>
<td>1K CT</td>
<td>.79</td>
<td>.69</td>
<td>.59</td>
</tr>
<tr>
<td>TOS-5P</td>
<td>Input</td>
<td>100K</td>
<td>1K CT</td>
<td>.79</td>
<td>.69</td>
<td>.59</td>
</tr>
</tbody>
</table>
OBJECTIVE: To develop the skill of **scanning for numerical facts**

MATERIALS: Attached Table of Electrolytic Capacitors

PROCEDURE: 1. Using the following procedure scan the Table of Electrolytic Capacitors for answers to the questions which are below.
   a. Keep clearly in mind the questions you want answered.
   b. Decide in what form the answer should appear.
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the answer, read more carefully.
   e. Stop reading when you have found the correct answer.
2. Time yourself. Note your time on your record sheet.

QUESTIONS: 1. What are the voltage sizes?
2. Can you get 5MF-10 volts?
3. Can you get a number of sizes at 25 volts.
4. Which costs more, the higher the MF or the higher the voltage?
5. Is there a correlation between the 6 volts group and the 15 volt group?
6. What is the correlation between the 6 volt group and the 15 volt group?
7. Does the stock no. tell you anything about the M.F.?
    If so, what?
8. Does the stock no. tell you anything about the volts?
    If so, what?
**ELECTROLYTIC CAPACITORS**

**Miniature Single-Ended Electrolytic Capacitors**

Aluminum foil electrolytic capacitors sealed into an aluminum case with single-ended termination. Their small size and upright terminal structure make them ideal for transistor and printed circuit work. Their high quality construction gives maximum reliability and minimum leakage.

<table>
<thead>
<tr>
<th>MF</th>
<th>VOLTS</th>
<th>STOCK NO.</th>
<th>COST EACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>6</td>
<td>U6-2</td>
<td>.07</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>U6-5</td>
<td>.08</td>
</tr>
<tr>
<td>10</td>
<td>6</td>
<td>U6-10</td>
<td>.09</td>
</tr>
<tr>
<td>30</td>
<td>6</td>
<td>U6-30</td>
<td>.09</td>
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<tr>
<td>50</td>
<td>6</td>
<td>U6-50</td>
<td>.12</td>
</tr>
<tr>
<td>100</td>
<td>6</td>
<td>U6-100</td>
<td>.14</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>U10-5</td>
<td>.10</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>U10-10</td>
<td>.11</td>
</tr>
<tr>
<td>30</td>
<td>10</td>
<td>U10-30</td>
<td>.11</td>
</tr>
<tr>
<td>100</td>
<td>10</td>
<td>U10-100</td>
<td>.14</td>
</tr>
<tr>
<td>500</td>
<td>10</td>
<td>U10-500</td>
<td>.26</td>
</tr>
<tr>
<td>1000</td>
<td>10</td>
<td>U-10-1000</td>
<td>.33</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>U15-2</td>
<td>.08</td>
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<tr>
<td>5</td>
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<td>.16</td>
</tr>
<tr>
<td>10</td>
<td>25</td>
<td>U25-10</td>
<td>.15</td>
</tr>
</tbody>
</table>
READING SKILLS - Elec. Scanning II

Job Sheet #4

OBJECTIVE: To develop the skill of scanning for numerical facts

MATERIALS: Attached Table of Black & White Picture Tube Characteristics

PROCEDURE: 1. Using the following procedure, scan the Table of Black & White Picture Tube Characteristics.
   a. Keep clearly in mind the question you want answered.
   b. Decide in what form the answer should appear.
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find the correct answer read more carefully.
   e. Stop reading when you have found the correct answer.
2. Time yourself. Note your time on your record sheet.

QUESTIONS: 1. Find a 16 WP4. What is the filament voltage?
2. What is the G2 voltage?
3. What is the anode voltage?
4. What is the deflection angle?
5. Does it require an ion trap?
6. What is the weight of this tube?
7. What is the screen area in inches?
8. Does the volt/MA rating change with the deflection angle?
9. At what deflection angle does the busing change from a 3HR to a 12D or 12N?
Job Sheet #1

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: G.C. Electronics Catalog for 71-72, p. 205.

PROCEDURE:
1. You are to scan a list of antenna lead-ins.
2. Read the questions.
3. Scan for the answers, one question at a time.
4. Record your findings below.
5. Time yourself. Note your time on your record sheet.

QUESTIONS:
1. Give the part no. of low-loss 300 ohm twin lead, 100 ft.
2. Give the list price
3. Give the net price
4. What lengths does it come in?
5. What colors does it come in?
6. What is the weight of 100 ft?
7. Does low loss lead come the same as the flat lead per 100 ft?
OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: G.C. Electronics catalog for '71-'72, p. 117.

PROCEDURE: 1. You are to scan a list of indoor TV antenna.
2. Read the questions.
3. Scan for the answers, one question at a time.
4. Make use of the illustrations wherever necessary.
5. Record your findings below.
6. Time yourself. Note your time on your record sheet.

QUESTIONS: 1. What is the cat. no. for a RCA CL47 1853-1 antenna?
2. What is the JFD no. for a Zenith 1-101 antenna?
3. What is the net price for an antenna cat. no. 61-814?
4. How many antennas come packaged for cat. no. 61-818?
5. Do all Zenith antennas on this page cost the same?
6. Is the Antenna cat. no. 61-818 a dual antenna?
7. Does the antenna JFD no. TA 482 come with a wire lead?
Job Sheet #3

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: G.C. Electronics catalog for 71-72, p. 112.

PROCEDURE: 1. You are to scan a list of knobs.
2. Read the questions.
3. Scan for the answers, one question at a time.
4. Record your findings below.
5. Time yourself. Note your time on your record sheet.

QUESTIONS: 1. What is the cost of a pointer knob, cat. no. 25-038?
2. Does this knob come in black only?
3. How many of the above knobs come in a standard package?
4. Is the knob cat. no. 25-120 white?
5. What knob would you use if it needed to be a pointer, walnut and 1 1/4 inches in diameter?
6. What is the cat. no. and price for a knob with a metallic insert?
Objective: To develop the skill of skimming for main ideas.

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

Materials: "A New Era of Portable Power," Electronics Digest

Procedure:
1. Skim the attached article for the main idea.
2. Read the title.
3. Read the headings and subheadings.
4. Read the first sentence of every paragraph.
5. Read the last sentence of every paragraph.
6. Answer the questions.

Questions:
1. What is the name of the new battery?
2. Can this battery be recharged?
3. If so, how long can it be recharged?
4. List five tools that are being powered by this battery.
5. What organizations have used this battery for starting their motors and for standby power?
6. How long did it take to develop this battery?
Job Sheet #2

OBJECTIVE: To develop the skill of skimming for main ideas.

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: "New Coaxial Telephone Cable"

PROCEDURE: 1. Skim the attached article for the main idea.
2. Read the title.
3. Read the headings and subheadings.
4. Read the first sentence of every paragraph.
5. Read the last sentence of every paragraph.
6. Answer the questions.

QUESTIONS: 1. What is the name of this new telephone cable?
2. What are four advantages of this cable?
   a. 
   b. 
   c. 
   d. 
3. Who manufactures the new cable?
4. What is the saving in production costs of this cable over other cables?
OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: "The Electronics Service Technician"

PROCEDURE: 1. Skim the attached article for the main idea.
2. Read the title.
3. Read the headings and subheadings
4. Read the first sentence of every paragraph.
5. Read the last sentence of every paragraph.
6. Answer the questions.

QUESTIONS: 1. What is the outlook in the next few years for the consumer electronics business?
2. What has been the yearly increase in factory sales over the past ten years?
3. What are the needs for service technicians?
4. What is the usual starting salary per week for a technician?
5. With several years experience, what salary might a good technician receive?
6. List four things you can do in planning your future in
   a.
   b.
   c.
   d.
Job Sheet #4

OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: Cavallari, F.D., "The Transistor" - Study Guide No. 5, BASIC ELECTRONICS

PROCEDURE: 1. Obtain the specified article from the file.
2. Read the title.
3. Read the headings and subheadings.
4. Read the first sentence of every paragraph.
5. Read the last sentence of every paragraph.
6. Answer the questions.

QUESTIONS: 1. How long has it been since people began to understand the transistor?
2. What are transistors primarily used for?
3. What other uses do they have?
4. What company was first to use the transistor?
5. What are two types of junction transistors?
   a. 
   b. 
6. Draw a common emitter amplifier.
OBJECTIVE: To check how well you have learned the procedure of skimming.

MATERIALS: Miller, James Nathan, "It's a Dead-End Road for the Dropout"

PROCEDURE: 1. Obtain the specified article from the file.
   2. Follow the skimming procedure you have been practicing in the four preceding job sheets.
   3. Answer the questions below.

QUESTIONS: 1. What happens to the person who tries to "fake" having a high school diploma?
   2. List three reasons why the article states that students often drop out of school:
      a. 
      b. 
      c. 
   3. Compare working conditions and school conditions as often experienced by the dropout.
      How do they differ? ____________
      In what ways are they alike? ____________
   4. Some jobs are "learning by doing" situations where the employer trains you. Are these increasing or decreasing? Are there more or less people in competition for these jobs?
   5. The article states that the high school diploma has come to mean three things. Name them.
      a. 
      b. 
      c. 
   6. A high school dropout can always enlist in the Army if he can't find a job. Yes _____ No _____
      Explain your answer.
   7. An employer from Portland is quoted on his feelings regarding the hiring of dropouts. Summarize what he says.
JOB SHEET #1

OBJECTIVE: To gain experience in reading the written and diagramatic explanation of a technical process. To be able to organize in a list the sequence of events in the process.


PROCEDURE: This is a technical selection and you should read it differently than you read literature or social studies. This selection explains processes which . . .

These instructions tell you how to read material that describes a process:

1. Study the diagram. Read the names of the parts. Then try to name them without reading the labels.
2. Read all of the boldfaced headings in the selection to find out what processes will be described.
3. Read the introductory paragraph. Read the first section; read just one sentence at a time. If it mentions something shown in the diagram, look back at the diagram after reading the sentence, read the next one in the same way. Stop and think about each sentence after you have read it to make sure that the meaning is clear to you.
4. After reading the entire section in this way, try to explain to yourself without looking at the book just how the process takes place.
5. Work with each of the remaining sections in the same way that you worked with the first one.
6. Do the following without referring back to the book (if possible).
   a. List in order the steps that take place in the process which has been described.
   b. Draw a diagram illustrating the process you have just outlined.
Job Sheet #2

OBJECTIVE: To gain experience in reading the written and diagramatic explanation of a technical process. To be able to organize in a list the sequence of events in the process.


PROCEDURE: This is a technical selection and you should read it differently than you read literature or social studies. This selection explains processes which . . .

These instructions tell you how to read material that describes a process.

1. Study the diagram. Read the names of the parts. Then try to name them without rereading the labels.
2. Read all of the boldfaced headings in the selection to find out what processes will be described.
3. Read the introductory paragraphs. Read the first selection; read just one sentence at a time. If it mentions something shown in the diagram, look back at the diagram after reading the sentence; read the next one in the same way. Stop and think about each sentence after you have read it to make sure that the meaning is clear to you.
4. After reading the entire section in this way, try to explain to yourself without looking at the book just how the process takes place.
5. Work with each of the remaining sections in the same way that you worked with the first one. Without referring back to the book (if possible) do the following:
   a. List in order the steps that take place in the process which has been described.
   b. Draw a diagram illustrating the process you have just outlined.
OBJEKTIVE: To be able to identify a classification pattern, its subdivisions, and the differentiating characteristics of each.


PROCEDURE:
1. The selection below is a classification article about capacitors.
2. The bold-faced headings tell you what the general classifications are.
3. The underlined headings name the small classifications under a general heading.
4. Scan the article to find the general classifications. Clue phrases to look for are: (Examples – three dif. kinds)
5. List on the chart below the general classifications
6. Now read the article carefully to find the subdivisions and their characteristics.
7. Fill in on the chart the subdivisions.
8. List the characteristics which differentiate one group from the other.

<table>
<thead>
<tr>
<th>TYPES OF CAPACITORS</th>
<th>SIZE AND SHAPE</th>
<th>SYMBOL</th>
<th>DOES IT HAVE A &amp;</th>
<th>NUMBER OF LEADS</th>
<th>TYPE OF MATERIAL</th>
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128/22
Job Sheet #2

OBJECTIVE: To be able to identify a classification pattern, its subdivision, the differentiating characteristics of each.

MATERIALS: Gerrish, Electricity & Electronics, pp. 41-43

PROCEDURE: 1. The selection below is a classification article about resistors.
2. The bold-face headings tell you what the general classifications are.
3. The underlined headings name the smaller classifications under a general heading.
4. Scan the article to find the general classifications. Clue phrases to look for are: (Examples—three different kinds)
5. List on the chart below the general classifications.
6. Now read the article carefully to find the subdivisions and their characteristics.
7. Fill in on the chart the subdivisions.
8. List the characteristics which differentiate one group from the other.

<table>
<thead>
<tr>
<th>TYPE OF RESISTORS</th>
<th>SIZE AND SHAPE</th>
<th>WATTAGE</th>
<th>SYMBOL</th>
<th>APPLICATION</th>
<th>MATERIAL</th>
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OBJECTIVE: To be able to identify a classification pattern, its subdivision, and the differentiating characteristics of each.

MATERIALS: Duarte and Duarte, Electronics Assembly Methods, page 5

PROCEDURE: 1. The selection below is a classification article about Units of Quantity.
2. The bold-face headings tell you what the general classifications are.
3. Scan the article to find the general classification. Clue phrases to look for are: (Examples — three different kinds)
4. List on the chart below the general classification.
5. Now read the article carefully to find the subdivisions and their characteristics.
6. Subdivisions are listed. Fill in the Units and their abbreviations.

<table>
<thead>
<tr>
<th>RESISTANCE UNITS</th>
<th>ABBREV.</th>
<th>VOLTAGE UNIT</th>
<th>ABBREV.</th>
<th>CURRENT UNITS</th>
<th>ABBREV.</th>
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130 124
OBJECTIVE: To be able to identify a classification pattern, its subdivisions and the differentiating characteristics of each.

MATERIALS: Duarte and Duarte, Electronics Assembly Methods, page 90-93

PROCEDURE:
1. The selection below is a classification article about inductors.
2. The bold-face headings tell you what the general classifications are.
3. Scan the article to find the general classifications. Clue phrases to look for are: Examples — three different kinds
4. On the chart below the general classification are listed.
5. Now read the article carefully to find the subdivision and their characteristics.
6. Fill in the chart from figures 12-7 page 93.

<table>
<thead>
<tr>
<th>TYPE OF INDUCTORS</th>
<th>SHAPE AND SIZE</th>
<th>SYMBOL</th>
<th>LEADS IDENTIFIED</th>
<th>COVERING</th>
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Job Sheet #1

OBJECTIVE: To gain in identifying causes that produce an effect

MATERIALS: Article: "Super Long Electromagnetic Waves"

PROCEDURE: 1. Go to the file to obtain the specified article.
   2. Read the entire article.
   3. In this article, the effect of something is given first. Then follows an explanation of the cause. Sum up in your own words the effect as stated in the article. Write on the line below.
   4. Sum up three of the causes which produced this effect. Write the causes on the approximate lines below.

EFFECT: ____________________________________________

________________________________________

CAUSES: 1. ______________________________________

2. ______________________________________

3. ______________________________________

5. Return the article to the file.
**OBJECTIVE:** To gain experience in identifying causes that produce an effect.

**MATERIALS:** Article: "Steps to Safety"

**PROCEDURE:**
1. Go to the file to obtain the specified article.
2. Read the entire article.
3. In this article the effect is given first. Then follows an explanation of the causes which produce this effect. In your own words state the effect on the line below.
4. Find six causes which produce this effect. Write the causes on the approximate lines below.

**EFFECT:**

**CAUSES:**
1. 
2. 
3. 
4. 
5. 
6. 

5. Return the article to the file.
Job Sheet #3

OBJECTIVE: To gain experience in identifying causes that produce an effect.

MATERIAL: Article: "Tape Recording Systems"

PROCEDURE:
1. Go to the file to obtain the specified article.
2. Read the entire article.
3. In this article, the effect is given first. Then follows an explanation of the causes which produce this effect. In your own words state the effect on the lines below.
4. Find as many causes as you can which produce this effect. List the causes on the lines below.

EFFECT:

CAUSES:

5. Return the article to the file.
Job Sheet #4

OBJECTIVE: To gain experience in identifying causes that produce an effect.

MATERIALS: Article: "Yesterday"

PROCEDURE: 1. Go to the file to obtain the specified article.
2. Read the entire article.
3. In this article, the effect is given first. Then follows an explanation of the causes which produce this effect. In your own words state the effect on the line below.
4. Find as many causes as you can which produce this effect. List the causes on the line below.

EFFECT: ____________________________

CAUSES: ____________________________

__________________________

__________________________

__________________________

__________________________

5. Return the article to the file.
Job Sheet #1

OBJECTIVE: To gain experience in identifying effects produced by causes. To determine how and why the causes had the effects they did.

MATERIALS: Duarte and Duarte, *Electronics Assembly Methods*, Chap. 9

PROCEDURE: In the assigned material the causes are given which lead up to some effect.

1. Find the causes in the chapter and sum them up in a few words on the line following cause.
2. Then find the effect and sum it up in a few words on the line following effect.

CAUSE: 

CAUSE: 

EFFECT: 

OBJECTIVE: To gain experience in identifying effects produced by causes. To determine how and why the causes had the effects they did.

MATERIALS: "Cover Story" attached

PROCEDURE: In the attached article the causes are given which lead up to some effect.

1. Find the causes in the article and sum it up in a few words on the line following cause.
2. Then find the effect and sum it up in a few words on the line following effect.

CAUSE: ________________________________

CAUSE: ________________________________

EFFECT: ________________________________
COVER STORY

When completed, the Browns Ferry Nuclear Plant (shown on cover) will be the world's largest steam electric plant. It will have a capacity of 3,456,000 kilowatts of electricity in three units of 1,152,000 kw each. The units had been scheduled in for operation consecutively in 1970, 1971, and 1972, but operation of the first two units will be later than originally planned because of a delay in equipment deliveries. The side of the plant is in Limestone County, Alabama, on the north side of Wheeler Reservoir.

Although the nuclear plants will qualify as "heavy industry" in terms of size, their impact on the environment will be a vast improvement over former systems. Nuclear plants have no fuel storage pile, no smoke, and leave no residue in the vicinity. They will be quiet, clean, and will follow modern architectural trends in design of the various buildings in the complex.

Today, government and industry are working together to develop new technology to cope with air pollution problems. These technological advances can not only improve control of present air pollution sources, but can in many instances replace them with new pollution-free substitutes such as electric heating and the nuclear power plants. Perhaps even greater potential lies in the development of a practical electric car, which could reduce the single largest source of air pollutants—fuel powered vehicles.
Job Sheet #1

OBJECTIVE: To gain practice in finding central topics, major and minor details in paragraphs.

MATERIALS:
1. Basic Electricity and Electronics, by ZBar
   Selection is experiment on: vacuum tube power amplifiers
2. Informational packet on block diagrams and paragraphs

PROCEDURE:
1. Carefully read the informational packet on outlining a paragraph.
2. Read the selection.
3. Make a block diagram of this (or these) paragraphs.
   Make one diagram for each paragraph.
Job Sheet #2

OBJECTIVE: To gain practice in finding central topics, major and minor details in paragraphs.

MATERIALS: 1. Basic Electricity and Electronics by Zbar
            Selection is the experiment on the loud speaker.
            2. Informational packet on Block Diagrams and Paragraphs

PROCEDURE: 1. Carefully read the information packet on outlining a paragraph.
            2. Read the selection.
            3. Make a block diagram of this (or these) paragraphs.
               Make one diagram for each paragraph.
OBJECTIVE: To gain practice in finding central topics, major and minor details in paragraphs.

MATERIALS: 1. Basic Electricity and Electronics, by ZBar
            Selection in the experiment on silicon controlled rectifier (SCR)
            2. Informational packet on Block Diagrams and Paragraphs

PROCEDURE: 1. Carefully read the informational packet on outlining a paragraph.
            2. Read the selection.
            3. Make a block diagram of this (or these) paragraphs.
            Make one diagram for each paragraph.
OBJECTIVE: To gain experience in reading a detailed statement of fact pattern.

MATERIALS: YESTERDAY "HISTORICAL EVENTS IN ELECTRONICS" attached.

INFORMATION: This selection gives straight information about a topic. The facts are dense and they may contain a definition or a statement of a principle. The best way to read this material is to look for the main idea and then the cluster of supporting ideas, for each main idea.

PROCEDURE: 1. Preview for headings, words in italics, and illustrations.
2. Read the entire selection rapidly for general information. Read as fast as you can. Time yourself and record time here.
3. Answer the general fact questions below.
4. Read the informational packet on Block Diagrams.
5. Make an outline for each paragraph in block diagram form.
6. Write out any definitions of principles you find stated.

A. General Fact Questions:
1. How long ago did automatic telephones begin?
2. What type of telephone companies were the first ones?
3. Who developed a telephone system without an operator?

B. Block Outline Form

C. Definition or principle:
Job Sheet #2

OBJECTIVE: To gain experience in reading a detailed statement of fact pattern.

MATERIALS: Informational packet on Block Diagrams
Article: "Magazines and Books on Magnetic Tape"

INFORMATION: This selection gives straight information about a topic. The facts are dense and they may contain a definition or a statement of a principle. The best way to read this material is to look for the main idea and then the cluster of supporting ideas, for each main idea.

PROCEDURE:
1. Preview for headings, words in italics, and illustrations.
2. Read the entire selection rapidly for general information. Read as fast as you can. Time yourself and record time here
3. Answer the general fact questions below.
4. Read the informational packet on Block Diagrams.
5. Make an outline for each paragraph in block diagram form.
6. Write out any definitions or principles you find stated.

A. General fact questions:
   1. Who developed talking books?
   2. Who were they developed for?
   3. What type of books are available under this plan?

B. Block outline form

C. Definition or principle:
JOB SHEET #1

OBJECTIVE: To outline a paragraph to show the relationship between the main idea, and the relationship between major and minor details.

MATERIALS: PORTABLE COLOR CAMERA HAS MANY APPLICATIONS, article below

PROCEDURE: 1. Read the informational packet on outlining paragraphs carefully.
2. Read the article once as quickly as you can, to get the main ideas.
3. Read the article over again more slowly and make an outline of the paragraph(s) below. Be sure to use Roman numerals I, II, III for the main ideas; capital letters for the major details; Arabic numerals for minor details.

SELECTION: PORTABLE COLOR CAMERA HAS MANY APPLICATIONS

A broadcast-quality color television camera, small enough to be carried by an astronaut on a manned lunar exploration mission, may also find use in a number of industrial and broadcast television applications.

The camera, its portable power supply, and receiving and transmitting radio equipment weight a total of 56 pounds, as contrasted to an average of 200 pounds for comparable color TV cameras, not including power supply. It was developed at RCA's Astro-Electronics Division in Princeton, N.J.

The camera was designed to be carried and operated by one man, making it suitable for use in manned lunar exploration. It could be carried on the moon by an exploring astronaut to provide scientists with color views of the lunar environment. The pictures could be viewed instantly on earth TV receivers and could also be stored on conventional video tape to provide a record of the scenery for later detailed analysis.
OBJECTIVE: To outline a paragraph to show the relationship between the main idea, and the relationship between major and minor details.

MATERIALS: Article below, NEW DOUBLE LIFE LEAD-ACID BATTERY

PROCEDURE: 1. Read the informational packet on outlining paragraphs carefully.
2. Read the article once as quickly as you can to get the main ideas.
3. Re-read the article more slowly and make an outline of the paragraphs. Be sure to use Roman numerals I, II, III for the main ideas; capital letters for the major details; Arabic numerals for minor details.

SELECTION: NEW DOUBLE LIFE LEAD-ACID BATTERY

A new cylindrical lead-acid battery, whose performance actually improves during the greater part of its lifetime and whose life span is twice that of other batteries, has been developed by Bell Telephone Laboratories.

The new battery has an anticipated life greater than 30 years—doubling the typical 15-year life span of present batteries. The improvement is achieved without increasing the weight or volume of the cell.

Bell system telephone companies will use the new battery primarily as a source of emergency power should commercial power sources fail. The Bell System purchases about $15 million worth of batteries each year, and expects that the new batteries will be made by outside suppliers—as are all Bell System batteries. This development will provide the Bell System with a common battery design, reducing about 66 different battery configurations to possibly as few as four.

The battery is covered by U.S. Patent No. 3,434,933, issued to L.D. Babusci, B.A. Cretalla, D.O. Feder, and D.E. Koontz, as well as a number of pending patent applications. The battery was discussed at a recent Symposium for battery manufacturers in Murray Hill, N.J.

One of the unique features of the new battery is the use of circular grids made of pure lead—a material that corrodes more slowly than commonly used lead alloys of calcium or antimony.

The cylindrical design provides a more rigid structure than the familiar rectangular shape and thus permits the use of the softer pure lead.
OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1). To examine new material to find out what it contains, and (2). To determine whether a specific book contains information you want.

MATERIALS: Peterson, American Labor Unions.

PROCEDURE: 1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title.

3. Quickly scan:
   a. The Table of Contents
   b. The Preface or Forward
   c. The Introduction
   d. The pictures, maps, graphs, or tables
   e. The Appendix
   f. The Index

4. Record your findings below:
   a. The title of this book is _______________________
   b. Read the introduction or forward and in your own words state the purpose of the book:
   c. The table of contents shows that this book contains _______ of sections, broken down into ______ of chapters.
   d. Your overview shows that this book also contains the following:
      Check if applicable
      (1). Index
      (2). Appendix
      (3). Introduction
      (4). Other (List)

5. From your overview state the purposes for which you believe this book would be useful:
   (1).
   (2).
   (3).
OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific book contains information you want.

MATERIALS: Kursh, Apprenticeships in America.

PROCEDURE: 1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title.

3. Quickly scan:
   (a). the table of contents
   (b). the preface or forward
   (c). the introduction
   (d). the pictures, maps, graphs, or tables
   (e). the appendix
   (f). the index

4. Record your findings below:
   (a). the title of this book is ________________________

   (b). Read the introduction and in your own words state the purpose of the book.

   (c). The table of Contents shows that this book contains no. of sections, broken down into no. of chapters.

   (d). Your overview shows that this book also contains the following: Check if applicable

      (1). Index
      (2). Appendix
      (3). Introduction
      (4). Other (List)

5. From your overview, state the purposes for which you believe this book would be useful:

     (1).
     (2).
     (3).
REVIEWING I

OBJECTIVE: To develop the skill of overviewing a textbook or technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific book contains information you want.

MATERIALS: Lindbeck and Lathrop, General Industry

PROCEDURE: 1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title:

3. Quickly scan:

   (a). the table of contents
   (b). the preface or forward
   (c). the introduction
   (d). the pictures, maps, graphs, or tables
   (e). the appendix
   (f). the index

4. Record your findings below:

   (a). The title of this book is __________________________

   (b). Read the introduction and in your own words state the purpose of this book.

   (c). The Table of Contents shows that this book contains ____________

                   of sections, broken down into ____________ of chapters.

   (d). Your overview shows that this book also contains the following:

          Check if applicable

          (1). index
          (2). appendix
          (3). introduction
          (4). other (list)

5. From your overview, state the purposes for which you believe this book would be useful:

          (1).
          (2).
          (3).
OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing, you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific book contains information you want.

MATERIALS: Machine Tool Operation, Part I.

PROCEDURE: 1. Imagine you are looking at this book for the first time and want to find out what it contains.
   a. Read the title.
   b. Quickly scan:
      (a) the table of contents
      (b) the preface or forward
      (c) the introduction
      (d) the pictures, maps, graphs, or tables
      (e) the index
   c. Record your findings below:
      (a). The title of this book is ________________________________
      (b). Read the introduction and in your own words state the purpose of this book.
      (c). The Table of Contents shows that this book contains _______ no.

      of sections, broken down into _______ of chapters.
      (d). Your overview shows that this book also contains the following: Check if applicable
      (1). index
      (2). appendix
      (3). introduction
      (4). other (list)

   (e). From your overview, state the purpose for which you believe this book would be useful:
      (1).
      (2).
      (3).
Job Sheet #1

OBJECTIVE: To develop the skill of overviewing a chapter in a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you need.


PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read captions.
5. Record your findings below:

   a. The title of this chapter is ____________________________

   b. This chapter is divided into _____ of sections.

   c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraphs of this chapter and in your own words state its purpose:

   d. List all the bold-face headings which develop the chapter:

   e. State the technical purpose for which the information in this chapter would be useful.
OBJECTIVE: To develop the skill of **overviewing** a chapter in a textbook or a technical book.

**Overviewing** is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By **overviewing** you find out what a writer is saying without reading every word he has written. There are two reasons for **overviewing**: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you need.


PROCEDURE: **Overview** the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. Record your findings below:

   a. The title of this chapter is _____________________________.
   b. This chapter is divided into ____________ of sections.
   c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraphs of this chapter and in your own words state its purpose:
   d. List all the bold-face headings which develop the chapter:
   e. State the technical purposes for which the information in this chapter would be useful.
Job Sheet #3

OBJECTIVE: To overview a chapter in a textbook without writing all the information down.


PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly followed the process of overviewing a chapter, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheets #1 and #2. Complete the following statement:

   The purpose of this chapter is
JOB SHEET #4

OBJECTIVE: To overview a chapter in a textbook without writing all the information down.

MATERIALS: Kursh, Apprenticeships in America, Chapter #2, "Wanted, More Skilled Workers."

PROCEDURE: Overview the chapter as follows:

1. Read the title
2. Read the bold-face headings
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly followed the process of overviewing a chapter, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheets #1 and #2. Complete the following statement:

The purpose of this chapter is:
OBJECTIVE: To develop the skill of previewing an article.

Previewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: Peterson, America's Labor Unions, Part II, chapter 3.

PROCEDURE: Preview chapter 3, part 2 of the assigned material using the following procedure:

1. Read the title.
2. Read the headings and subheadings.
3. Read the first and last paragraphs.
4. Read words, phrases, and sentences in boldface, italics, or other special type.
5. Read any summary that you might find.
6. Look at the pictures, tables, maps, and graphs. Read the captions.
7. Answer the following questions:
   a. The title of the section is
   b. This section of the book deals with __________________
   c. The first main heading of the section tells __________________
   d. What is the second main heading of the section?
   e. What information can you expect under this heading?
   f. What kinds of lists can you find in this section, and for what would they be useful?
   g. For what purposes would the information in this chapter be useful?
OBJECTIVE: To develop the skill of previewing an article.

Previewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings, and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy materials, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: Widick, B. E., Labor Today, Chapter 1, Part 1.

PROCEDURE: Preview Chapter 1, Part 1 of the assigned material using the following procedure:

1. Read the title.
2. Read the headings and subheadings.
3. Read the first and last paragraphs.
4. Read all quotations and sentences set apart in special type.
5. Read any summary that you might find.
6. Look at the pictures, tables, maps, and graphs. Read the captions.
7. Answer the following questions:
   a. The title of the chapter is
   b. The information contained in the chapter deals with
   c. In your own words list two opinions given regarding automation:
      (1)
      (2)
   d. State in your own words your interpretation of the statement in this chapter, "It is sometimes said that automation degrades the laborer to the status of a servant to a machine".
OBJECTIVE: To develop the skill of previewing an article.

Previewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing, you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with long material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIAL: Copies of the publication Steel Facts.

PROCEDURE: 1. Go to the file and obtain copies of Steel Facts.
   a. Find an article which interests you and preview it, using the following procedure:
      a. Read the title.
      b. Read the headings and subheadings.
      c. Read the first and last paragraphs.
      d. Read words, phrases, and sentences in boldface, italics, or other special types.
      e. Read any summary that you might find.
      f. Look at the pictures, tables, maps, and graphs. Read the captions.
   b. Answer the following questions:
      a. The title of the article is ________ and it appears in the ________ issue of Steel Facts.
      b. This article deals with ________________________________
      c. The first main heading of the article tells ________________________________
      i. The other main points which the article deals with are:
         (1) ________________________________ (2) ________________________________
         (3) ________________________________ (4) ________________________________
      e. For what purposes would the information in this article be useful?
      f. Summarize in two or three sentences the content of the article.
OBJECTIVE: To develop the skill of previewing an article.

Previewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings, and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: Copies of the publication The Federationist.

PROCEDURE: 1. Go to the file and obtain copies of The Federationist.
2. Find an article which interests you and preview it, using the following procedure:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first and last paragraphs.
   d. Read words, phrases, and sentences in boldface, italics, or other special type.
   e. Read any summary that you might find.
   f. Look at the pictures, tables, maps, and graphs. Read the captions.
3. Answer the following questions:
   a. The title of the article is __________________ and it appears in the ______________ issue of The Federationist.
   b. This article deals with ____________________________
   c. The first main heading of the article tells ____________________________
   d. The other main points which the article deals with are:
      (1) ____________________________ (2) ____________________________
      (3) ____________________________ (4) ____________________________
   e. What kinds of lists found in this article, and for what would they be useful?
   f. Summarize in two or three sentences the content of the article.
READING SKILLS - Metal Shop

SCANNING

Pre-Test

OBJECTIVE: The purpose of the Scanning Pre-Test is to help you become aware of the importance of having skills in locating specific information both quickly and accurately.

PROCEDURE:

1. When you begin the test, record your time on the line provided.
2. Locate the books assigned in the library, in the classroom, or in the Metal Shop.
3. Working as rapidly as possible, find all the information asked for in each question.
4. When you finish the Pre-Test record your time and figure your total time. Put your total time in the space provided on your Record Sheet.

BEGINNING TIME ________________________________

QUESTIONS:

1. I.A. METALS WORK:
   Before ________ screws had to be cut by hand.
   ________
   ________
   ________

2. Cooley, R.H., Complete Metal Working
   Files are named and classified according to length, sectional form, and _________________.

   There are many kinds of arc welding, such as (1) ________________, (2) ________________, and (3) _________________.

4. Tucker and Son Catalog.
   What is the package quantity of 1/4 dia. x 2" long carriage bolts?

5. South Bend Catalog.
   What is the cost of 6 flat, smooth 10" long files?

6. General Metals, p. 71
   What is the secondary color marking on an E6016 electrode?
7. Do All Cutting Tools Catalog, pp. 86-87.
   What is the decimal equivalent of a number 12 drill?

8. Do All Cutting Tools Catalog.
   What is the catalog number of a 10-24 N. C. 2 Flute, plug Chamfer H 3 limit Tap series No. D-305?

Concluding Time ______________
Total Time ______________
READING SKILLS - Metal Shop
SCANNING I

Job Sheet #1

OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read process for finding specific facts—names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it. When you scan for a specific fact, you do very little reading. Instead you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: I.A. Metalwork, Unit 13, pp. 65-67

PROCEDURE: Read the following questions and scan for the answers, one at a time, following these guides:

a. Keep clearly in mind the question you want answered.
b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number or a date?
c. Move your eyes quickly over the page, looking for your clues.
d. When you find what you think is the answer, read more carefully.
e. Stop reading when you have found the correct answer.
f. Record the answer in the space provided.
g. Time yourself. Note your time on your record sheet.

QUESTIONS:
1. _______________________ is a way of cutting a spiral groove around the outside of a bolt or shaft.
2. The most common screw thread series are ___________________ and ___________________.
3. The 3/4" National Course bolt has __________ threads per inch.
4. Hand taps are made as ___________________, ____________________, or ____________________ taps.
5. _______________________ cut internal threads.
6. _______________________ cut external threads.
7. _______________________ are the same as taper taps except that they are used for holes smaller than 1/4".
8. A device used to hold the die is called a die ____________________.
9. A complete set of common taps and dies in a wooden carrying case is called a ____________________.
READING SKILLS - MET. SHOP.

SCANNING I

Job Sheet #2

OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read process for finding specific facts—names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it. When you scan for a specific fact you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.


PROCEDURE: Read the questions below and scan for the answers, one at a time, following these guides:

a. Keep clearly in mind the question you want answered.
b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
c. Move your eyes quickly over the page, looking for your clues.
d. Record the answer in the space provided.
e. Time yourself. Note your time on your record sheet.

QUESTIONS:
1. What is the name for the portion of the file that receives the handle?
2. Files are named and classified according to what three factors?
   a. 
   b. 
   c. 
3. Single cut files are used on hard or soft metals?
4. What is meant by the safe edge of the file?
5. List the files named on these pages:
6. What is the main fault in filing?
7. Turning the file 90° to the _____ and moving it sideways is called ______ filing.
OBJECTIVE: To develop the skill of scanning for specific facts.

Scanning is a planned hunt-skip-read-process for finding specific facts—names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it. To scan for a specific fact you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIAL: Lindbeck and Lathrop, General Industry, Chapters 33 and 34 "Adhesive Fasting of Metal, and Welding, pp. 136-142.

PROCEDURE: Read the questions below and scan for the answers, one at a time, following these guides:

a. Keep clearly in mind the question you want answered.
b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
c. Move your eyes quickly over the page, looking for your clues.
d. When you find what you think is the answer, read more carefully.
e. Time yourself. Note your time on your record sheet.

QUESTIONS:

1. Soldering temperatures are held below _______ degrees.
2. Solder is a mixture (alloy) of _______ and _______.
3. To solder successfully the work pieces must be _______ and _______.
4. The most common filler rods used in braizing are copper alloys such as _______ or _______ alloys.

1. ____________ is another word for welding.
2. Pressure or force is sometimes used to help join the work pieces. This is called _______.
3. The most common kinds of welding are _______ and _______.
4. In gas welding the most common inflammable gas used is _______.
5. Other gases that also can be used in gas welding are _______ and _______.

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READING SKILLS - Metal Shop

SCANNING I

Job Sheet #4

OBJECTIVE: To develop the skill of **scanning for specific facts**

Scanning is a planned hunt-skip-read-process for finding specific facts—names, dates, sized, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it. To scan for a specific fact you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: Read the questions below and scan for the answers, one at a time, following these guides:

a. Keep clearly in mind the question you want answered.

b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?

c. Move your eyes quickly over the page, looking for your clues:

d. When you find what you think is the answer, read more carefully.

e. Time yourself. Note your time on your record sheet.

QUESTION:

1. Name the two more common types of drives for the engine lathe.

2. What heavy duty lathes use plain bearings made from what kind of material?

3. What is the lead screw's main function?

4. How is the lead screw driven?

5. The first gear of the gear train is called the ________________.

6. All lathes use a split nut called a ____________________.
READING SKILLS - Met. Shop

SCANNING - II

Job Sheet #1

OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS: Tucker and Sons Catalog, 1970.
pen or pencil

PROCEDURE:
1. In the catalog find the table of American Files and Rasp.
2. Scan the table for answers to the questions which are below.
3. Time yourself. You should be able to scan the table and answer
   questions 1 - 4 in _______ minutes.

QUESTIONS:
1. How is the size of the file determined?
2. How many 3" files are packed in a box?
3. How many 10" plus files are packed in a box?
4. What would be the cost of 3 dozen mill second cut 10" long files?
5. On the diagram page 135 which cut is shown as the coarsest?
6. What is the difference between the plain file card and the combination?
7. No. 103 file handles are for what size file?
8. What brand files are on these pages?
9. What address will you mail to for this order?

Record time ___________________
OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS: Doall Cutting Tools Catalog

PROCEDURE: 1. In the assigned catalog find the table of Micrometers, No. 850 series.

2. Scan the table for answers to the questions which are below.

3. How to scan:
   a. Keep clearly in mind the question you want answered.
   b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the answer, read more carefully.

4. Time yourself. Note your time on Your Record Sheet.

QUESTIONS:

1. What do the symbols LNR indicate?

2. What do the symbols LNRV indicate?

3. What is the catalog number for an English measure set 0-6" LNRV.

4. What is the total cost of a 2"-3" mike English measure LNRV and carbide-tipped with case?

5. Give the full description and price of the mike listed under catalog number 607-205168.
Job Sheet #3

OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS: American Steel Catalog.

PROCEDURE: 1. Scan the assigned catalog to find the answers to the questions listed below.
   2. How to scan:
      a. Keep clearly in mind the question you want answered.
      b. Decide in what form the answer should appear.
      c. Move your eyes quickly over the page, looking for clues.
      d. When you find what you think is the answer, read more carefully.
   3. Time yourself. Note your time on your Record Sheet.

QUESTIONS: 1. Round mild steel bars can be ordered in what range of diameter?
   2. What lengths are the above standard?
   3. If given a cost per hundred pounds can you, by using this catalog, figure the price of a length of bar stock?
   4. What is the weight per ft. of a piece 2 1/2 round mild steel bar?
   5. What is the largest diameter machine bolt listed in the catalog?
   6. You want to purchase a bulk container of 3/4 diameter 5 1/2" long machine bolts. How many will you get?
   7. You will now need some heavy duty hexagon nuts for the above bolts. Would you have enough if you purchased a package container?
   8. You now must order standard wrought washers for the same 3/4" machine bolts. If you purchased 50 lbs., would you have more or less than enough?
OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS: Tucker and Sons Catalog, 1970, p. 174

PROCEDURE: 1. In the above catalog is a table of prices for pliers.

2. Scan the table for prices to solve the problem listed below.

3. Time yourself. Note your time on your Record Sheet. Is your speed in locating numerical facts improving?

PROBLEM: I wish to purchase several items. Please give me the total cost of the following order.

<table>
<thead>
<tr>
<th>TYPE</th>
<th>NO.</th>
<th>SIZE</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Channellock Lineman</td>
<td>2 pr.</td>
<td>6&quot;</td>
<td></td>
</tr>
<tr>
<td>b. Channellock pump</td>
<td>6 pr.</td>
<td>9&quot;</td>
<td></td>
</tr>
<tr>
<td>c. Channellock Diagonal Cutter</td>
<td>3 pr.</td>
<td>7&quot;</td>
<td></td>
</tr>
<tr>
<td>d. Gripmaster</td>
<td>4 pr.</td>
<td>10&quot;</td>
<td></td>
</tr>
<tr>
<td>e. Pocket size</td>
<td>2 pr.</td>
<td>6&quot;</td>
<td></td>
</tr>
<tr>
<td>f. Big Champ</td>
<td>4 pr.</td>
<td>10&quot;</td>
<td></td>
</tr>
</tbody>
</table>

Total Cost $
Job Sheet #1

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: General Metals, p. 263.

PROCEDURE: 1. In the assigned material find a chart of common mile-steel electrodes.

2. Following the procedure for scanning which you learned in Scanning I and Scanning II, scan for the answers, one question at a time.

3. Time yourself. Note your time on your Record Sheet.

QUESTIONS:

1. What is the one thing which all the rods listed have in common?

2. For deep penetration, would you select a 6013 rod?

3. What color designates the 6013 rod?

4. What two of these rods do we use most commonly in our metal shop? State both number and color.

<table>
<thead>
<tr>
<th>No.</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. Which rod has a listing for D-C only?

6. One rod in particular is given for use on pipe lines. Give its number.

7. If you were going to weld on your car bumper, which rod would you use?

8. What is the main difference between an E6013 and an E6014 rod?
**OBJECTIVE:** To develop the skill of scanning for a name and number.

**MATERIALS:** South Bend Catalog

**PROCEDURE:**
1. Fill in the Part No., Description, or Item No. wherever missing.
2. Following the procedure for scanning which you have learned, locate the information as rapidly as you can. Be accurate!
3. Time yourself. Record your time on your Record Sheet.

<table>
<thead>
<tr>
<th>QUESTIONS:</th>
</tr>
</thead>
</table>

1. **10K U.D. Headstock Model A.B. & C.**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Part No.</th>
<th>Part Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td></td>
<td>Oiler</td>
</tr>
<tr>
<td>10</td>
<td>AS512K1</td>
<td>Solid Shim (List All)</td>
</tr>
<tr>
<td>70</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. **10 Wide Range Gear Box**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Part No.</th>
<th>Part Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>AS6746R2</td>
<td>Index Plate (23)</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Job Sheet #3

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: Feirer, General Metals, p. 71, Fig. 12-6, Table 13-1.

PROCEDURE: 1. Locate the Assigned Figure and Table.

Following the procedure for scanning which you learned in Scanning I and II, scan for the answers to the questions below.

3. Time yourself. Record your time on your Record Sheet.

QUESTIONS:

1. Are number or letter drills larger in diameter?

2. What is the decimal equivalent of a number 72 drill?

3. Which is the larger in diameter, a 5/64" drill or a number 44 drill?

4. What is the diameter of the largest letter drill?

5. What is the diameter of the smallest number drill?

6. Which is the closest in size to a 7/32" diameter drill, a number 3 drill or a number 2 drill?

7. How many sets of drills are there which are smaller than 1/2"?

8. What are the number ranges of the number set?

9. What are the letter ranges of the letter set?
Job Sheet #4

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: Doall Cutting Tools Catalog, pp. 86-87.

PROCEDURE: 1. In the assigned material find the table of prices for taps.

2. Following the procedure for scanning which you learned in Scanning I and II, scan for the answers to the questions below.

3. Scan rapidly and accurately.

4. Time yourself. Record your time on your Record Sheet.

QUESTIONS:

1. List the price of 1 of each of the following: No. D-303:
   a. 5/16-18 NC 2 flute plug chamfer, Limit H2
   b. 5/8-11 NC 3 flute, plug chamfer, Limit H3
   c. 3/4-10 NC 3 flutes, plug chamfer, Limit H3

2. List the catalog number for the following No. #305:
   a. 4-40 N.C. 2 Flute Plug Chamfer, Limit H1
   b. 4-48 N.F. 2 Flute Plug Chamfer, Limit H1
   c. 8-32 N.C. 2 Flute Plug Chamfer, Limit H2
   d. 6-32 N.C. 2 Flute Bottoming, Limit H1
OBJECTIVE: The purpose of the Scanning Post-Test is to determine how much you have improved your scanning skills.

PROCEDURE:
1. When you begin the test, record your time on the line provided.
2. Locate the assigned books in the library, in the classroom and in the Metal Shop.
3. Working as rapidly as possible, find all the information asked for in each question.
4. When you finish the Post-Test record your time and figure your total time. Record your total time on your Record Sheet. Have you improved your scanning skills?
5. Compare the time it took you to complete this Post-Test with the time you recorded on your Pre-Test performance. Record the DIFFERENCE in number of minutes.

BEGINNING TIME

CONCLUDING TIME

TOTAL NUMBER OF MINUTES

QUESTION:
1. Do All Cutting Tools Catalog, pp. 80-7.
   Find the catalog number of a 10-24 N, C, 2 Flute, Plug Chamfer H3 Limit Tap series No. D-305.

2. I.A. Metals Work
   Screws had to be cut by hand before what date?

   Give the decimal equivalent of a number 12 drill.

   Files are named and classified according to ____________, ____________, and ____________.

5. General Metals, p. 264.
   Name the secondary color marking on an E6016 electrode.

   List three kinds of arc welding and the page on which you find the information:
   1. ____________, Page ____________
   2. ____________, Page ____________
   3. ____________, Page ____________
7. **Tucker and Son Catalog**
   Find the cost of 6 flat, smooth, 10" long files.

8. **American Steel Catalog.**
   Give the package quantity of 1/4 dia. x 2" long carriage bolts.

9. **South Bend Catalog.**
   Find the part number and part name for item number 20 for headstock 10 KVD, Model A, B, & C.

   (Part No.) (Part Name)
Job Sheet #1

OBJECTIVE: To develop the skill of skimming for main ideas.

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.


PROCEDURE: 1. Go to the library and obtain the above magazine.
2. Skim the assigned article using the following procedure:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first sentence of every paragraph.
   d. Read the last sentence of every paragraph more than five lines long.
3. Answer the questions below.
4. Return the magazine to the librarian.

QUESTIONS: 1. In your own words, summarize the information contained in this article.
2. What kind of wire do you use to make coil springs?
3. How much longer should the mandrel be than the spring?
JOB SHEET #2

OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you go deeper into the material than before.


PROCEDURE:
1. Go to the library and obtain the above magazine.
2. Skim the assigned article using the following procedure:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first sentence of every paragraph.
   d. Read the last sentence of every paragraph more than five lines long.
3. Answer the questions below.
4. Return the magazine to the librarian.

QUESTIONS:
1. In your own words, summarize the information contained in this article.
2. What materials do you need to make this device?
READING SKILLS - Met. Sh.  
SKIMMING  

Job Sheet #3  

OBJECTIVE: To develop the skill of skimming for main ideas  


PROCEDURE: 1. Go to the library and obtain the above magazine.  
2. Skim the assigned article using the following procedure:  
   a. Read the title.  
   b. Read the headings and subheadings.  
   c. Read the first sentence of every paragraph.  
   d. Read the last sentence of every paragraph more than five lines long.  
3. Answer the questions below.  
4. Return the magazine to the librarian.  

QUESTIONS: 1. In your own words, summarize the information contained in this article.  
2. What kind of motor powers this press? What horsepower?  
3. What maximum size drill will it take?
OBJECTIVE: To check how well you have learned the procedure of skimming.

MATERIAL: Miller, James Nathan, "It's a Dead-End Road for the Dropout".

PROCEDURE: 1. Obtain the specified article from the file.
2. Following the skimming procedure you have been practicing in the preceding job sheets, and skim the article.
3. Answer the questions below.

QUESTIONS: 1. What happens to the person who tries to "fake" having a high school diploma?
2. List three reasons why students often drop out of school, according to the article:
   a. __________________________
   b. __________________________
   c. __________________________
3. Compare working conditions and school conditions as often experienced by the dropout. How do they differ? In what ways are they alike?
4. Some jobs are "learning by doing" situations where the employer trains you. Are these increasing or decreasing? Are there more or less people in competition for these jobs?
5. The article states that the high school diploma has come to mean three things. Name them.
   a. __________________________
   b. __________________________
   c. __________________________
6. A high school dropout can always enlist in the Army if he can't find a job. Yes ___ No ___. Explain your answer.
7. An employer from Portland, Oregon, is quoted on his feelings regarding the hiring of dropouts. Summarize what he says.
Job Sheet #1

OBJECTIVE: To gain experience in reading the written and diagramatic explanation of a technical process. To be able to organize in a list the sequence of events in the process.

MATERIALS: 1. Pamphlet, "Welding and Cutting", pp. 32-33
              2. Diagram of cutting torch. Obtain the diagram from the file cabinet. Return the diagram to the file when work is finished.

PROCEDURE: This is a technical selection and you should read it differently than you read literature or social studies.

This selection explains a process.

These instructions tell you how to read material that describes a process.

1. Study the diagram of the cutting torch. Read the names of the parts. Then try to name them without rereading the labels.

2. Read the introductory paragraph. Read the first section; read just one sentence at a time. If it mentions something shown on the diagram, look back at the diagram after reading the sentence. Read the next sentence the same way. Stop and think about each sentence after you have read it to make sure that the meaning is clear to you.

3. After reading the entire section in this way, try to explain to yourself without looking at the book just how the process takes place.

4. Work with each of the remaining sections in the same way that you worked the first one.

5. Then, do the following:
   List in order the steps that take place in the process which has been described. Use this job sheet for your listing.

6. Return the diagram to the file and the pamphlet to the correct shelf.
Job Sheet 31

OBJECTIVE: To gain experience in identifying effects produced by causes.

           Pamphlet: Welding and Cutting, page 31, paragraphs 1 and 2

PROCEDURE: 1. Read the assigned paragraphs.

2. In the paragraphs assigned causes are given which lead up to an effect. Reread the paragraphs to identify the causes and effects.

3. Find two causes in paragraph 5 and sum them up in a few words on the lines following CAUSE.

4. Find two effects in paragraph 5 and sum them up in a few words on the lines following EFFECT.

5. Repeat Procedure 3 and 4 for combined Paragraphs 1 and 2 on p. 31.

Para 5, Paragraph 5:

CAUSE: 1.

 EFFECT: 1.

Para 1, Paragraphs 1 and 2:

CAUSE: 1.

 EFFECT: 1.
Job Sheet #2

OBJECTIVE: To gain experience in identifying effects produced by causes.

MATERIALS: Machine Tool Operation, X, page 186, paragraphs 1 and 2

PROCEDURE: 1. In the paragraphs assigned causes are given which lead up to an effect. Read the paragraphs to find out what these are.

2. Find the cause in each paragraph and sum it up in a few words on the line following cause.

3. Find the effect in each paragraph and sum it up in a few words on the line following effect.

Page 186, paragraph 1:
CAUSE: __________________________________________________________

EFFECT: _________________________________________________________

Page 186, paragraph 2:
CAUSE: _________________________________________________________

EFFECT: _________________________________________________________
Objective: To read and understand instructions for carrying out a procedure.


Procedure:
1. Read the assigned material slowly and with care to find out different ways to locate center and center drill.
2. Be sure to notice which sentences are directions and which are explanations.
3. On the back of this sheet answer the questions 1-3 on page 116.
4. In your own words list the procedure for each way of locating a center.
5. In your own words list the procedure for center drilling.
6. Describe briefly the result you wish to obtain when this procedure is followed.
Job Sheet #2

OBJECTIVE: To read and understand instructions for carrying out a procedure.

MATERIALS: Gen. Industrial Machine Shop., pp. 36-37

PROCEDURE: 1. You will learn how to work safely on a drill press.

2. Read the following directions slowly and with care. Be sure to notice which sentences are directions and which are explanations.

3. List the directions in order in a few words.

   a.
   b.
   c.

4. Answer the following questions:

   a. Why not reach behind a operating drill press?

   b. Why should you not hold the work to be drilled by hand?

   c. Describe briefly the result you wish to obtain when this procedure is followed. (Note: Appearance, size, color—what should the finished procedure or product look like?)
Job Sheet:

Objective: To read and understand instructions for carrying out a procedure.

Textbook: Gen. Industrial Machine Shop, pp. 36-37

PROCEDURE:
1. You will learn how to work safely on a drill press.

5. Read the following directions slowly and with care. Be sure to notice which sentences are directions and which are explanations.

5. List the directions in order in a few words.
   a.
   b.
   c.

5. Answer the following questions:

1. Why not reach behind a operating drill press?

2. Why should you not hold the work to be drilled by hand?

2. Describe briefly the result you wish to obtain when this procedure is followed. (Note: Appearance, size, color—what should the finished procedure or product look like?)
V. Instructions for a Procedure

OBJECTIVE: To read and understand instructions for carrying out a procedure.

MATERIALS: Gen. Industrial Machine Shop., pp. 36-37

PROCEDURE: 1. You will learn how to work safely on a drill press.

2. Read the following directions slowly and with care. Be sure to notice which sentences are directions and which are explanations.

3. List the directions in order in a few words.
   a. 
   b. 
   c. 

4. Answer the following questions:

   QUESIONS:

   1. Why not reach behind a operating drill press?

   2. Why should you not hold the work to be drilled by hand?

   3. Describe briefly the result you wish to obtain when this procedure is followed. (Note: Appearance, size, color—what should the finish procedure or product look like?)
Job Sheet #1

OBJECTIVE: To gain practice in alphabetizing.

MATERIALS: Information Packet on Alphabetical Order.

PROCEDURE: 1. Read the Information Packet carefully.

2. Below are some words which have been left out of the word list in the Information Packet.

3. In the space provided, write the two words that each word listed below would come between. The first one is done for you.

* * * * * *

<table>
<thead>
<tr>
<th>After</th>
<th>Word</th>
<th>Before</th>
</tr>
</thead>
<tbody>
<tr>
<td>marriage</td>
<td>married</td>
<td>marry</td>
</tr>
<tr>
<td></td>
<td>mattress</td>
<td></td>
</tr>
<tr>
<td></td>
<td>mayor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>means</td>
<td></td>
</tr>
<tr>
<td></td>
<td>melody</td>
<td></td>
</tr>
<tr>
<td></td>
<td>memorize</td>
<td></td>
</tr>
<tr>
<td></td>
<td>mend</td>
<td></td>
</tr>
<tr>
<td></td>
<td>merely</td>
<td></td>
</tr>
<tr>
<td></td>
<td>message</td>
<td></td>
</tr>
<tr>
<td></td>
<td>method</td>
<td></td>
</tr>
</tbody>
</table>
Draft
Elec.
Met. Sh.

Alphabetical Order

Job Sheet # 2

OBJECTIVE: To gain practice in alphabetizing.

MATERIALS: Information Packet on Alphabetical Order.

PROCEDURE:

A. Fill in the following blank spaces with the letters as they would appear in alphabetical order. The first one is done for you.

M N O   R   B   ___   ___   ___   Z   ___   T   ___
W   ___   Y   ___   ___   ___   K   ___   ___   H   ___   D   ___   F   ___

B. Arrange the following words in alphabetical order.

summit, summer, summons, summery, summoner

1. _______  2. _______  3. _______  4. _______

5. _______

C. Write the following book titles in alphabetical order.

1. Frackles
2. St. Anthony
3. A Special Scrapbook
4. 100 Hats
5. The Middle Mountain

1. __________________________

2. __________________________

3. __________________________

4. __________________________

5. __________________________
OBJECTIVE: To gain practice in alphabetizing.

MATERIALS: Information Packet on Alphabetical Order.

PROCEDURE:

A. Decide whether each statement is true or false. If you think the statement is true, circle the T. If you think the statement is false, circle the F.

1. The word teacher would come before teach.  T  F
2. The word fiscal would appear before the word first in a dictionary.  T  F
3. The name McNeil would appear after the name Maas in a telephone directory.  T  F
4. Mt. Hope would appear after Mt. Devon in a directory.  T  F
5. In an alphabetical listing, officer would come after official.  T  F

B. The following names are to be added to a telephone book. Arrange these names in alphabetical order and write them in Column B.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Alice Meier</td>
<td></td>
</tr>
<tr>
<td>2. Carl Meyer</td>
<td></td>
</tr>
<tr>
<td>3. John McNeil</td>
<td></td>
</tr>
<tr>
<td>4. Herbert Megler</td>
<td></td>
</tr>
<tr>
<td>5. Jason Morris</td>
<td></td>
</tr>
<tr>
<td>6. Mary McAdams</td>
<td></td>
</tr>
<tr>
<td>7. Bernice Manners</td>
<td></td>
</tr>
<tr>
<td>8. Ellen Meyers</td>
<td></td>
</tr>
<tr>
<td>9. Constance Morton</td>
<td></td>
</tr>
<tr>
<td>10. Ralph Mathews</td>
<td></td>
</tr>
</tbody>
</table>
OBJECTIVE: To gain practice in using dictionary Guide Words.


PROCEDURE: 1. Look at the list of words below. Take one word at a time, and look at its letters carefully.
2. Then look through the list of guide words on the Infor. Packet.
3. Find the pair of guide words that would appear on the page where your word would be found, and write these words below. The first one is done for you.

1. eard    capture    careless
2. whiskers
3. jingle
4. drawn
5. jail
6. intend
7. grade
8. enormous
9. supermarket
10. elect
11. valley
12. zone
13. teach
14. yesterday
15. victory
16. realize
17. frame
OBJECTIVE: To gain practice in using dictionary Guide Words.


PROCEDURE: 1. Below are four pairs of guide words that could be found on dictionary pages. Under each pair of guide words is a list of words.
2. Decide which words in the list could be found on that page.
3. Circle these words.
4. Then write the circled words in alphabetical order in the space provided. Two words in Group 1 are done for you.

** * **

1. dad  darkness  a. daisy
decide  debt  b. dam
daisy  date  c. 
dam  dam  d. 
dangerous  December  e. 
damp  dandy

2. leap  lesson  a. 
level  leave  b. 
lemon  less  c. 
library  lime  d. 
learn  least  e. 
lightning  linen

3. Eskimo  equator  a. 
envelope  especially  b. 
enormous  c. 
escape  enjoy  d. 
enter  event  e. 
everybody  enough

4. upon  usual  a. 
useless  uniform  b. 
understood  urge  c. 
unhappy  use  d. 
upper  unusual  e. 
Sunless  upstairs

** * **

Job Sheet # 2
Table of Contents

Job Sheet #1

Objective: To gain practice in using a table of contents

Materials: Information packet on table of contents

Procedure:
1. Read the information packet on table of contents carefully.
2. Use the table of contents of the book *Science for Young People* (included in the information packet) to answer the following questions.

Questions:
1. On what page would you begin to read if you wanted to find out how electricity is produced by generators?
2. Write the title of the chapter which tells about how people grow.
3. If you wanted to find information on heating where would you look?
4. Write the name of that part of the book which would tell about interesting things that you can do to learn about science.
5. Write the numbers of the two chapters which tell us about water.
6. What are the three kinds of simple machines mentioned in this book?

Answer the following questions YES or NO:

7. The index in this book comes before the glossary.
8. "Friction" is a chapter heading.
9. "Organisms" is a subtopic under Chapter V.
10. Page 257 has pictures on it.
11. You will probably find some information about ores under the subtopic which begins on page 12.
12. You find "Heat" listed as a subtopic in this table of contents.
13. Chapter V will probably tell about machines.
14. There are nine chapters in this book.
OBJECTIVE: To gain practice in using a table of contents

MATERIALS: Information packet on table of contents

PROCEDURE: 1. Read the information packet on table of contents carefully.
2. Use the table of contents of the book Science for Young People (included in the information packet) to answer the following questions.

QUESTIONS: Answer the following questions YES or NO:

1. You can find out how sound travels if you read Chapter II.
2. The chapter "Simple Machines" includes generators.
3. You would find meanings for special words on page 261.
4. The chapter "Chemical Changes" contains a subtopic entitled "Chemicals in Air."
5. The reference sections in the table of contents include a bibliography.
6. This table of contents tells how many pages the index covers.
7. You will probably find some information about eyes in Chapter II.
8. Chapter I will probably discuss oxygen.
9. Each chapter has three subtopics.
10. You will find information about something which surrounds us on page 6.

Write the answers to the following questions in the space provided:

11. On what page does the section about music begin? ________________
12. Where in the book would you look if you came across a word whose meaning you didn’t know? ____________________________
   On which page does it begin?
13. Which is the longer chapter, "The World We live In" or "Seeing and Hearing"? ____________________________
OBJECTIVE: To gain practice in using a table of contents

MATERIALS: Information packet on table of contents, Part II

PROCEDURE: Read the information packet on table of contents, Part II carefully. Use the Table of Contents from the social studies book (included in Part II) to answer the following questions:

QUESTIONS: 1. What does chapter 20 say that free people need?  
            2. What are the names of the chapters that make up Unit 14?  
            3. What was a cause that led to the first world war in 1914?  
            4. What is the great issue which is facing the world today?  
            5. What brought about new ways of working?  
            6. Who were leaders in world trade?  
            7. Following what world war was the United Nations formed?  
            8. In what countries did dictators take over during World War II?  
            9. To what page would you turn if you wanted to read the chapter entitled "World Ways Today"?
JOB SHEET #4

OBJECTIVE: To gain practice in using a table of contents

MATERIALS: The table of contents printed below

PROCEDURE: 1. Use the following table of contents to answer the questions below.
2. Write each answer in the space provided below each question.
3. Then write the page number on which the chapter begins on the line after the word page. The first one is done for you.

TABLE OF CONTENTS

1 Testing Ideas
   How Do Scientists Get Answers? 3
   Forming and Testing Hypotheses
   Hypotheses by Piecing Together Information
   Einstein and the Atom * Everyday Hypotheses
   Testing Your Hypotheses * Another Way to Find Out

2 Conditioning the Air
   Why Condition the Air? 17
   Humidity * Relative Humidity * Finding the Relative Humidity
   Warming Up
   How Do We Get Warm by Conduction? * How Do We Get Warm by Convection? * How Do We Get Warm by Radiation?

Heating Our Homes
   Space Heaters * Central Heating * Fire Prevention * Controlling the Humidity of Air
   Heating Systems for the Future

Cooling Our Homes
   Why Houses Get Hot in the Summer * How Do We Cool Houses? * Cooling by Moving the Air
   Cooling by Shading * Cooling by Reflecting the Sun's Rays * Cooling by Air Conditioners
   What Temperature is Best for You?

1. How do scientists test their ideas?
   a. Forming hypotheses
   b. Testing hypotheses

2. What are three ways in which we get warm?
   a.
   b.
   c.

3. What are four ways in which we cool our homes?
   a.
   b.
   c.
   d.

Page 3
Page
Page
Job Sheet #1

OBJECTIVE: To gain practice in using the Index of a book.


PROCEDURE: 1. Read the Information Packet on Index carefully.
2. Using the sample index page in the Info. Packet, Part 1, answer the questions below. The first one is done for you.

QUESTIONS:

1. On what pages will we find information about what magnets can pick up? Pages 141-143

2. What does 125 after the topic "Moon" mean?

3. Where can we find information about what causes night?

4. Is there a picture in the book about muscles in the eye?

5. What is the first page on which we can find information about milk?

6. Where can we locate information about how plants grow taller?

7. Write the number of every page that tells about how plants with seeds grow.

8. Under what topic would you look to find out if crickets molt?

9. Where can we find information about the distance of the moon from the earth?

10. Is there information on milk in the diet on page 167?
OBJECTIVE: To gain practice in using the Index of a book.

MATERIALS: Information Packet, Index, Part I.
Sample of an Index printed below.

PROCEDURE: 1. Below is part of an index that might have been taken from a social studies book.
2. Use this index to answer the questions which follow. The first one is done for you.

* * * * * *

CORN
in Iowa, 169
in Ohio, 170
in Pennsylvania
used by Indians, 61
used by Pilgrims, 63-63

COWBOYS
clothes, 14
horses, 15-17
Texas, 94-95
Western, 18, 93, 112

DAIRY FARMING
beginning of, 37
pioneer, 38
Wisconsin, 99-101

FARMING
in Arizona, 184-189
in Middle Atlantic States, 211-223
in Middle Western States, 235, 241
in Southwest, 257-268
in Western States, 244-234, 272, 284

FIREARMS
muskets, 153
pistols, 15
rifles, 143

QUESTIONS:

1. On what page will you find when dairy farming began in America? page 37
2. What does the social studies book tell us about cowboys?
3. About what kind of firearms can we find information?
4. In what states is corn grown?
5. What pages will tell us about farming in the Western States?
6. In the topic "Corn" why does the subtopic "used by Indians" come before "used by Pilgrims"?
7. Where can we find information about dairy farming in Wisconsin?
Job Sheet #3

**OBJECTIVE:** To gain practice in using the Index of a book.

**MATERIALS:** Information Packet on Index, Part II.

**PROCEDURE:** Read the Information Packet, Index Part II carefully. Using the Index included in the packet for reference, complete the following exercises.

A. Underline the key words you would choose to locate the following. Then write the numbers of the pages on which this information can be found. The first one is done for you.

1. A map of the Aegean Sea page 91
2. A picture of Addis Ababa
3. A table about Algeria
4. A diagram about Afghanistan
5. A picture of an abacus
6. A map showing Amman, Jordan

B. Underline the key words you would choose to find information on each of the following questions. Then write the numbers of the pages on which this information can be found. The first one is done for you.

1. What are the area and climate of Africa? pages 446, 408, 430
2. What are some of Africa's problems?
3. What is the importance of the Adriatic Sea?
4. What can you tell of the population distribution in Africa?
5. Why is Amsterdam an important city in the Netherlands?
6. Why would a traveler enjoy visiting Adelaide, Australia?
7. In what way was Alfred the Great an important figure in history?
8. What are some of the products for which Africa is noted?
Job Sheet #4

OBJECTIVE: To gain practice in using the Index of a book.

MATERIALS: Information Packet on Index, Part II.

PROCEDURE: 1. Refer to the sample index included in Info Packet, Index Part II.
2. Underline the key words you would choose to find information on each of the following questions.
3. Then write the numbers of the pages on which this information can be found. The first one is done for you.

A. 1. Where is Abadan? page 82; m. 83
   2. Where is the Acropolis? page _________
   3. What was the Age of Metals? page _________
   4. Who was Alexander the Great? page _________
   5. What is aluminum? page _________
   6. Who were the aborigines of Australia? page _________

B. Where can you find
   1. A picture of the Australian aborigines? page _________
   2. A map of Accra, Ghana? page _________
   3. A table about Albania? page _________
   4. A picture of an Alphabet? page _________
   5. A map of Amsterdam? page _________
   6. A picture of an agora? page _________

C. Below are some questions on Africa. Look in the index to find where you might locate the answer to these questions.
   Write the key words in the space provided. For example, in the first question the word crops is used. The word crops is not in the index. Words in the index which mean about the same as crops are farms and farming. These would be your key words.
   1. What crops are grown in Africa? __________________________
   2. Are there many diseases in Africa? ________________________

197 19
3. How do the Africans provide enough water for their crops?

4. What valuable ores are mined in Africa?

5. What kind of education do children receive in Africa?
Job Sheet #1

OBJECTIVE: To gain practice in using the glossary of a book

MATERIALS: Information packet on glossary

PROCEDURE: 1. Read the information packet on glossary carefully.
2. Refer to the glossary page included in the packet to answer the questions below. The first one is done for you.

QUESTIONS: 1. Why is the page number 164 after the meaning of the word enzyme?
   It tells where the word is first used.
2. Write the meaning of the following words:
   gravity:
   germs:
   fungi:
   eclipse:
3. Write sentences which help to explain the following words:
   humus:
   friction:
   filter:
   eardrum:
4. Write the page numbers where these words are first used.
   fire prevention
   evaporation
   iodine
OBJECTIVE: To gain practice in using the glossary of a book

MATERIALS: Information packet on glossary

PROCEDURE: 1. Review the information packet on glossary.
2. Refer to the glossary below and follow directions.

Here is part of a glossary from a social studies book. Use it to answer the questions below.

Africa (af' ri ca): the continent south of Europe, 10
Allah (al' a): the Arab word for God, 111
alphabet (al' fa bet): the sounds symbols of a language arranged in their usual order, 247
altitude (al' ti tud): height above sea level, 151
Amazon (am' a zon): a river of South America, the largest in the world, 53
Andes (an' dez): a range of high mountains which runs through Peru, 151
Antarctica (ant ark' ti ka): the ice-covered continent around the South Pole, 10
Arab (ar' ab): belonging to a race of people who are spread over northern Africa and southwestern Asia, 109
Artic Ocean: (ark' tik): the ocean around the North Pole, 1
artist (ar' tist): a person who is skilled at painting, drawing, or some other art, 156
Asia (a' zha): the largest continent, east of Europe and Africa, 10

1. Write the meaning of the following words:
   Asia:
   Artic Ocean:
   Africa:
   Antarctica:

2. On what pages are these words first used:
   Andes page ______  alphabet page ______
   Artist page ______  Arab page ______

3. Decide whether each sentence is true or false. Write T for true and F for false in the space provided.
   a. The Amazon River is the largest in the world. ______
   b. Africa is on the continent of Europe. ______
   c. Altitude means how deep water is. ______
   d. The Arab word for God is Allah. ______

Check the answer key.
REFERENCE SKILLS
Reference Tables

Job Sheet #1

OBJECTIVE: To gain practice in reading reference tables

MATERIALS: Information packet on reference tables

PROCEDURE: Read the information packet on reading reference tables.

Refer to the table in the information packet to answer the questions below. The first one is done for you.

* * * * *

QUESTIONS: 1. In what year did Georgia enter the Union?  
2. What is the capital of Maine?  
3. What is the area of Montana?  
4. What is the population of Texas?  
5. Which state has the smallest population?  
6. Which state capital has the largest population?  
7. Which state entered the Union most recently?  
8. Which state has the smallest area?  
9. What is the population of Wyoming's capital?  
10. What is the earliest date on which states were admitted to the Union?  
11. Which state has the largest population?  
12. What is the capital of Utah?  
13. How many states entered the Union in 1889?  
14. Of what state is Dover the Capital?
Job Sheet #2

OBJECTIVE: To gain practice in reading Reference Tables

MATERIALS: Information packet on Reference Tables

PROCEDURE: 1. Reread the information packet on reference tables.
2. Refer to the attached reference table and follow directions.
MORE PRACTICE IN READING REFERENCE TABLES

Use this table to answer the questions below.

AMERICAN COUNTRIES

<table>
<thead>
<tr>
<th>Country</th>
<th>Area in sq mi</th>
<th>Population</th>
<th>Capital</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>1,072,497</td>
<td>20,737,000</td>
<td>Buenos Aires</td>
<td>6,064,000</td>
</tr>
<tr>
<td>Brazil</td>
<td>2,651,983</td>
<td>17,887,000</td>
<td>Brasilia</td>
<td>4,108,000</td>
</tr>
<tr>
<td>Canada</td>
<td>3,855,113</td>
<td>20,000,000</td>
<td>Ottawa</td>
<td>2,500,000</td>
</tr>
<tr>
<td>Chile</td>
<td>283,562</td>
<td>7,000,000</td>
<td>Santiago</td>
<td>2,500,000</td>
</tr>
<tr>
<td>Colombia</td>
<td>435,745</td>
<td>15,000,000</td>
<td>Bogota</td>
<td>780,000</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>19,047</td>
<td>1,000,000</td>
<td>San José</td>
<td>800,000</td>
</tr>
<tr>
<td>Cuba</td>
<td>44,217</td>
<td>1,000,000</td>
<td>Havana</td>
<td>1,450,000</td>
</tr>
<tr>
<td>Dominican Rep.</td>
<td>18,811</td>
<td>2,000,000</td>
<td>Ciudad Trujillo</td>
<td>225,000</td>
</tr>
<tr>
<td>Ecuador</td>
<td>104,479</td>
<td>4,000,000</td>
<td>Quito</td>
<td>249,000</td>
</tr>
<tr>
<td>El Salvador</td>
<td>8,296</td>
<td>1,000,000</td>
<td>San Salvador</td>
<td>249,000</td>
</tr>
<tr>
<td>Guatemala</td>
<td>42,031</td>
<td>1,000,000</td>
<td>Guatemala</td>
<td>260,000</td>
</tr>
<tr>
<td>Haiti</td>
<td>16,771</td>
<td>1,000,000</td>
<td>Port-au-Prince</td>
<td>175,000</td>
</tr>
<tr>
<td>Honduras</td>
<td>42,666</td>
<td>1,000,000</td>
<td>Tegucigalpa</td>
<td>125,000</td>
</tr>
<tr>
<td>Mexico</td>
<td>75,000</td>
<td>1,000,000</td>
<td>Mexico City</td>
<td>5,000,000</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>27,238</td>
<td>1,000,000</td>
<td>Managua</td>
<td>140,000</td>
</tr>
<tr>
<td>Panama</td>
<td>28,475</td>
<td>1,000,000</td>
<td>Panama</td>
<td>220,000</td>
</tr>
<tr>
<td>Paraguay</td>
<td>157,009</td>
<td>1,000,000</td>
<td>Asuncion</td>
<td>225,000</td>
</tr>
<tr>
<td>Peru</td>
<td>482,133</td>
<td>1,000,000</td>
<td>Lima</td>
<td>1,325,000</td>
</tr>
<tr>
<td>United States</td>
<td>9,121,010</td>
<td>178,744,000</td>
<td>Washington</td>
<td>30,253,000</td>
</tr>
<tr>
<td>Uruguay</td>
<td>72,153</td>
<td>1,000,000</td>
<td>Montevideo</td>
<td>450,000</td>
</tr>
<tr>
<td>Venezuela</td>
<td>352,031</td>
<td>1,000,000</td>
<td>Caracas</td>
<td>1,250,000</td>
</tr>
<tr>
<td>West Indies Fed.</td>
<td>8,605</td>
<td>1,000,000</td>
<td>Kingston</td>
<td>250,000</td>
</tr>
</tbody>
</table>

When a city is the center of a metropolitan area, population figures are for the entire area.

Reference table from Geography of the New World, by John R. Borchert and Jane Mcguigan, copyright 1961 by Kendall Mcmillan Company.

1. Which country has the greatest area? ____________________________
2. Which country has the smallest area? ____________________________
3. Which country has the largest population? ________________________
4. Which country has the second largest population? ________________
5. Which country has the capital with the largest population? _______
6. In which country is the city with the largest population located? __
7. What is the city in Canada with the largest population? __________
8. What is the largest city in Ecuador? ____________________________
9. How many cities with a population of over a million are listed? __________

Check the answer key.

EDL-3-4 WS
EDL STUDY SKILLS LIBRARY, EDL. HUNTINGTON, N. Y. PRINTED IN U. S. A., © 1981 BY EDUCATIONAL DEVELOPMENTAL LABORATORIES
OBJECTIVE: To gain practice in reading a Copyright Notice.

MATERIALS: Information Packet on Copyright Notice.

PROCEDURE: 1. Read the Information Packet on Copyright Notice carefully.
2. Using the sheet of Copyright notices included in the packet, answer the questions below.
3. Write your answers on the lines provided.

QUESTIONS:

1. What was the first publication date of each of the following books?

<table>
<thead>
<tr>
<th>Book</th>
<th>First Publication Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Eastern Hemisphere</td>
<td></td>
</tr>
<tr>
<td>Discover Our World</td>
<td></td>
</tr>
<tr>
<td>The Wonderful World of Science</td>
<td></td>
</tr>
<tr>
<td>Webster's Elementary Dictionary</td>
<td></td>
</tr>
<tr>
<td>Animals of Yesterday</td>
<td></td>
</tr>
</tbody>
</table>

2. Write the names of three books on which the copyright protection has ended and tell the year in which this happened.


3. Write the names of two books on which the copyright protection would have ended if a new copyright had not been obtained. To find this answer you will have to check both the first and last publication dates.


4. Write the names of two books about medicine and give the latest publication date for each.


20.198
If you had to choose between these two books for material about progress in medicine, which would you select? Why?
REFERENCE SKILLS

Copyright Notice

Job Sheet #2

OBJECTIVE: To gain practice in reading a Copyright Notice.

MATERIALS: Information Packet on Copyright Notice.

PROCEDURE:
1. Review the Information Packet on Copyright Notice.
2. Using the sheet of Copyright Notices included in the packet, complete the following exercises.
3. Write your answers on the lines provided.

QUESTIONS:

1. Put U on the line following the book title below, if you think that the material in the book is up to date for use as a reference. Put O on the line if the book is out of date and for that reason would not be useful as a reference. Keep in mind that not all books are out of date because they are old; that changes and new discoveries make a difference in the use of a book.

   The Wonderful World of Science
   All About Dinosaurs
   Animals of Yesterday
   Living Together as American Neighbors
   Webster's Elementary Dictionary

2. Using the symbol adopted after the Universal Copyright Convention as a guide, list the books which have a copyright date since the symbol was adopted. Write the copyright date on the line to the right.

3. Name the book in which the copyright notice tells you that a new section of that book was copyrighted.
Job Sheet #1

OBJECTIVE: To gain practice in using dictionary Guide Words.

MATERIAL: The American Loose Leaf Dictionary

PROCEDURE:
1. Look at the list of words below. Take one word at a time and look at its letters carefully.

2. Using The American Loose Leaf Dictionary find the pair of guide words on the page where each word would be found.

3. For each word listed in the first column write the guide words. The first one is done for you.

***

1. block
2. terminal
3. balance
4. swing
5. tread
6. thrust
7. keeper
8. cam
9. seal
10. boost
11. point
12. stationary
13. extract
14. bearing
15. circuit
16. series
Job Sheet #1

OBJECTIVE: To learn how to find information on repair, replacement and overhaul of automobiles.

MATERIALS: Motors Repair Manual.

2. Find the chapter on a 1968 Jeepster.
3. Using your reference skills, answer the following questions.

QUESTIONS:
1. The compression pressure on a F4-134 engine should be?

2. The hot idle speed for a V8-327-1966 model with automatic transmission is?

3. The valve stem clearance on a 1969 6 cylinder 225 cubic inch is?

4. List the parts contained in the valve train of a 1969 V8-290 engine?

5. List below the 19 steps required to install an engine in a Jeep.
Job Sheet #2

OBJECTIVE: To gain practice in finding necessary and useful information for doing a particular job.

MATERIALS: Alemite's Recommended Training Procedure for Wheel Alignment

PROCEDURE: 1. Obtain the assigned material from the file.
2. Using your reference skills, answer the questions below.
3. Return the Alemite pamphlet on Wheel Alignment to the file.

QUESTIONS: 1. On what pages will be found information about Basic Fundamentals on Caster?
2. What does negative caster mean?
3. On what page can be found information about the causes of scuffed tires?
4. Is there a picture in the book illustrating static unbalance?
5. What is the first page on which we can find information about toe-in?
6. On what page can you locate information about front end trouble?
7. List the number of each page that contains information about tire wear.
8. Give the number of the chapter which would give you information about making alignment correction.
9. On what pages can you find information about the steering geometry of the automobile?
10. On what page would you find information about steering components?
Job Sheet #3

OBJECTIVE: To learn how to find information on repair, replacement, and overhaul of automobiles.


2. Locate the section for Volkswagen.
3. Turn to the VW index and find the pages for transmission disassembly.
4. Find the information necessary to answer the following questions.
5. When you have completed the job sheet, return the Chilton Manual to the shelf.

QUESTIONS: 1. What is the No. 4 step in disassembly?
2. In assembly of transmission should a gasket be used between the block halves?
3. The proper torque for the locknut on the drive pinion assembly in __________ ft. lbs.
4. The first step to disassemble the drive pinion is to do what?
5. What is the second step in assembly of the main driveshaft?
6. What should the clearance between the axle and fulcrum plates be?
7. What is the double row pinion bearing preload?
8. Name the tool used to press out the differential.
9. What is the second step for replacing the main drive shaft oil seal?
Job Sheet 1

OBJECTIVE: To gain practice in using a **Table of Contents**.

MATERIALS: Information Packet on **Table of Contents**, and **Automotive Mechanics** by Crouse.

PROCEDURE: 1. Read the Information Packet on **Table of Contents** carefully.

2. Use the **Table of Contents** of the book **Automotive Mechanics** by Crouse to answer the following questions.

**QUESTIONS:**

1. On what page would you begin to read if you wanted to find out how electricity is produced by generators?

2. If you wanted to find information on cooling where would you look?

3. Write the name of that part of the book which would tell about interesting things that you can do to learn about automatic transmission service.

4. Write the numbers of the two chapters which tell about water.

5. What are three kinds of simple machines mentioned in the first chapter?

Answer the following questions **Yes** or **No**:

- 6. The index in this book comes before the glossary.
- 7. "Friction" is a chapter heading.
- 8. Radial engine is a subtopic under Chapter V.
- 9. Page 257 has pictures on it.
- 10. You will probably find some information about specifications under the subtopic which begins on page 12.
- 11. You find "Heat" listed as a subtopic in this Table of Contents.
- 12. Chapter V will probably tell about machines.
- 13. There are forty-two chapters in this book.

![ERIC logo](ERIC)

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Job Sheet #2

OBJECTIVE: To gain practice in using the Table of Contents.

MATERIALS: Information packet on Table of Contents and the textbook, Automotive Mechanics.

PROCEDURE: 1. Read the information packet carefully.
2. Use the Table of Contents from Automotive Mechanics to answer the following questions:

QUESTIONS: 1. What does chapter 20 say about a tapered journal that is out of round?
2. Name three conditions in the cylinder block that could cause uneven main bearing wear?
3. Explain how to check main-bearing fit with plastigage.
4. What is meant by servicing the crankshaft?
5. Name the paragraph on how to hone cylinder walls.
6. What oils or fluids are used to hone cylinder walls?
7. Name the paragraph on how to bore a cylinder.
OBJECTIVE: To gain practice in using a Table of Contents.

MATERIALS: Information packet on Table of Contents, and Automotive Mechanics by Crouse.

PROCEDURE: 1. Read the information packet on Table of Contents carefully.
2. Use the table of contents of the book Automotive Mechanics by Crouse to answer the following questions.

QUESTIONS: 1. On what page would you begin to read if you wanted to find out how electricity is produced by generators?
2. If you wanted to find information on cooling where would you look?
3. Write the name of that part of the book which would tell about interesting things that you can do to learn about automatic transmission service.
4. Write the numbers of the two chapters which tell about water.
5. What are three kinds of simple machines mentioned in the first chapter?

Answer the following questions Yes or No:
6. The index in this book comes before the glossary.
7. "Friction" is a chapter heading.
8. Radial engine is a subtopic under Chapter V.
9. Page 257 has pictures on it.
10. You will probably find some information about specifications under the subtopic which begins on page 12.
11. You find "Heat" listed as a subtopic in this table of Contents.
12. Chapter V will probably tell about machines.
13. There are forty-two chapters in this book.
**OBJECT**

To gain practice in alphabetizing.

**INSTRUMENTS**

Information Packet on Alphabetical Order and Architectural & Building Trades Dictionary by Townsend, Burke & Dalsell.

**PROCEDURE**

1. Read the Information Packet carefully.

2. Below are some words which have been left out of the word list found in the Trades Dictionary.

3. In the space provided, write the two words that each word listed below would come between. The first one is done for you.

<table>
<thead>
<tr>
<th>After</th>
<th>Word</th>
<th>Before</th>
</tr>
</thead>
<tbody>
<tr>
<td>aggregate</td>
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<td></td>
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</tr>
</tbody>
</table>

1. African mahogany
2. air drain
3. anchor
4. angle shaft
5. arbor
6. axis
7. baluster
8. bargeboard
9. batter
10. core
11. box frame
12. brazier
13. bridging joint
14. battery
15. canopy
16. carrel
17. catch
18. cell
19. cheek
20. cinder fill

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**REFERENCE SKILLS - Draft.**

**Alphabetical Order**

**Job Sheet #2**

**OBJECTIVE:** To gain practice in alphabetizing.

**MATERIALS:** Bibliography - Drafting

**PROCEDURE:** Put each of the authors into correct alphabetical order.

<table>
<thead>
<tr>
<th>Authors</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Thomas</td>
<td></td>
</tr>
<tr>
<td>2. Dougherty</td>
<td></td>
</tr>
<tr>
<td>3. Giachine &amp; Neukema</td>
<td></td>
</tr>
<tr>
<td>4. Haier</td>
<td></td>
</tr>
<tr>
<td>5. Kepler</td>
<td></td>
</tr>
<tr>
<td>6. Ramsey</td>
<td></td>
</tr>
<tr>
<td>7. Lucasader</td>
<td></td>
</tr>
<tr>
<td>8. Preatt</td>
<td></td>
</tr>
<tr>
<td>9. Guptill</td>
<td></td>
</tr>
<tr>
<td>10. Svensen</td>
<td></td>
</tr>
<tr>
<td>11. Gibby</td>
<td></td>
</tr>
<tr>
<td>12. Watson</td>
<td></td>
</tr>
<tr>
<td>13. Zipprieck</td>
<td></td>
</tr>
<tr>
<td>14. Brown</td>
<td></td>
</tr>
<tr>
<td>15. Hoover</td>
<td></td>
</tr>
</tbody>
</table>
**Job Sheet #3**

**OBJECTIVE:** To gain practice in alphabetizing.

**MATERIALS:** Bibliography - Drafting

**PROCEDURE:** Write the following book titles in alphabetical order.

<table>
<thead>
<tr>
<th>Titles</th>
<th>Alphabetical Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Graphic Architecture Drafting</td>
<td>1.</td>
</tr>
<tr>
<td>2. Technical Illustration</td>
<td>2.</td>
</tr>
<tr>
<td>5. Design Textbook</td>
<td>5.</td>
</tr>
<tr>
<td>8. General Drafting</td>
<td>8.</td>
</tr>
<tr>
<td>11. Drafting Fundamentals</td>
<td>11.</td>
</tr>
<tr>
<td>15. How to Use Creative Perspective</td>
<td>15.</td>
</tr>
</tbody>
</table>
Job Sheet #1

OBJECTIVE: To gain practice in using dictionary Guide Words.


PROCEDURE: 1. Look at the list of words below. Take one word at a time and look at its letters carefully.

2. Then look through the list of guide words on the Info. Packet.

3. Find the pair of guide words that would appear on the page where your word would be found and write those words below. The first one is done for you.

1. gate house    gas log     Georgian Architecture
2. Gothic
3. slab
4. panel
5. granite
6. annealed wire
7. foot pace
8. header joint
9. jalousies
10. tenon
11. wind beam
12. veneer
13. staircase
14. balcony
15. calking
16. tenement house
17. rammer
18. lag screw
19. gazebo
20. fireproof

217
REFERENCE SKILLS - Drafting
Guide Words - Architecture

Job Sheet #2

OBJECTIVE: To gain practice in using dictionary Guide Words.


PROCEDURE: 1. Below are five pairs of guide words that could be found on dictionary pages. Under each pair of guide words is a list of words.

2. Decide which words in the list could be found on that page.

3. Circle these words.

4. Then write the circled words in alphabetical order in the space provided. Two words in Group I are done for you.

1. Bandage:
   - bar handle
   - balcon
   - baptistry
   - baluster
   - band saw
   - balk

2. Camber piece:
   - cantilever joists
   - campanile
   - calking
   - camber arch
   - caliber
   - cancelli

3. Ceiling hook:
   - center punch
   - center line
   - cell
   - cedar
   - cement gum
   - canal

4. Door detail:
   - door strip
   - door step
   - doorframe details
   - dome
   - door bell
   - door post

   Bandare-balcony
   baptistry-baluster
   band saw-balk
   camber piece-camber piece
   cantilever joists-camber arch
   center punch-center piece
   center line-cellar
   door strip-door step
   doorframe details-dormal vault
   dome-door bell
   door post-door post

   Bandare-band saw
   Banister-balcony
   Baluster-balk
   Camber piece-camber piece
   Canopy-cantilever joists
   Center piece-center line
   Center piece-door strip
   Center piece-door step
   Center piece-doorframe details
   Center piece-dormal vault
   Center piece-dome
   Center piece-door bell
   Center piece-door post

   Bandare-balcony
   Banister-balk
   Camber piece-camber piece
   Canopy-cantilever joists
   Center piece-center line
   Center piece-door strip
   Center piece-door step
   Center piece-doorframe details
   Center piece-dormal vault
   Center piece-dome
   Center piece-door bell
   Center piece-door post
expansion strip  eyebolt  expansion bit  escalator  exterior wall  extender

eyebrow dormer  extra heavy  expansion sleeve  exonarthex  estimating  excavator

a.  
b.  
c.  
d.  
e.  

219
Job Sheet #1

OBJECTIVE: To gain practice in using the Index of a book.

MATERIALS: Information Packet on Index, Part I and Engineering and Drawing by French and Vierck.

PROCEDURE: 1. Read the Information Packet on Index carefully.

2. Using the sample index page in the Info. Packet Part I, answer the questions below. The first one is done for you.

QUESTIONS:

1. On what pages will be found information about aeronautical maps and symbols?

2. Write the number of every page that tells information about dimensioning a cylinder.

3. Is there information about fasteners used in wood on Page 373? and on what pages do you find threaded pins?

4. Where can you find information about diagrams in electricity?

5. Where can you find information about heat power symbols?

6. Is there a picture on orthographic projection showing the different views? on what page?

7. On what page can you find information about pictorial sketching?

8. On Pages A42 to A47, what mathematical functions are shown?

9. On Page 18, fig. 18.2, what information does it give?

10. On Page 457, what charts are illustrated?
Job Sheet #2

OBJECTIVE: To gain practice in using the Index of a book.

MATERIALS: Information Packet on Index, Part II, and Engineering Drawing by French.

PROCEDURE: 1. Read the information Packet, Index, Part II carefully.

2. Using the index include the packet for reference, complete the following exercises.

3. Underline the key words you would choose to locate the following. Then write the numbers of the page on which this information can be found. The first one is done for you.

EXERCISE:

1. Calipers are devices to take measurement. Page 402.

2. Most commercial and advertising signs are made with boldface letterings. Page _____

3. Objects whose true size are not shown in the orthographic views are mostly diverted to auxiliary projections. Page _____

4. Isometric projections are always presented at thirty degrees. Page _____

5. Oblique hexagonal pyramids has six sides. Page _____

6. A drawing of perspective projection. Page _____

7. Pictorial sketches are always necessary in technical sketching. Page _____

8. Dimensioning an object is related to size description. Page _____

9. T-squares are devices to draw horizontal lines. Page _____

10. View spacing is necessary so that the drawing will be balances within the space provided. Page _____

221
OBJECTIVE: To gain experience in finding information on architectural standards - design, electrical, plumbing.

MATERIALS: Architecture, Design, Engineering, Drawing.

PROCEDURE: Making use of the index and table of contents in the assigned material, locate the information to answer the following questions.

QUESTIONS:
1. How will the source of light in a room be controlled? Explain.
2. How do you determine the average spacing of electrical outlets in:
   (a) bedrooms
   (b) living room
   (c) kitchen
3. What are the heights of the switches and outlets in the living room and kitchen? Explain.
4. Explain the word special control?
OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms.

MATERIALS: Architectural and Building Trades Dictionary.

TERMS:
1. Backing
2. Riser
3. Soffit
4. Hip
5. Miter
6. Furring
7. Flashing
8. Batter Boards
9. Coping
10. Girder
Job Sheet #3

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms.

MATERIALS: Dictionary of Technical Terms

PROCEDURE: 1. Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms:

TERMS:

1. Cantileuer
2. Teurplate
3. Keyway
4. Ashlar
5. Bearing Wall
6. Sill
7. Lintel
8. Bridging
9. Ashlar
10. Florol
Job Sheet #4

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms.

MATERIALS: Dictionary of Technical Terms

PROCEDURE: 1. Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms:

TERMS:
1. Camber
2. Valley
3. Purlins
4. Lintel
5. Diagonals
6. Clearance
7. Girt
8. Cover Plate
9. Beam
10. Joist
**OBJECTIVE:**
To gain practice in alphabetising.

**MATERIALS:**
- Information Packet on Alphabetical Order.

**PROCEDURE:**
1. Read the Information Packet carefully.
2. Look up the words in the Modern Dictionary Of Electronics.
3. In the space provided, write the two words that each word listed below would come between. The first one is done for you.

<table>
<thead>
<tr>
<th>After</th>
<th>WORD</th>
<th>Before</th>
</tr>
</thead>
<tbody>
<tr>
<td>marriage</td>
<td>1. married</td>
<td>marry</td>
</tr>
<tr>
<td></td>
<td>2. cable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. dry cell</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. emitter</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. ground</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. ICBC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Kc</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. P.A. System</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. Rf</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10. zoom</td>
<td></td>
</tr>
</tbody>
</table>

4. In the card catalogue in the library, find the call numbers for the following books. Write the call number in the blank.

1. *48,000,000 Horses*  
2. *A Programmed Course in Basic Electricity*  
3. *ABC's of Electronic Test Probes*  
4. *A Giant Set*  
5. *The Making of the Electrical Age*
OBJECTIVE: To gain practice in using dictionary guide words

MATERIALS: Howard Sams' Modern Dictionary of Electronics

PROCEDURE: 1. Below are four pairs of guide words that are found on dictionary pages in Modern Dictionary of Electronics. Under each pair of guide words is a list of words.

2. Decide which words in the list could be found on that page.

3. Circle these words.

4. Then write the circled words in alphabetical order in the space provided.

5. Check the Modern Dictionary of Electronics when you have finished to determine if your answers are correct.

6. Turn in job sheet.

1. backward-wave tube balanced voltage
   balance bar
   balancer bandstop filter
   balanced-wire circuit balanced line
   bakelite balanced voltage
   baffle band width

2. dial cable dielectric constant
   dielectric current die banding
   dielectric guide dielectric capacitor
   dielectric amplifier diamond antenna
   dial light detent
   dial det

3. screen angle secondary color
   screen grid secondary color
   SCR secondary line
   secondary cell search gate
   search coil seam welding
   selector scope
   selector schematic

4. N.O. off-delay
   OAO off set
   octal ohm meter
   Nyquist interval ohm's law
   off center display oil
   null octave
REFERENCE SKILLS - Elec.
GUIDE WORDS

Job Sheet #2

OBJECTIVE: To gain practice in using dictionary guide words

MATERIALS: Information packet on dictionary guide words

PROCEDURE: 1. Look at the list of words below. Take one word at a time, and look at its letters carefully.
2. Then look through the guide words in Modern Dictionary of Electronics.
3. Find the pair of guide words that appear on the page where your word would be found, and write these guide words below.
   The first one is done for you.

<table>
<thead>
<tr>
<th>1. Card</th>
<th>capture</th>
<th>careless</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Fixed resister</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Inductance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. K</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Motherboard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Pf</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Relay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Multiplex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Vacuum tube</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Yoke</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Stereo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Probe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Arc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. AVC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. A.C.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. D.C.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Beta</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Jobb Sheet #1

OBJECTIVE: To gain practice in using a Table of Contents.

MATERIALS: Information Packet on Table of Contents. ABC's of Capacitors

PROCEDURE: 1. Read the Information Packet on Table of Contents carefully.

2. Use the Table of Contents of the book, ABC's of Capacitors, to answer the following questions.

QUESTIONS:

1. On what page would you begin to read if you wanted to find out units of measurements for capacitors?

2. If you wanted to find information on ceramic capacitors, where would you look?

3. Write the name of that part of the book which would tell about capacitor testing.

4. Write the numbers of the two chapters which tell the construction of a capacitor.

5. What are the nine kinds of capacitors mentioned in this book?

Answer the following questions Yes or No:

6. The index in this book comes before the glossary.

7. "Testing" is a chapter heading.

8. "Lead length" is a subtopic under Chapter V.

9. Page 60 has pictures on it.

10. You will probably find some information about temperature under the subtopic which begins on page 77.

11. You find "out of circuit capacitor checker" listed as a subtopic in this table of contents.

12. Chapter V will probably tell about position of a capacitor.

13. There are nine chapters in this book.
REFERENCE SKILLS - Elec.
Table of Contents

**Job Sheet #**

**DEFINITION:** To gain practice in using a Table of Contents.

**MATERIALS:** Information Packet on Table of Contents.
ABC's of Capacitors

**PROCEDURE:**
1. Read the Information Packet on Table of Contents carefully.
2. Use the Table of Contents of the book ABC's of Capacitors, to answer the following questions.

**QUESTIONS:**

A. Write Yes if the statement is correct. Write No if the statement is not correct.

1. You can find out how a capacitor works if you read Chapter II.
2. The chapter "Capacitor Application" includes soldering precautions.
3. The chapter "Capacitor Theory" contains a subtopic entitled "Capacitor Safety."
4. The reference sections in the table of contents include a bibliography.
5. This table of contents tells how many pages the index covers.
6. You will probably find some information about power factor in Chapter II.
7. Chapter I will probably discuss farad.
8. Each chapter has three subtopics.
9. You will find information about something on how capacitors work on page 6.
objective: To gain experience in finding definitions and abbreviations of technical terms on the Audio-Frequency Amplifier

materials: The Dictionary of Electrical Terms

procedure: Making use of the Handbook of Electrical Terms and the Guide Words in the dictionary, locate and write out definitions for the following terms:

1. coupling capacitor
2. resistance coupling
3. microphone
4. Amplifier, Audio-frequency
5. grid resistor
6. phonograph pickup
7. Amplification, Stage of
8. potentiometer
9. transformer coupling
10. plate resistor
11. Audio frequency (AF)
12. piezoelectric effect
OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on the Vacuum-Tube Detector - The Triode.

MATERIALS: Dictionary of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms:

TERMS:
1. Grid
2. Circuit, plate
3. Rheostat
4. Meg.
5. Volume control
6. Battery-Filament
7. Selectivity
8. Grid bias
9. Triode
10. Ohm
11. Battery - plate
12. Sensitivity
13. Circuit, grid
14. Grid leak
15. Battery-grid-bias
16. Grid capacitor
OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on modulation.

MATERIALS: Dictionary of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms:

1. Facsimile transmission
2. Amplitude modulation
3. Discriminator
4. Crystal microphone
5. Capacitor microphone
6. Channel
7. Carbon microphone
8. Cathode modulation
OBJECTIVE: To gain experience in finding definitions and abbreviation of technical terms on the Cathode-Ray tube.

MATERIALS: Dictionary of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms.

TERMS:
1. Oscillograph
2. Linear timing - axis oscillator
3. Focusing electrode
4. Photoelectric materials
5. PPI radar
6. Tuning-eye tube
7. Iconoscope
8. Sawtooth oscillator, or sweep oscillator
9. Horizontal deflecting plates
10. Radar
11. Linear sweep
12. Television
13. Mosaic screen
14. Thyratron
15. Vertical deflection plates
Job Sheet #5

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on Radio Antennas.

MATERIALS: Dictionary of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the guide words in the dictionary, locate and write out definitions for the following terms:

TERMS:
1. Center feed
2. Folded dipole antenna
3. Loading
4. Voltage-fed antenna
5. Standing wave
6. Antinodes
7. Hertz antenna
8. Transmission lines
9. Marconi antenna
10. Vertical radiation pattern
11. Radiation pattern
12. Current-fed antenna
13. Lumped inductances and capacitances
14. Reflector
15. End feed
16. Horizontal radiation pattern
17. Dipole antenna
18. Loops
19. Nodes
20. Radiation resistance
21. Distributed inductance and capacitances
22. Feeder lines
23. Resonant transmission lines
24. Nonresonant transmission line
25. Harmonics
26. Fundamental frequency

235
OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on Eliminating the C Battery.

MATERIALS: Dictionary of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms:

TERMS:
1. Grid-leak and capacitor bias
2. Cathode resistor
3. Fixed bias
4. Cathode bypass capacitor
5. Self bias
6. Contact bias
7. C-Battery eliminator
OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on the Dynamic Speaker.

MATERIALS: Dictionary of Electrical Terms.

PROCEDURE: Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms:

1. Voice call
2. Dynamic speaker
3. Output transformer
4. Permanent-magnet dynamic speaker
5. Electromagnetic dynamic speaker
6. Field coil
7. Spider
8. Permanent magnet
OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on electron-tube amplifiers

MATERIALS: Dictionary of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Word in the dictionary, locate and write out definitions for the following words.

TERMS:  
1. Audio-frequency amplifier  
2. Frequency distortion  
3. Distortion  
4. Impedance matching  
5. Degenerative feedback  
6. Nonlinear distortion  
7. Class AB amplifier  
8. Power amplifier  
9. Class A amplifier  
10. Class B amplifier  
11. Voltage amplifier  
12. Negative feedback  
13. Class C amplifier  
14. Delay distortion  
15. Inverse feedback  
16. Overloading  
17. Phase distortion  
18. Third harmonic  
19. Radio-frequency amplifier  
20. Second harmonic
OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on Tube and Transistor Characteristics

MATERIALS: Dictionary of Electrical Terms
Handbook of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms:

TERMS:
1. Alpha
2. Amplification factor
3. Beta
4. Plate dissipation
5. Mercury-vapor rectifier
6. Characteristic curve
7. Voltage amplification or gain
8. Saturation current
9. Dynamic characteristic curves
10. Emission current
11. Static characteristic curves
12. Plate characteristic curve
13. Power Sensitivity
14. Plate efficiency
15. Mutual conductance
16. Plate resistance
17. Transfer characteristic curve
18. Transconductance
19. Space charge
20. Saturation point
Job Sheet #11

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on the Electron tube Oscillator.

MATERIALS: Dictionary of Electrical Terms
Handbook of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following words:

1. Colpitts oscillator
2. Oscillator
3. Tank
4. Electron-Coupled oscillator
5. Hartley Oscillator
6. Crystal oscillator
7. Continuous radio frequency
8. Feedback
9. Piezoelectric effect
10. Tuned-grid or tuned-plate oscillator
11. Carrier
OBJECTIVE: To find the cheapest way to build the following project, by ordering the parts from the company which offers the lowest price.


PROJECT: Timer - moisture - light activated relay. Find copy in folder.

PROCEDURE: 1. Look up the components in the above three catalogues and list the parts which are cheaper.
2. Fill in the order blanks below, ordering from each company those parts which that company offers at the cheapest price.

<table>
<thead>
<tr>
<th>RADIO SHACK 1970</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>Number and description</td>
<td>Individual price</td>
<td>Total price</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LAFAYETTE RADIO ELECTRONICS</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>Number and description</td>
<td>Individual price</td>
<td>Total price</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ELECTRONIC 1970 COMPONENTS</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>Number and description</td>
<td>Individual price</td>
<td>Total price</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Job Sheet #1

OBJECTIVE: To gain practice in alphabetizing.

MATERIALS: The subheadings under the main heading "Cutting of Threads" contained on this sheet

PROCEDURE: Place the subheadings in column 1 in correct alphabetical order in column 2.

ALPHABETICAL order as in an index

1. Cutting of Threads
   questions on
   metric
   on taper
   without threading dial
   gearing lathe for
   Acme
   internal
   American National
   left-hand
   square
   without reverse belt
   with compound rest
   step-by-step procedure
   multiples

2. Cutting of Threads
OBJECTIVE: To gain practice in alphabetizing

MATERIALS: The subheadings under the main heading "Drills, angle and length of lips of" contained on this sheet

PROCEDURE: Place the subheadings in column 1 in correct alphabetical order in column 2.

1. Drills, angle, and length of lips of:
   parts and functions of
   three-fluted
   calculation of r.p.m. for
   farmer
   sizes of, table
   oil-tube
   grinding
   straight-fluted
   flat
   twist
   cutting lubricants
   speeds for
   feeds for
   types of
   sharpening of

   Alphabetical order as in index:

2. Drills, angle and length of lips of:
Job Sheet #1

OBJECTIVE: To find out the protection a copyright gives an author.

MATERIALS: Goldberg, AFL-CIO Labor United.

PROCEDURE: 1. Read the copyright of the assigned book.
2. Answer the following questions:
   a. What is the copyright date?
   b. List the protection given the author by the copyright:
      (1).
      (2).
      (3).
Job Sheet #2

OBJECTIVE: To find out the protection a copyright gives an author.

MATERIALS: Cooley, Complete Metal Working.

PROCEDURE: 1. Read the copyright of the assigned book.

2. Answer the following questions:
   a. What is the copyright date?
   b. What is the exception for copying from this book?
**Job Sheet #1**

**OBJECTIVE:** To gain practice in using the Index of a book

**MATERIALS:** Brohead - Garrett Catalog, 1971

**PROCEDURE:**
1. Turn to the Index in the assigned material.
2. Answer the following questions.

**QUESTIONS:**
1. What does it mean when an asterisc (*) appears in this Index?

2. Give the page numbers on which you would find the following:

<table>
<thead>
<tr>
<th>Item</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Bench Grinder</td>
<td></td>
</tr>
<tr>
<td>b. Mill File</td>
<td></td>
</tr>
<tr>
<td>c. Hook Rule</td>
<td></td>
</tr>
<tr>
<td>d. Last word Indicator</td>
<td></td>
</tr>
<tr>
<td>e. Drill Chuck</td>
<td></td>
</tr>
<tr>
<td>f. Bench Vise</td>
<td></td>
</tr>
<tr>
<td>g. Tap and Die Set</td>
<td></td>
</tr>
<tr>
<td>h. Safety Goggles</td>
<td></td>
</tr>
<tr>
<td>i. Machine Oil</td>
<td></td>
</tr>
<tr>
<td>j. Precision Milling Machine</td>
<td></td>
</tr>
<tr>
<td>k. Magnetic Base Indicator Holder</td>
<td></td>
</tr>
<tr>
<td>l. Welding Electrods</td>
<td></td>
</tr>
</tbody>
</table>
OBJECTIVE: To gain practice in using the index of a book.

MATERIALS: Do-All Catalog

PROCEDURE:
1. Turn to the Index in the assigned material.
2. Give the page numbers for the following:

<table>
<thead>
<tr>
<th>Item</th>
<th>Page no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Points, Diamond Mounted hack</td>
<td></td>
</tr>
<tr>
<td>b. Saw Blades</td>
<td></td>
</tr>
<tr>
<td>c. Tool Bits, High Speed Steel</td>
<td></td>
</tr>
<tr>
<td>d. Micrometer Check Set</td>
<td></td>
</tr>
<tr>
<td>e. Die Stock</td>
<td></td>
</tr>
<tr>
<td>f. Micrometer Case</td>
<td></td>
</tr>
<tr>
<td>g. Plastic Face Hammer</td>
<td></td>
</tr>
<tr>
<td>h. C-Clamp</td>
<td></td>
</tr>
<tr>
<td>i. Drill Chuck</td>
<td></td>
</tr>
<tr>
<td>j. Abrasive Belts</td>
<td></td>
</tr>
<tr>
<td>k. Boring Bars</td>
<td></td>
</tr>
<tr>
<td>l. Machinist, Universal Vise</td>
<td></td>
</tr>
</tbody>
</table>
Job Sheet #3

OBJECTIVE: To practice using an Index to obtain necessary and useful information.

MATERIALS: Bolt, Machinery Handbook.

PROCEDURE: 1. Go to Mr. Simpson to get a bolt; be sure he gives you the outside diameter of the bolt.

2. Using your reference skills and index of The Machinery Handbook find the information required to drill and tap a hole to fit the bolt.

3. In the space below list all index headings useful for obtaining the information you need to do the following:
   a. Determine whether the bolt is National Course or National fine thread.
   b. Identify the kind of bolt.
   c. Find out what size tap drill to use.
   d. Find out what size tap.

List below the Index headings in The Machinery Handbook used to obtain information required to drill and tap a hole to fit a particular bolt:
Job Sheet #1

OBJECTIVE: To practice obtaining specific information from the Table of Contents of a book.

MATERIALS: Kursh, Apprenticeships in America.

PROCEDURE: 1. Skim the Table of Contents of the assigned book.
2. Answer the following Questions:
   a. How many numbered headings are there?
   b. If you were looking for information on machinist occupations, which chapter would be most useful to you?
   c. How many appendixes are listed?
   d. What information is found in the bibliography section?
   e. How many tables are listed?
JOB SHEET #1 - PRE-TEST

OBJECTIVE: Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen or pencil

PROCEDURE: 1. For each term below write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   Information Packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the Pre-Test, obtain the Post-Test from the file and follow instructions.

PRE-TEST:

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbrev.</th>
<th>Term</th>
<th>Abbrev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Wire</td>
<td>Gage</td>
<td>British Thermal Units</td>
<td>14.</td>
</tr>
<tr>
<td>Ammeter</td>
<td>2.</td>
<td>bronze</td>
<td>15.</td>
</tr>
<tr>
<td>Ampere</td>
<td>3.</td>
<td>burnish</td>
<td>16.</td>
</tr>
<tr>
<td>Ampere hour</td>
<td>4.</td>
<td>bypass</td>
<td>17.</td>
</tr>
<tr>
<td>approximate</td>
<td>5.</td>
<td>cadmium plate</td>
<td>18.</td>
</tr>
<tr>
<td>arc weld</td>
<td>6.</td>
<td>calibrate</td>
<td>19.</td>
</tr>
<tr>
<td>area</td>
<td>7.</td>
<td>capacitor</td>
<td>20.</td>
</tr>
<tr>
<td>assemble</td>
<td>8.</td>
<td>cap screw</td>
<td>21.</td>
</tr>
<tr>
<td>assembly</td>
<td>9.</td>
<td>cast</td>
<td>22.</td>
</tr>
<tr>
<td>automatic</td>
<td>10.</td>
<td>cast iron</td>
<td>23.</td>
</tr>
<tr>
<td>auxiliary</td>
<td>11.</td>
<td>cast steel</td>
<td>24.</td>
</tr>
<tr>
<td>baffle</td>
<td>12.</td>
<td>circular pitch</td>
<td>25.</td>
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<tr>
<td>balance</td>
<td>13.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 abbreviations
Pen or pencil

PROCEDURE: 1. For each abbreviation below write the correct term in full.
2. Turn in your completed post-test.

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Term</th>
<th>Abbrev.</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CP</td>
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<td>14. AWG</td>
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</tr>
<tr>
<td>2. BAF</td>
<td></td>
<td>15. ETU</td>
<td></td>
</tr>
<tr>
<td>3. BAL</td>
<td></td>
<td>16. BRZ</td>
<td></td>
</tr>
<tr>
<td>4. AUTO</td>
<td></td>
<td>17. BNP</td>
<td></td>
</tr>
<tr>
<td>5. AUX</td>
<td></td>
<td>18. BVP</td>
<td></td>
</tr>
<tr>
<td>6. ASST</td>
<td></td>
<td>19. CAL</td>
<td></td>
</tr>
<tr>
<td>7. A</td>
<td></td>
<td>20. BDFL</td>
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</tr>
<tr>
<td>8. ASSEM</td>
<td></td>
<td>21. CAP SCR</td>
<td></td>
</tr>
<tr>
<td>9. ARC-W</td>
<td></td>
<td>22. CAP</td>
<td></td>
</tr>
<tr>
<td>10. APPROX</td>
<td></td>
<td>23. C</td>
<td></td>
</tr>
<tr>
<td>11. AMP HR</td>
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</tr>
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<td>12. AMP</td>
<td></td>
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<tr>
<td>13. AM</td>
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<td></td>
</tr>
</tbody>
</table>
Job Sheet #2 - Pre-Test

OBJECTIVE: Pre-Test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen or pencil

PROCEDURE:
1. For each term below write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   Info. Packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the Pre-Test, obtain the Post-Test from the file and follow instructions.

PRE-TEST:

<table>
<thead>
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<th>Term</th>
<th>Abbrev.</th>
<th>Term</th>
<th>Abbrev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. circumference</td>
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<td>15. cycles per minute</td>
<td></td>
</tr>
<tr>
<td>2. clearance</td>
<td></td>
<td>16. cylinder</td>
<td></td>
</tr>
<tr>
<td>3. clockwise</td>
<td></td>
<td>17. degree</td>
<td></td>
</tr>
<tr>
<td>4. clutch</td>
<td></td>
<td>18. density</td>
<td></td>
</tr>
<tr>
<td>5. cold drawn</td>
<td></td>
<td>19. detail</td>
<td></td>
</tr>
<tr>
<td>6. cold rolled</td>
<td></td>
<td>20. diagonal</td>
<td></td>
</tr>
<tr>
<td>7. combustion</td>
<td></td>
<td>21. diameter</td>
<td></td>
</tr>
<tr>
<td>8. counterclockwise</td>
<td></td>
<td>22. diaphragm</td>
<td></td>
</tr>
<tr>
<td>9. counterbalance</td>
<td></td>
<td>23. differential</td>
<td></td>
</tr>
<tr>
<td>10. counter-sink other-side</td>
<td></td>
<td>24. diode</td>
<td></td>
</tr>
<tr>
<td>11. cross section</td>
<td></td>
<td>25. direct current</td>
<td></td>
</tr>
<tr>
<td>12. cubic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. current</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. cycle</td>
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</tbody>
</table>
JOB SHEET #2 - POST-TEST

OBJECTIVE: Post-test to determine which of the following abbreviations and symbols you know and which you still need to learn.

MATERIALS: The following list of 25 abbreviations
Pen or pencil

PROCEDURE: 1. For each abbreviation below write the correct term in full.
2. Turn in your post-test when you have completed it.

POST-TEST:

<table>
<thead>
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<th>Abbrev.</th>
<th>Term</th>
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<tbody>
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<td>DC</td>
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<td>DOT</td>
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<td>D</td>
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<td>CVL</td>
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<td>CMP</td>
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</tr>
<tr>
<td>CSR</td>
<td></td>
</tr>
<tr>
<td>COE</td>
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<td>CVL</td>
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</tr>
<tr>
<td>CR</td>
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</tr>
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<td>CW</td>
<td></td>
</tr>
<tr>
<td>CCW</td>
<td></td>
</tr>
<tr>
<td>CIRC</td>
<td></td>
</tr>
<tr>
<td>CIR</td>
<td></td>
</tr>
<tr>
<td>CL</td>
<td></td>
</tr>
<tr>
<td>CW</td>
<td></td>
</tr>
<tr>
<td>CC</td>
<td></td>
</tr>
</tbody>
</table>

253

ABBREVIATIONS

Job Sheet #3 - Pre-Test

OBJECTIVE: Pre-Test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 25 words.

Pen

PROCEDURE: 1. For each term below, write the correct abbreviation and/or symbol. 2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet. 3. If you have one or more errors, obtain the following from the file: Info. packet: Study Procedure for Learning Abbreviations and Symbols 4. When you have learned those you missed on the Pre-Test, obtain the post-test from the file and follow instructions.

PRE-TEST:

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbrev.</th>
<th>Term</th>
<th>Abbrev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Directional</td>
<td></td>
<td>14. end to end</td>
<td></td>
</tr>
<tr>
<td>2. discharge</td>
<td></td>
<td>15. equipment</td>
<td></td>
</tr>
<tr>
<td>3. disconnect</td>
<td></td>
<td>16. estimate</td>
<td></td>
</tr>
<tr>
<td>4. distribute</td>
<td></td>
<td>17. evaporate</td>
<td></td>
</tr>
<tr>
<td>5. dowel</td>
<td></td>
<td>18. exhaust</td>
<td></td>
</tr>
<tr>
<td>6. draw</td>
<td></td>
<td>19. expand</td>
<td></td>
</tr>
<tr>
<td>7. drill</td>
<td></td>
<td>20. exterior</td>
<td></td>
</tr>
<tr>
<td>8. drill rod</td>
<td></td>
<td>21. external</td>
<td></td>
</tr>
<tr>
<td>9. drive</td>
<td></td>
<td>22. extra heavy</td>
<td></td>
</tr>
<tr>
<td>10. drive fit</td>
<td></td>
<td>23. fabricate</td>
<td></td>
</tr>
<tr>
<td>11. each</td>
<td></td>
<td>24. Fahrenheit</td>
<td></td>
</tr>
<tr>
<td>12. eccentric</td>
<td></td>
<td>25. feed</td>
<td></td>
</tr>
<tr>
<td>13. electric</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Job Sheet # 3 - Post-test

**OBJECTIVE:** Post-test to determine which of the following abbreviations you know and which you still need to learn.

**MATERIALS:** The following list of 25 abbreviations

- Pen

**PROCEDURE:**
1. For each abbreviation below write the correct term.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.
4. Hand post-test in to teacher.

**POST-TEST**

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Term</th>
<th>Abbrev.</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FD</td>
<td></td>
<td>14. X HVY</td>
<td></td>
</tr>
<tr>
<td>2. F</td>
<td></td>
<td>15. EXT</td>
<td></td>
</tr>
<tr>
<td>3. FAB</td>
<td></td>
<td>16. EXP</td>
<td></td>
</tr>
<tr>
<td>4. EXT</td>
<td></td>
<td>17. EVAP</td>
<td></td>
</tr>
<tr>
<td>5. EXH</td>
<td></td>
<td>18. EST</td>
<td></td>
</tr>
<tr>
<td>6. EQUIP</td>
<td></td>
<td>19. ELEC</td>
<td></td>
</tr>
<tr>
<td>7. E to E</td>
<td></td>
<td>20. EA</td>
<td></td>
</tr>
<tr>
<td>8. ECC</td>
<td></td>
<td>21. DR</td>
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</tr>
<tr>
<td>9. DF</td>
<td></td>
<td>22. DR</td>
<td></td>
</tr>
<tr>
<td>10. DR</td>
<td></td>
<td>23. DWL</td>
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</tr>
<tr>
<td>11. DR</td>
<td></td>
<td>24. DISCH</td>
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<td>12. DISTR</td>
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<td>25. DIR</td>
<td></td>
</tr>
<tr>
<td>13. DISC</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Job Sheet #4 - Pre-Test**

**OBJECTIVE:** Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

**MATERIALS:** The following list of 25 words

**PROCEDURE:**
1. For each term below, write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   - Info. Packet: Study Procedure for Learning Abbreviations and Symbols.
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbrev.</th>
<th>Term</th>
<th>Abbrev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. feet</td>
<td></td>
<td>14. flexible</td>
<td></td>
</tr>
<tr>
<td>2. feet per minute</td>
<td></td>
<td>15. float</td>
<td></td>
</tr>
<tr>
<td>3. feet per second</td>
<td></td>
<td>16. fluid</td>
<td></td>
</tr>
<tr>
<td>4. female</td>
<td></td>
<td>17. flush</td>
<td></td>
</tr>
<tr>
<td>5. figure</td>
<td></td>
<td>13. foot</td>
<td></td>
</tr>
<tr>
<td>6. filament</td>
<td></td>
<td>19. force</td>
<td></td>
</tr>
<tr>
<td>7. fillet</td>
<td></td>
<td>20. forward</td>
<td></td>
</tr>
<tr>
<td>8. finish</td>
<td></td>
<td>21. frame</td>
<td></td>
</tr>
<tr>
<td>9. fireproof</td>
<td></td>
<td>22. freezing point</td>
<td></td>
</tr>
<tr>
<td>10. fitting</td>
<td></td>
<td>23. friction horsepower</td>
<td></td>
</tr>
<tr>
<td>11. fixture</td>
<td></td>
<td>24. fuel</td>
<td></td>
</tr>
<tr>
<td>12. flange</td>
<td></td>
<td>25. fusion point</td>
<td></td>
</tr>
<tr>
<td>13. flat head</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
Job Sheet #4 - Post-Test

**Objective:** Post-test to determine which of the following abbreviations you know and which you still need to learn.

**Materials:** The following list of 25 abbreviations.

**Procedure:**
1. For each abbreviation below write the correct term.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.
4. Hand post-test in to teacher.

**Post-Test:**

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMP</td>
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</tr>
<tr>
<td>F</td>
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<td>NMP</td>
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<tr>
<td>FL</td>
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<td>FLT</td>
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<td>FLEX</td>
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<table>
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</table>
**OBJECTIVE:** Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

**MATERIALS:** The following list of 25 words

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbrev.</th>
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</thead>
<tbody>
<tr>
<td>gage or gauge</td>
<td></td>
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<td>gallon</td>
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<td>galvanize</td>
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<td>gas</td>
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<td>rocket</td>
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<td>gasoline</td>
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<td>general</td>
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</table>

**PROCEDURE:**
1. For each term below, write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   - Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

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JOB SHEET # 5 - POST-TEST

OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 abbreviations

Pen

PROCEDURE: 1. For each abbreviation below write the correct term.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.
4. Hand post-test in to teacher.

POST-TEST:

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Term</th>
<th>Abbrev.</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. HP</td>
<td></td>
<td>14. HOR</td>
<td></td>
</tr>
<tr>
<td>2. HWY</td>
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<td>15. HV</td>
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</tr>
<tr>
<td>3. HS</td>
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<td>16. HES</td>
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</tr>
<tr>
<td>4. HP</td>
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<td>17. HT TR</td>
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</tr>
<tr>
<td>5. HTR</td>
<td></td>
<td>18. GRV</td>
<td></td>
</tr>
<tr>
<td>6. 1/2 RD</td>
<td></td>
<td>19. GRD</td>
<td></td>
</tr>
<tr>
<td>7. GRD</td>
<td></td>
<td>20. GRAD</td>
<td></td>
</tr>
<tr>
<td>8. GRAPH</td>
<td></td>
<td>21. GOV</td>
<td></td>
</tr>
<tr>
<td>9. GOVT</td>
<td></td>
<td>22. GASO</td>
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</tr>
<tr>
<td>10. GEN</td>
<td></td>
<td>23. GSRT</td>
<td></td>
</tr>
<tr>
<td>11. GAL</td>
<td></td>
<td>24. G</td>
<td></td>
</tr>
<tr>
<td>12. GA</td>
<td></td>
<td>25. GALV</td>
<td></td>
</tr>
</tbody>
</table>
### OBJECTIVE:
Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

### MATERIALS:
The following list of 25 words
- Pen

### PROCEDURE:
1. For each term below, write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   - Info. packet: *Study Procedure for Learning Abbreviations and Symbols*
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

### PRE-TEST:

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbrev.</th>
<th>Term</th>
<th>Abbrev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. hot-rolled steel</td>
<td></td>
<td>14. inspect</td>
<td></td>
</tr>
<tr>
<td>2. hydraulic</td>
<td></td>
<td>15. install</td>
<td></td>
</tr>
<tr>
<td>3. identify</td>
<td></td>
<td>16. instruct</td>
<td></td>
</tr>
<tr>
<td>4. ignition</td>
<td></td>
<td>17. instrument</td>
<td></td>
</tr>
<tr>
<td>5. illuminate</td>
<td></td>
<td>18. interchangeable</td>
<td></td>
</tr>
<tr>
<td>6. illustrate</td>
<td></td>
<td>19. interior</td>
<td></td>
</tr>
<tr>
<td>7. impact</td>
<td></td>
<td>20. interlock</td>
<td></td>
</tr>
<tr>
<td>8. hour</td>
<td></td>
<td>21. internal</td>
<td></td>
</tr>
<tr>
<td>9. include</td>
<td></td>
<td>22. interrupt</td>
<td></td>
</tr>
<tr>
<td>10. indicate</td>
<td></td>
<td>23. interruptions</td>
<td></td>
</tr>
<tr>
<td>11. industrial</td>
<td></td>
<td>24. invert</td>
<td></td>
</tr>
<tr>
<td>12. information</td>
<td></td>
<td>25. jack</td>
<td></td>
</tr>
<tr>
<td>13. inlet</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**OBJECTIVE:** Post-test to determine which of the following abbreviations you know and which you still need to learn.

**MATERIALS:** The following list of 25 abbreviations

- Pen

**PROCEDURE:**
1. For each abbreviation below write the correct term.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. Study and learn those you have missed.
4. Hand post-test in to teacher.

**POST-TEST:**

<table>
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<th>Term</th>
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<td>4. EXT</td>
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<td>5. EXH</td>
<td></td>
</tr>
<tr>
<td>6. EQUIP</td>
<td></td>
</tr>
<tr>
<td>7. E to E</td>
<td></td>
</tr>
<tr>
<td>8. ECC</td>
<td></td>
</tr>
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<td>9. DF</td>
<td></td>
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<td>10. DR</td>
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<td>11. DR</td>
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<td>12. DISTR</td>
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<td>13. DISC</td>
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<td>14. XENVY</td>
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<td>15. EXT</td>
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<td></td>
</tr>
<tr>
<td>18. EST</td>
<td></td>
</tr>
<tr>
<td>19. ELEC</td>
<td></td>
</tr>
<tr>
<td>20. EA</td>
<td></td>
</tr>
<tr>
<td>21. DR</td>
<td></td>
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<td>22. DR</td>
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<td>23. DWL</td>
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</tr>
<tr>
<td>24. DISCH</td>
<td></td>
</tr>
<tr>
<td>25. DIR</td>
<td></td>
</tr>
</tbody>
</table>
OBJECTIVE: Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 25 words

Pen

PROCEDURE: 1. For each term below write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbrev.</th>
<th>Term</th>
<th>Abbrev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. job order</td>
<td></td>
<td>14. low explosive</td>
<td></td>
</tr>
<tr>
<td>2. joint</td>
<td></td>
<td>15. low pressure</td>
<td></td>
</tr>
<tr>
<td>3. key</td>
<td></td>
<td>16. low tension</td>
<td></td>
</tr>
<tr>
<td>4. key seat</td>
<td></td>
<td>17. low voltage</td>
<td></td>
</tr>
<tr>
<td>5. keyway</td>
<td></td>
<td>18. low speed</td>
<td></td>
</tr>
<tr>
<td>6. kilo</td>
<td></td>
<td>19. low torque</td>
<td></td>
</tr>
<tr>
<td>7. kilometer</td>
<td></td>
<td>20. lubricate</td>
<td></td>
</tr>
<tr>
<td>8. lacquer</td>
<td></td>
<td>21. lubricating oil</td>
<td></td>
</tr>
<tr>
<td>9. leading edge</td>
<td></td>
<td>22. machine</td>
<td></td>
</tr>
<tr>
<td>10. left hand</td>
<td></td>
<td>23. main</td>
<td></td>
</tr>
<tr>
<td>11. length overall</td>
<td></td>
<td>24. malleable</td>
<td></td>
</tr>
<tr>
<td>12. light</td>
<td></td>
<td>25. manual</td>
<td></td>
</tr>
<tr>
<td>13. liquid</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
**JOB SHEET #7 - POST-TEST**

**OBJECTIVE:**
Post-test to determine which of the following abbreviations you know and which you still need to learn.

**MATERIALS:**
The following list of 25 abbreviations
Pen

**PROCEDURE:**
1. For each abbreviation below write the correct term.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.
4. Hand post-test in to teacher.

**POST-TEST:**

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Term</th>
<th>Abbrev.</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td>14. JO</td>
<td></td>
</tr>
<tr>
<td>LUB</td>
<td></td>
<td>15. KM</td>
<td></td>
</tr>
<tr>
<td>LT</td>
<td></td>
<td>16. LAQ</td>
<td></td>
</tr>
<tr>
<td>LS</td>
<td></td>
<td>17. KWT</td>
<td></td>
</tr>
<tr>
<td>LV</td>
<td></td>
<td>18. KST</td>
<td></td>
</tr>
<tr>
<td>LT</td>
<td></td>
<td>19. JT</td>
<td></td>
</tr>
<tr>
<td>LD</td>
<td></td>
<td>20. K</td>
<td></td>
</tr>
<tr>
<td>LE</td>
<td></td>
<td>21. JO</td>
<td></td>
</tr>
<tr>
<td>LIQ</td>
<td></td>
<td>22. MAN</td>
<td></td>
</tr>
<tr>
<td>LT</td>
<td></td>
<td>23. MALL</td>
<td></td>
</tr>
<tr>
<td>LOA</td>
<td></td>
<td>24. MN</td>
<td></td>
</tr>
<tr>
<td>LH</td>
<td></td>
<td>25. MACH</td>
<td></td>
</tr>
<tr>
<td>LE</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**OBJECTIVE:** Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

**MATERIALS:** The following list of 25 words

- Pent
- Pen

**PROCEDURE:**
1. For each term below write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   - Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

**PRE-TEST:**

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbrev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. manufacture</td>
<td></td>
</tr>
<tr>
<td>2. manufactured</td>
<td></td>
</tr>
<tr>
<td>3. material</td>
<td></td>
</tr>
<tr>
<td>4. maximum</td>
<td></td>
</tr>
<tr>
<td>5. maximum working</td>
<td>f</td>
</tr>
<tr>
<td>6. mechanical</td>
<td></td>
</tr>
<tr>
<td>7. mechanism</td>
<td></td>
</tr>
<tr>
<td>8. medium</td>
<td></td>
</tr>
<tr>
<td>9. melting point</td>
<td></td>
</tr>
<tr>
<td>10. metal</td>
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<tr>
<td>11. micrometer</td>
<td></td>
</tr>
<tr>
<td>12. miles</td>
<td></td>
</tr>
<tr>
<td>13. miles per gallon</td>
<td></td>
</tr>
<tr>
<td>14. miles per hour</td>
<td></td>
</tr>
<tr>
<td>15. minute</td>
<td></td>
</tr>
<tr>
<td>16. mixture</td>
<td></td>
</tr>
<tr>
<td>17. model</td>
<td></td>
</tr>
<tr>
<td>18. modify</td>
<td></td>
</tr>
<tr>
<td>19. modulator</td>
<td></td>
</tr>
<tr>
<td>20. motor</td>
<td></td>
</tr>
<tr>
<td>21. mounted</td>
<td></td>
</tr>
<tr>
<td>22. mounting</td>
<td></td>
</tr>
<tr>
<td>23. national</td>
<td></td>
</tr>
<tr>
<td>24. negative</td>
<td></td>
</tr>
<tr>
<td>25. nickel-silver</td>
<td></td>
</tr>
</tbody>
</table>
**OBJECTIVE:** Post-test to determine which of the following abbreviations you know and which you still need to learn.

**MATERIALS:** The following list of 25 abbreviations

Pen

**PROCEDURE:**
1. For each abbreviation below write the correct term.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.
4. Hand post-test into teacher.

**POST-TEST:**

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Term</th>
<th>Abbrev.</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. NI-SIL</td>
<td></td>
<td>14. NEG</td>
<td></td>
</tr>
<tr>
<td>2. NATL</td>
<td></td>
<td>15. MTD</td>
<td></td>
</tr>
<tr>
<td>3. MTG</td>
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<td>16. MOT</td>
<td></td>
</tr>
<tr>
<td>4. MOD</td>
<td></td>
<td>17. MOD</td>
<td></td>
</tr>
<tr>
<td>5. MIX</td>
<td></td>
<td>18. MIN</td>
<td></td>
</tr>
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<td>6. MPH</td>
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<td>19. MI</td>
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</tr>
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<td>21. MECH</td>
<td></td>
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<tr>
<td>9. MHC</td>
<td></td>
<td>22. MEX</td>
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</tr>
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<td>10. MAT</td>
<td></td>
<td>23. NATL</td>
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</tr>
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<td>11. MED</td>
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</tr>
<tr>
<td>12. MECH</td>
<td></td>
<td>25. MPG</td>
<td></td>
</tr>
</tbody>
</table>
**Job Sheet #1 - Pre-Test**

**OBJECTIVE:** Pre-Test to determine which of the following abbreviations and symbols you know and which you need to learn.

**MATERIALS:** The following list of 25 words

**PROCEDURE:**
1. For each term below write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   - Info. Packet: *Study Procedure for Learning Abbreviations and Symbols*
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

**PRE-TEST:**

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbrev. or Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Safety</td>
<td></td>
</tr>
<tr>
<td>2. Sand blast</td>
<td></td>
</tr>
<tr>
<td>3. Screw</td>
<td></td>
</tr>
<tr>
<td>4. Section</td>
<td></td>
</tr>
<tr>
<td>5. Set screw</td>
<td></td>
</tr>
<tr>
<td>6. Shaft</td>
<td></td>
</tr>
<tr>
<td>7. Shipment</td>
<td></td>
</tr>
<tr>
<td>8. Shop order</td>
<td></td>
</tr>
<tr>
<td>9. Side</td>
<td></td>
</tr>
<tr>
<td>10. Sketch</td>
<td></td>
</tr>
<tr>
<td>11. Solder</td>
<td></td>
</tr>
<tr>
<td>12. Specific</td>
<td></td>
</tr>
<tr>
<td>13. Specification</td>
<td></td>
</tr>
<tr>
<td>14. Spindle</td>
<td></td>
</tr>
<tr>
<td>15. Spot-faced</td>
<td></td>
</tr>
<tr>
<td>16. Square</td>
<td></td>
</tr>
<tr>
<td>17. Stainless</td>
<td></td>
</tr>
<tr>
<td>18. Standard</td>
<td></td>
</tr>
<tr>
<td>19. Stiffener</td>
<td></td>
</tr>
<tr>
<td>20. Steel</td>
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<td>21. Stock</td>
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<td>22. Taper</td>
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<tr>
<td>23. Tee</td>
<td></td>
</tr>
<tr>
<td>24. Teeth per inch</td>
<td></td>
</tr>
<tr>
<td>25. Template</td>
<td></td>
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</tbody>
</table>
OBJECTIVE: Post-test to determine which of the following abbreviations and symbols you know and which you still need to learn.

MATERIALS: The following list of 25 words

Pen

PROCEDURE: 1. For each term below write the correct abbreviation.

POST-TEST:

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Safety</td>
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<tr>
<td>2. Sand blast</td>
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</tr>
<tr>
<td>3. Screw</td>
<td></td>
</tr>
<tr>
<td>4. Set screw</td>
<td></td>
</tr>
<tr>
<td>5. Shipment</td>
<td></td>
</tr>
<tr>
<td>6. Side</td>
<td></td>
</tr>
<tr>
<td>7. Solder</td>
<td></td>
</tr>
<tr>
<td>8. Specification</td>
<td></td>
</tr>
<tr>
<td>9. Spot-faced</td>
<td></td>
</tr>
<tr>
<td>10. Stainless</td>
<td></td>
</tr>
<tr>
<td>11. Steel</td>
<td></td>
</tr>
<tr>
<td>12. Stock</td>
<td></td>
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<tr>
<td>13. Tee</td>
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<td>14. Template</td>
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<tr>
<td>15. Section</td>
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</tr>
<tr>
<td>16. Shaft</td>
<td></td>
</tr>
<tr>
<td>17. Shop order</td>
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</tr>
<tr>
<td>18. Sketch</td>
<td></td>
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<tr>
<td>19. Specific</td>
<td></td>
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<tr>
<td>20. Spindle</td>
<td></td>
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<td>21. Square</td>
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<tr>
<td>22. Standard</td>
<td></td>
</tr>
<tr>
<td>23. Stiffner</td>
<td></td>
</tr>
<tr>
<td>24. Taper</td>
<td></td>
</tr>
<tr>
<td>25. Teeth per inch</td>
<td></td>
</tr>
</tbody>
</table>

OBTAIN ANSWER KEY FROM FILE AND CORRECT YOUR WORK. ANSWERS MUST BE IDENTICAL TO ANSWER SHEET! STUDY AND LEARN THOSE YOU HAVE MISSED!
# TECH. TERMINOLOGY - Draft.  

## MET. SH.

### ABBREVIATIONS

**Job Sheet #2 - Pre-Test**

**OBJECTIVE:** Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

**MATERIALS:** The following list of 25 words

- Pen

**PROCEDURE:**

1. For each term below write the correct abbreviations.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file: Info. Packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

**PRE-TEST:**

<table>
<thead>
<tr>
<th>TERM</th>
<th>ABBREVIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tension</td>
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</tr>
<tr>
<td>2. Thick</td>
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</tr>
<tr>
<td>3. Thread</td>
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<td>6. Tolerance</td>
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<td>7. Tool steel</td>
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<tr>
<td>8. Tooth</td>
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<tr>
<td>9. Tubing</td>
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<td>10. Typical</td>
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</tr>
<tr>
<td>11. United States gage</td>
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<tr>
<td>12. United States Standard</td>
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<tr>
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<tr>
<td>14. Washer</td>
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<td>19. Assemble</td>
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</tr>
<tr>
<td>20. Assembly</td>
<td></td>
</tr>
<tr>
<td>21. British Standard</td>
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<td>22. Broad</td>
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</tr>
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<td>23. Bronze</td>
<td></td>
</tr>
<tr>
<td>24. Brown and sharp</td>
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</tr>
<tr>
<td>25. Burnish</td>
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</tbody>
</table>
OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 words
Pen

PROCEDURE: 1. For each term below write the correct abbreviation.
   2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
   3. Study and learn those you have missed.

POST-TEST:

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<tr>
<td>Brown and sharp</td>
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</tbody>
</table>
**OBJECTIVE:** Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

**MATERIALS:** The following list of 25 words

- Pen

**PROCEDURE:**

1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   - Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

**PRE-TEST:**

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
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<tr>
<td>2. Cadmium plate</td>
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<td>3. Cap screw</td>
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<td>4. Cast iron</td>
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<td>15. Counterpunch</td>
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<tr>
<td>16. Countersink</td>
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</tr>
<tr>
<td>17. Countersink otherside</td>
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</tr>
<tr>
<td>18. Decimal</td>
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<tr>
<td>19. Dedendum</td>
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<tr>
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<tr>
<td>22. Detail</td>
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<td>23. Diagram</td>
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<tr>
<td>24. Diameter</td>
<td></td>
</tr>
<tr>
<td>25. Diametral pitch</td>
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</table>
OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 words

PROCEDURE: 1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.

POST-TEST:

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbreviation</th>
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<tbody>
<tr>
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<td>2. Cap screw</td>
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<td>3. Cast iron pipe</td>
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<td>5. Clearance</td>
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<td>6. Cold rolled</td>
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<td>7. Counterbore</td>
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<td>11. Degree</td>
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<td>12. Diagram</td>
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<td>13. Diametral pitch</td>
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<td>14. Cadmium plate</td>
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<td>15. Cast iron</td>
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</tr>
<tr>
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</tbody>
</table>
TECH. TERMINOLOGY - Draft.

Met. Sh.

ABBREVIATIONS

Job Sheet #4 - Pre-test

OBJECTIVE: Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 25 words

Pen

PROCEDURE: 1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   Info. Packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

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<td>Drawing</td>
<td></td>
</tr>
<tr>
<td>Drill</td>
<td></td>
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<tr>
<td>Drill rod</td>
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<td>Drop forge</td>
<td></td>
</tr>
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<td>Fabricate</td>
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</tr>
<tr>
<td>Feed</td>
<td></td>
</tr>
<tr>
<td>Feet</td>
<td></td>
</tr>
<tr>
<td>Feet per minute</td>
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</tr>
<tr>
<td>Feet per second</td>
<td></td>
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<tr>
<td>Fillet</td>
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</tr>
<tr>
<td>Finish</td>
<td></td>
</tr>
<tr>
<td>Finish all over</td>
<td></td>
</tr>
<tr>
<td>Fitting</td>
<td></td>
</tr>
<tr>
<td>Fixture</td>
<td></td>
</tr>
<tr>
<td>Flange</td>
<td></td>
</tr>
<tr>
<td>Foot</td>
<td></td>
</tr>
<tr>
<td>Forging</td>
<td></td>
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<tr>
<td>Foundary</td>
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<tr>
<td>Fractional</td>
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</tr>
<tr>
<td>Gage or gauge</td>
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<tr>
<td>Galvanized</td>
<td></td>
</tr>
<tr>
<td>Galvanized iron</td>
<td></td>
</tr>
<tr>
<td>Galvanized steel</td>
<td></td>
</tr>
</tbody>
</table>
OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 words
Pen

PROCEDURE: 1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.

POST TEST:

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<td>Finish all over</td>
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<td>Drawing</td>
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<td>Fixture</td>
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<td>Drill rod</td>
<td>Dril. rod.</td>
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<td>Flange</td>
<td>Fl.</td>
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<td>Drop forge</td>
<td>Drop forge.</td>
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<tr>
<td>Foot</td>
<td>Foot.</td>
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<tr>
<td>Fabricate</td>
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<td>Forging</td>
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<td>Feed</td>
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<td>Feet per minute.</td>
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<tr>
<td>Gage or gauge</td>
<td>Gage.</td>
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<tr>
<td>Feet per second</td>
<td>Feet per second.</td>
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<tr>
<td>Galvanized</td>
<td>Galv.</td>
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<td>Fillet</td>
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<td>Galvanized iron</td>
<td>Galv. iron.</td>
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<tr>
<td>Galvanized steel</td>
<td>Galv. steel.</td>
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</table>
Job Sheet #5 - Pre-test

**OBJECTIVE:** Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

**MATERIALS:** The following list of 30 words

**PROCEDURE:**
1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   - Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

<table>
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<tbody>
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<tr>
<td>3. grind</td>
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<tr>
<td>4. groove</td>
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<td>6. half round</td>
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<td>9. heat treat</td>
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<td>13. high-speed steel</td>
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<td>29. key seat</td>
<td>key seat</td>
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<tr>
<td>30. keyway</td>
<td>keyway</td>
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</tbody>
</table>
# Job Sheet #5 - Post-Test

**Objective:** Post-test to determine which of the following abbreviations you know and which you still need to learn.

**Materials:** The following list of 30 words
- Pen

**Procedure:**
1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.

**Post-Test:**

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbreviation</th>
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</thead>
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<td>Horizontal</td>
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<td>Key</td>
<td>Key</td>
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<td>High-speed steel</td>
<td>High-speed steel</td>
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<td>Joint</td>
<td>Joint</td>
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<td>High speed</td>
<td>High speed</td>
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<td>Iron</td>
<td>Iron</td>
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<td>Hexagon</td>
<td>Hexagon</td>
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<td>Instruct</td>
<td>Instruct</td>
</tr>
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<td>Heavy</td>
<td>Heavy</td>
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<td>Inspect</td>
<td>Inspect</td>
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<td>Heat treat</td>
<td>Heat treat</td>
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<td>Information</td>
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<td>Indicate</td>
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<td>Include</td>
</tr>
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<td>Ground</td>
<td>Ground</td>
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<td>Inch</td>
<td>Inch</td>
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<td>Graduation</td>
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<td>Hot-rolled steel</td>
</tr>
<tr>
<td>Galvanized steel wire rope</td>
<td>Galvanized steel wire rope</td>
</tr>
</tbody>
</table>
ABBREVIATIONS

Job Sheet #1 - Pre-Test

OBJECTIVE: Pre-test to determine which of the following abbreviations you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen or pencil

PROCEDURE: 1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   Info. Packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

<table>
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<th>Abbreviation</th>
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</tr>
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</tr>
<tr>
<td>shop order</td>
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</tr>
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<tr>
<td>thermostat</td>
<td></td>
</tr>
<tr>
<td>time-delay closing</td>
<td></td>
</tr>
<tr>
<td>time-delay opening</td>
<td></td>
</tr>
<tr>
<td>toggle</td>
<td></td>
</tr>
<tr>
<td>transformer</td>
<td></td>
</tr>
<tr>
<td>transmission</td>
<td></td>
</tr>
<tr>
<td>transmitter</td>
<td></td>
</tr>
<tr>
<td>transmitting</td>
<td></td>
</tr>
<tr>
<td>trimmer</td>
<td></td>
</tr>
</tbody>
</table>
**Job Sheet #1 - Post-test**

**OBJECTIVE:** Post-test to determine which of the following abbreviations and symbols you know and which you still need to learn.

**MATERIALS:** The following list of 25 words.
Pen or pencil

**PROCEDURE:** For each term below write the correct abbreviation.

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbrev.</th>
<th>Term</th>
<th>Abbrev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>split phase</td>
<td></td>
<td>sink</td>
<td></td>
</tr>
<tr>
<td>trimmer</td>
<td></td>
<td>time-delay opening</td>
<td></td>
</tr>
<tr>
<td>specification</td>
<td></td>
<td>signal</td>
<td></td>
</tr>
<tr>
<td>transmitting</td>
<td></td>
<td>time-delay closing</td>
<td></td>
</tr>
<tr>
<td>sound</td>
<td></td>
<td>short wave</td>
<td></td>
</tr>
<tr>
<td>transmitter</td>
<td></td>
<td>thermostat</td>
<td></td>
</tr>
<tr>
<td>speaker</td>
<td></td>
<td>shop order</td>
<td></td>
</tr>
<tr>
<td>transmission</td>
<td></td>
<td>that is</td>
<td></td>
</tr>
<tr>
<td>socenoid</td>
<td></td>
<td>screw</td>
<td></td>
</tr>
<tr>
<td>transformer</td>
<td></td>
<td>television</td>
<td></td>
</tr>
<tr>
<td>socket</td>
<td></td>
<td>schematic</td>
<td></td>
</tr>
<tr>
<td>toggle</td>
<td></td>
<td>system</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>switch</td>
<td></td>
</tr>
</tbody>
</table>
**OBJECTIVE:** Pre-test to determine which of the following abbreviations you know and which you need to learn.

**MATERIALS:** The following list of 25 words
Pen or pencil

**PROCEDURE:**
1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   - Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

**PRE-TEST:**

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbrev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. triope</td>
<td></td>
</tr>
<tr>
<td>2. tuned radio frequency</td>
<td></td>
</tr>
<tr>
<td>3. ultra-high frequency</td>
<td></td>
</tr>
<tr>
<td>4. under voltage</td>
<td></td>
</tr>
<tr>
<td>5. United States Standard</td>
<td></td>
</tr>
<tr>
<td>6. universal</td>
<td></td>
</tr>
<tr>
<td>7. vacuum</td>
<td></td>
</tr>
<tr>
<td>8. vacuum tube</td>
<td></td>
</tr>
<tr>
<td>9. variable</td>
<td></td>
</tr>
<tr>
<td>10. variable-frequency oscillator</td>
<td></td>
</tr>
<tr>
<td>11. very high frequency</td>
<td></td>
</tr>
<tr>
<td>12. very low frequency</td>
<td></td>
</tr>
<tr>
<td>13. video-frequency</td>
<td></td>
</tr>
<tr>
<td>14. voice frequency</td>
<td></td>
</tr>
<tr>
<td>15. volt</td>
<td></td>
</tr>
<tr>
<td>16. volt ampere</td>
<td></td>
</tr>
<tr>
<td>17. voltmeter</td>
<td></td>
</tr>
<tr>
<td>18. volts per mic</td>
<td></td>
</tr>
<tr>
<td>19. watt</td>
<td></td>
</tr>
<tr>
<td>20. watt-hour</td>
<td></td>
</tr>
<tr>
<td>21. watt-hour meter</td>
<td></td>
</tr>
<tr>
<td>22. watt meter</td>
<td></td>
</tr>
<tr>
<td>23. wet bulb</td>
<td></td>
</tr>
<tr>
<td>24. wire</td>
<td></td>
</tr>
<tr>
<td>25. ampere</td>
<td></td>
</tr>
</tbody>
</table>
### OBJECTIVE:
Post-test to determine which of the following abbreviations you know and which you still need to learn.

### MATERIALS:
The following list of 25 words
Pen or pencil

### PROCEDURE:
For each term below write the correct abbreviation.

### POST-TEST:

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbrev.</th>
<th>Term</th>
<th>Abbrev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ampere</td>
<td></td>
<td>13. watt</td>
<td></td>
</tr>
<tr>
<td>2. very low frequency</td>
<td></td>
<td>14. universal</td>
<td></td>
</tr>
<tr>
<td>3. wire</td>
<td></td>
<td>15. volts per mic</td>
<td></td>
</tr>
<tr>
<td>4. very high frequency</td>
<td></td>
<td>16. United States Standard</td>
<td></td>
</tr>
<tr>
<td>5. wet bulb</td>
<td></td>
<td>17. voltmeter</td>
<td></td>
</tr>
<tr>
<td>6. variable-frequency oscillator</td>
<td></td>
<td>18. under voltage</td>
<td></td>
</tr>
<tr>
<td>7. watt meter</td>
<td></td>
<td>19. volt ampere</td>
<td></td>
</tr>
<tr>
<td>8. variable</td>
<td></td>
<td>20. ultra-high frequency</td>
<td></td>
</tr>
<tr>
<td>9. watt-hour meter</td>
<td></td>
<td>21. volts</td>
<td></td>
</tr>
<tr>
<td>10. vacuum tube</td>
<td></td>
<td>22. tuned radio frequency</td>
<td></td>
</tr>
<tr>
<td>11. watt-hour</td>
<td></td>
<td>23. voice frequency</td>
<td></td>
</tr>
<tr>
<td>12. vacuum</td>
<td></td>
<td>24. triode</td>
<td></td>
</tr>
<tr>
<td>25. video-frequency</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Objective: Pre-test to determine which of the following abbreviations you know and which you need to learn.

Materials: The following list of 25 words
Pen or pencil

Procedure: 1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   - Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

Pre-Test:

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>amplifier</td>
<td></td>
</tr>
<tr>
<td>antenna</td>
<td></td>
</tr>
<tr>
<td>audio-frequency</td>
<td></td>
</tr>
<tr>
<td>automatic</td>
<td></td>
</tr>
<tr>
<td>auto-transformer</td>
<td></td>
</tr>
<tr>
<td>baffle</td>
<td></td>
</tr>
<tr>
<td>battery</td>
<td></td>
</tr>
<tr>
<td>capacity</td>
<td></td>
</tr>
<tr>
<td>centimeter</td>
<td></td>
</tr>
<tr>
<td>circuit</td>
<td></td>
</tr>
<tr>
<td>coaxial</td>
<td></td>
</tr>
<tr>
<td>compressor</td>
<td></td>
</tr>
<tr>
<td>conduct</td>
<td></td>
</tr>
<tr>
<td>conductor</td>
<td></td>
</tr>
<tr>
<td>conduit</td>
<td></td>
</tr>
<tr>
<td>continuous</td>
<td></td>
</tr>
<tr>
<td>contrast-relay</td>
<td></td>
</tr>
<tr>
<td>control switch</td>
<td></td>
</tr>
<tr>
<td>counterclockwise</td>
<td></td>
</tr>
<tr>
<td>current</td>
<td></td>
</tr>
<tr>
<td>cycle</td>
<td></td>
</tr>
<tr>
<td>cycles per minute</td>
<td></td>
</tr>
<tr>
<td>cycles per second</td>
<td></td>
</tr>
<tr>
<td>decimal</td>
<td></td>
</tr>
</tbody>
</table>
**OBJECTIVE:** Post-test to determine which of the following abbreviations you know and which you still need to learn.

**MATERIALS:** The following list of 25 abbreviations

**PROCEDURE:**
1. For each abbreviation below write the correct term.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.
4. Hand post-test in to teacher.

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Term</th>
<th>Abbrev.</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FLOUR</td>
<td></td>
<td>14. HV</td>
<td></td>
</tr>
<tr>
<td>2. FIL</td>
<td></td>
<td>15. FNP</td>
<td></td>
</tr>
<tr>
<td>3. FIX</td>
<td></td>
<td>16. VLF</td>
<td></td>
</tr>
<tr>
<td>4. ELEC</td>
<td></td>
<td>17. FSBL</td>
<td></td>
</tr>
<tr>
<td>5. F</td>
<td></td>
<td>18. UHF</td>
<td></td>
</tr>
<tr>
<td>6. DYN</td>
<td></td>
<td>19. VHF</td>
<td></td>
</tr>
<tr>
<td>7. DISCH</td>
<td></td>
<td>20. SHF</td>
<td></td>
</tr>
<tr>
<td>8. DC</td>
<td></td>
<td>21. FM</td>
<td></td>
</tr>
<tr>
<td>9. DISC</td>
<td></td>
<td>22. MF</td>
<td></td>
</tr>
<tr>
<td>10. DIO</td>
<td></td>
<td>23. LF</td>
<td></td>
</tr>
<tr>
<td>11. DET</td>
<td></td>
<td>24. HP</td>
<td></td>
</tr>
<tr>
<td>12. IMD</td>
<td></td>
<td>25. FREQ.</td>
<td></td>
</tr>
</tbody>
</table>
Objective: Pre-test to determine which of the following symbols and abbreviations you know and which you need to learn.

Materials: The following list of words
Pen or pencil

Procedure: 1. For each term below write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file: Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

Switches - Pre-test:

Symbol | Abbreviations
--- | ---
1. Switch S.P.D.T. |  
2. Switch S.P.S.T. (Normally Open) |  
3. Switch S.P.S.T. (Normally closed) |  
4. Key |  
5. Switch, Push Button (two-circuit) |  
6. Switch, Push Button (Normally closed) |  
7. Switch, Push Button (Normally open) |  
8. Switch thermal |  
9. Switch, Knife (Disconnect) |  
10. Switch Momentary Contact |  
11. Dial Switch Telephone Type |  
12. Switch Pressure (Increasing Pressure closed) |  
13. Switch, D.P.S.T. |  
14. Switch Pressure (Decreasing Pressure closes) |  
15. JACK |  
16. Switch, Rotary (Multiple Contacts) |  
17. PLUG |  

OBJECTIVE: Post-test to determine which of the following abbreviations and symbols you know and which you still need to learn.

MATERIALS: The following list or words
Pen or pencil

PROCEDURE: For each term below write the correct symbol and/or abbreviation.

SWITCHES - POST-TEST:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Switch, S.P.D.T.</td>
<td></td>
</tr>
<tr>
<td>2. Switch, S.P.S.T.</td>
<td></td>
</tr>
<tr>
<td>3. Switch, S.P.S.T.</td>
<td>(Normally closed)</td>
</tr>
<tr>
<td>4. Key</td>
<td></td>
</tr>
<tr>
<td>5. Switch, Push button</td>
<td></td>
</tr>
<tr>
<td>6. Switch, Push button</td>
<td>(normally closed)</td>
</tr>
<tr>
<td>7. Switch push button</td>
<td>(Normally closed)</td>
</tr>
<tr>
<td>8. Switch, thermal</td>
<td></td>
</tr>
<tr>
<td>9. Switch, knife</td>
<td>Disconnect</td>
</tr>
<tr>
<td>10. Switch, momentary contact</td>
<td></td>
</tr>
<tr>
<td>11. Dial switch telephone type</td>
<td></td>
</tr>
<tr>
<td>12. Switch, pressure</td>
<td>(Increasing pressure closes)</td>
</tr>
<tr>
<td>13. Switch, D.P.S.T.</td>
<td></td>
</tr>
<tr>
<td>14. Switch, pressure</td>
<td>(Decreasing pressure closes)</td>
</tr>
<tr>
<td>15. JACK</td>
<td></td>
</tr>
<tr>
<td>16. Switch, rotary</td>
<td>(Multiple contacts)</td>
</tr>
<tr>
<td>17. PLUG</td>
<td></td>
</tr>
</tbody>
</table>
Job Sheet #2 - Pre-Test

**OBJECTIVE:** Pre-test to determine which of the following symbols and abbreviations you know and which you need to learn.

**MATERIALS:** The following list of words
Pen or pencil

**PROCEDURE:**
1. For each term listed below write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   - Info. Packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

### LOUDSPEAKERS - PRE-TEST:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. General</td>
<td></td>
</tr>
<tr>
<td>2. Magnetic</td>
<td></td>
</tr>
<tr>
<td>3. P-M Dynamic</td>
<td></td>
</tr>
<tr>
<td>4. Electrodynamc</td>
<td></td>
</tr>
<tr>
<td><strong>VIBRATORS</strong></td>
<td></td>
</tr>
<tr>
<td>5. Synchronous</td>
<td></td>
</tr>
<tr>
<td>6. Buzzer</td>
<td></td>
</tr>
<tr>
<td>7. Nonsynchronous</td>
<td></td>
</tr>
<tr>
<td><strong>PICKUP OR CUTTING HEAD</strong></td>
<td></td>
</tr>
<tr>
<td>8. General</td>
<td></td>
</tr>
<tr>
<td>9. Electromagnetic</td>
<td></td>
</tr>
<tr>
<td>10. Crystal</td>
<td></td>
</tr>
<tr>
<td><strong>PHONES</strong></td>
<td></td>
</tr>
<tr>
<td>11. Single</td>
<td></td>
</tr>
<tr>
<td>12. Double</td>
<td></td>
</tr>
<tr>
<td><strong>A-C VOLTAGE SOURCE</strong></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td></td>
</tr>
<tr>
<td><strong>ANTENNA SYSTEM</strong></td>
<td></td>
</tr>
<tr>
<td>14. Antenna</td>
<td></td>
</tr>
<tr>
<td>15. Loop</td>
<td></td>
</tr>
<tr>
<td>16. Ground</td>
<td></td>
</tr>
<tr>
<td>17. Counterpoise</td>
<td></td>
</tr>
<tr>
<td><strong>LAMPS</strong></td>
<td></td>
</tr>
<tr>
<td>18. DS Jewelled Lamp</td>
<td></td>
</tr>
<tr>
<td>19. DS Push-to-test lamp</td>
<td></td>
</tr>
<tr>
<td><strong>GENERATOR</strong></td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td></td>
</tr>
<tr>
<td><strong>MOTOR</strong></td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td></td>
</tr>
<tr>
<td><strong>BALLAST</strong></td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td></td>
</tr>
</tbody>
</table>
**Objective:** Post-test to determine which of the following abbreviations and symbols you know and which you still need to learn.

**Materials:** The following list of words
- Pen or pencil

**Procedure:** For each term below write the correct symbol.

**Post-Test:**

<table>
<thead>
<tr>
<th>Term</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phones</strong></td>
<td></td>
</tr>
<tr>
<td>1. Single</td>
<td></td>
</tr>
<tr>
<td>2. Double</td>
<td></td>
</tr>
<tr>
<td><strong>Antenna System</strong></td>
<td></td>
</tr>
<tr>
<td>3. Antenna</td>
<td></td>
</tr>
<tr>
<td>4. Loop</td>
<td></td>
</tr>
<tr>
<td>5. Counterpoise</td>
<td></td>
</tr>
<tr>
<td>6. Ground</td>
<td></td>
</tr>
<tr>
<td><strong>A-C Voltage Source</strong></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
</tr>
<tr>
<td><strong>Ballast</strong></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
</tr>
<tr>
<td><strong>Generator</strong></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
</tr>
<tr>
<td><strong>Pickup or Cutting Head</strong></td>
<td></td>
</tr>
<tr>
<td>10. General</td>
<td></td>
</tr>
<tr>
<td>11. Electromagnetic</td>
<td></td>
</tr>
<tr>
<td>12. Crystal</td>
<td></td>
</tr>
<tr>
<td><strong>Motor</strong></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td></td>
</tr>
<tr>
<td><strong>Vibrators</strong></td>
<td></td>
</tr>
<tr>
<td>14. Synchronous</td>
<td></td>
</tr>
<tr>
<td>15. Buzzer</td>
<td></td>
</tr>
<tr>
<td>16. Nonsynchronous</td>
<td></td>
</tr>
<tr>
<td><strong>Loudspeakers</strong></td>
<td></td>
</tr>
<tr>
<td>17. Electrodynaminc</td>
<td></td>
</tr>
<tr>
<td>18. P-M Dynamic</td>
<td></td>
</tr>
<tr>
<td>19. Magnetic</td>
<td></td>
</tr>
<tr>
<td>20. General</td>
<td></td>
</tr>
<tr>
<td><strong>Lamps</strong></td>
<td></td>
</tr>
<tr>
<td>21. DS Jeweled lamp</td>
<td></td>
</tr>
<tr>
<td>22. DS Push-to-test lamp</td>
<td></td>
</tr>
</tbody>
</table>
TECH. TERMINOLOGY - Elec.

ABBREVIATIONS and/or SYMBOLS

Job Sheet #3 - Pre-test

OBJECTIVE: Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 30 terms
Pen or pencil

PROCEDURE:
1. For each term below write the correct symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

<table>
<thead>
<tr>
<th>TERM</th>
<th>SYMBOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Filament</td>
<td></td>
</tr>
<tr>
<td>2. Indirectly heated cathode</td>
<td></td>
</tr>
<tr>
<td>3. Gold cathode</td>
<td></td>
</tr>
<tr>
<td>4. Photo-electric cathode</td>
<td></td>
</tr>
<tr>
<td>5. Loop coupling</td>
<td></td>
</tr>
<tr>
<td>6. Gas-filled</td>
<td></td>
</tr>
<tr>
<td>7. Pool cathode</td>
<td></td>
</tr>
<tr>
<td>8. Grid</td>
<td></td>
</tr>
<tr>
<td>9. Deflecting electrode</td>
<td></td>
</tr>
<tr>
<td>10. Anode</td>
<td></td>
</tr>
<tr>
<td>11. X-ray target</td>
<td></td>
</tr>
<tr>
<td>12. Internal shield</td>
<td></td>
</tr>
<tr>
<td>13. Dynode</td>
<td></td>
</tr>
<tr>
<td>14. Ignitor</td>
<td></td>
</tr>
<tr>
<td>15. Excitor</td>
<td></td>
</tr>
<tr>
<td>16. Single-cavity envelope</td>
<td></td>
</tr>
<tr>
<td>17. Double-cavity envelope</td>
<td></td>
</tr>
<tr>
<td>18. Triode</td>
<td></td>
</tr>
<tr>
<td>19. Pentode</td>
<td></td>
</tr>
<tr>
<td>20. Cathode-ray indicator\tube</td>
<td></td>
</tr>
<tr>
<td>21. Cold-cathode gas diode</td>
<td></td>
</tr>
<tr>
<td>22. Phototube</td>
<td></td>
</tr>
<tr>
<td>23. Cathode-ray tube</td>
<td></td>
</tr>
<tr>
<td>24. Magnetron</td>
<td></td>
</tr>
<tr>
<td>25. Split magnetron</td>
<td></td>
</tr>
<tr>
<td>26. Single-cavity velocity-modulated tube</td>
<td></td>
</tr>
<tr>
<td>27. Double-cavity velocity-modulated tube</td>
<td></td>
</tr>
<tr>
<td>28. Multiplier phototube</td>
<td></td>
</tr>
<tr>
<td>29. Ignition with grid</td>
<td></td>
</tr>
<tr>
<td>30. Excitron with grid and holding anode</td>
<td></td>
</tr>
</tbody>
</table>

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**OBJECTIVE:** Post-test to determine which of the following symbols you know and which you still need to learn.

**MATERIALS:** The following list of 30 terms.

**PROCEDURE:** For each term below write the correct symbol.

**POST-TEST:**

<table>
<thead>
<tr>
<th>Term</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Excitor</td>
<td></td>
</tr>
<tr>
<td>2. Ignitor</td>
<td></td>
</tr>
<tr>
<td>3. Ignition with grid</td>
<td></td>
</tr>
<tr>
<td>4. Multiplier phototube</td>
<td></td>
</tr>
<tr>
<td>5. Dynode</td>
<td></td>
</tr>
<tr>
<td>6. Internal shield</td>
<td></td>
</tr>
<tr>
<td>7. Double-cavity velocity-modulated tube</td>
<td></td>
</tr>
<tr>
<td>8. Single-cavity velocity-modulated tube</td>
<td></td>
</tr>
<tr>
<td>9. X-ray target</td>
<td></td>
</tr>
<tr>
<td>10. Anode</td>
<td></td>
</tr>
<tr>
<td>11. Split magnetron</td>
<td></td>
</tr>
<tr>
<td>12. Magnetron</td>
<td></td>
</tr>
<tr>
<td>13. Deflecting electrode</td>
<td></td>
</tr>
<tr>
<td>14. Grid</td>
<td></td>
</tr>
<tr>
<td>15. Cathode-ray tube</td>
<td></td>
</tr>
<tr>
<td>16. Phototube</td>
<td></td>
</tr>
<tr>
<td>17. Pool cathode</td>
<td></td>
</tr>
<tr>
<td>18. Gas-filled</td>
<td></td>
</tr>
<tr>
<td>19. Cold-cathode</td>
<td></td>
</tr>
<tr>
<td>Gas diode</td>
<td></td>
</tr>
<tr>
<td>20. Cathode-ray indicator tube</td>
<td></td>
</tr>
<tr>
<td>21. Loop coupling</td>
<td></td>
</tr>
<tr>
<td>22. Photo-electric cathode</td>
<td></td>
</tr>
<tr>
<td>23. Cold cathode</td>
<td></td>
</tr>
<tr>
<td>24. Indirectly heated cathode</td>
<td></td>
</tr>
<tr>
<td>25. Triode</td>
<td></td>
</tr>
<tr>
<td>26. Pentode</td>
<td></td>
</tr>
<tr>
<td>27. Double-cavity envelope</td>
<td></td>
</tr>
<tr>
<td>28. Single-cavity envelope</td>
<td></td>
</tr>
<tr>
<td>29. Filament</td>
<td></td>
</tr>
<tr>
<td>30. Excitron with grid and holding anode</td>
<td></td>
</tr>
</tbody>
</table>
OBJECTIVE: Pre-test to determine which of the following symbols you know and which you need to learn.

MATERIALS: The following list of terms
Pen/pencil

PROCEDURE: 1. For each term below write the correct symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file: Info. Packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST: SEMICONDUCTORS

<table>
<thead>
<tr>
<th>Term</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controlled rectifier diode</td>
<td></td>
</tr>
<tr>
<td>Half-wave diode</td>
<td></td>
</tr>
<tr>
<td>Photo diode</td>
<td></td>
</tr>
<tr>
<td>Tunnel diode</td>
<td></td>
</tr>
<tr>
<td>Zener diode</td>
<td></td>
</tr>
<tr>
<td>PNP transistor</td>
<td></td>
</tr>
<tr>
<td>Full-wave bridge rectifier</td>
<td></td>
</tr>
<tr>
<td>NPN transistor</td>
<td></td>
</tr>
<tr>
<td>Unijunction transistor</td>
<td></td>
</tr>
<tr>
<td>Double anode zener diode</td>
<td></td>
</tr>
</tbody>
</table>

TERMINAL BOARD

11. THERMOCOUPLE

12. THERMOCOUPLE

13. Directly heated
14. Indirectly heated

SERVO CONTROL DEVICES

15. CT control transformer
   or
   CX control transmitter
   or
   Synchro repeater

16. TDX
   Torque differential transmitter
   or
   CDM
   Control differential transmitter

JP CONNECTORS

17. Socket contact
18. Pin contact
**Objective:** Post-test to determine which of the following abbreviations and symbols you know and which you still have to learn.

**Materials:** The following list of terms

**Procedure:** For each term below write the correct symbol. Hand in your post-test.

**Post-Test:**

<table>
<thead>
<tr>
<th>Term</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Semiconductors</strong></td>
<td></td>
</tr>
<tr>
<td>1. Controlled rectifier diode</td>
<td></td>
</tr>
<tr>
<td>2. Half-wave diode</td>
<td></td>
</tr>
<tr>
<td>3. Tunnel diode</td>
<td></td>
</tr>
<tr>
<td>4. Zener diode</td>
<td></td>
</tr>
<tr>
<td>5. Photo diode</td>
<td></td>
</tr>
<tr>
<td>6. Full-wave bridge rectifier</td>
<td></td>
</tr>
<tr>
<td>7. PNP transistor</td>
<td></td>
</tr>
<tr>
<td>8. NPN transistor</td>
<td></td>
</tr>
<tr>
<td>9. Unijunction transistor</td>
<td></td>
</tr>
<tr>
<td>10. Double anode zener diode</td>
<td></td>
</tr>
<tr>
<td><strong>Terminal Board</strong></td>
<td></td>
</tr>
<tr>
<td>11. THERMO-COUPLE</td>
<td></td>
</tr>
<tr>
<td>12. THERMOELEMENT</td>
<td></td>
</tr>
<tr>
<td>13. Directly heated</td>
<td></td>
</tr>
<tr>
<td>14. Indirectly heated</td>
<td></td>
</tr>
<tr>
<td><strong>Servo Control Devices</strong></td>
<td></td>
</tr>
<tr>
<td>15. CT control transformer</td>
<td></td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>CX control transmitter</td>
<td></td>
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<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>Synchro repeater</td>
<td></td>
</tr>
<tr>
<td>16. TCX torque differential transmitter</td>
<td></td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>CDX control differential transmitter</td>
<td></td>
</tr>
<tr>
<td><strong>J/P Connectors</strong></td>
<td></td>
</tr>
<tr>
<td>17. Socket contact</td>
<td></td>
</tr>
<tr>
<td>18. Pin contact</td>
<td></td>
</tr>
</tbody>
</table>
LETTER OF REQUEST

OBJECTIVE: To examine a sample letter of request and to evaluate it according to the following standards for writing any request letter.

MATERIALS: The following letter of request.

INFORMATION: Standards for writing a letter of request:

a. Be courteous. This holds for all letters. Make use of such words as please, appreciate, grateful.

b. State the request briefly but clearly.

c. Be sure that the request is not excessive or unjust. This check is especially necessary when you send letters asking for pamphlets and the like.

PROCEDURE: 1. Read the following letter.

2. Answer the questions at the end of the sheet.

SAMPLE REQUEST LETTER

12 Maple Drive
Palenville, New York 72130
April 4, 1970

Kennedy Bookstores, Incorporated
2 Pershing Square
New York, New York 7213

Gentlemen:

I have become very much interested in radio as a possible career. Before I decide definitely whether or not to go into the subject seriously, I should like to read a good introductory book on the subject.

Have you a book that meets the requirements? Naturally I do not want a highly technical book. If you have such an introductory book, please inform me as to the name, author, publisher, and price. A word or two about the book's contents would assist me greatly.

Very truly yours,

Edward Otis

QUESTIONS: 1. Check the letter against each of the three rules as stated above.

2. Does the writer disobey any of the rules?

3. If your answer is "yes," list which ones.
OBJECTIVE: To examine a sample letter of request and to evaluate it according to standards for writing any request letter.

MATERIAL: 1. The following letter of request and two additional letters of request from the file.

EXPLANATION:
1. Be courteous. This helps for all letters. Make use of such words as please, appreciate, grateful.
2. State the request briefly but clearly.
3. Be sure that the request is not excessive or unjust. This check is especially necessary when you send letters asking for pamphlets and the like.

PROCEDURE: 1. Read the following letter.
2. Answer the questions at the end of the sheet.
3. Follow steps 1 and 2 for each of the request letters from the file.
4. Answer questions at the bottom of the letter.

SAMPLE REQUEST LETTER

114 Oak Street
Scranton, Pennsylvania 18301
March 30, 1970

Pennsylvania State Conservation Dept.
Harrisburg, Pennsylvania 16145

Gentlemen:

I am going camping in the state forest this summer and I want information quickly. You have no right to charge campers for using public property, but if there are any fees or special requirements, let me know all about them.

I want all pamphlets and folders you may have. My vacation starts shortly, and I want a swift reply.

Yours truly,

Herbert Gordon

REVIEW: 1. Check the letter against the above rules. List the rules, if any, which the writer disregards.
2. On a standard sheet of typing paper rewrite the letter so that it complies with the rules.
OBJECTIVE: To write three letters of request.

MATERIALS: 
2. Pen

INFORMATION: 
1. Be courteous. Make use of such words as please, appreciate, grateful.
2. State the request briefly but clearly.
3. Be sure that the request is not excessive or unjust. This check is particularly necessary when you send letters asking for pamphlets and the like.

PROCEDURE: Write letters of request as follows:

1. To: American Motors
   Requesting: Information available to schools conducting mechanics training courses, furnished by American Motors.

2. To: General Motors Training Center, Tigard, Oregon
   Requesting: Possible visitation by students from the mechanics classes at West Linn High School.

3. To: Mr. Paul Koch, Volkswagen Dealer, Milwaukie, Oregon
   Requesting: Those things he believes most beneficial in training students to enter the automotive mechanics field in this area.

CORRESPONDENCE - Auto. High.
LETTER OF REQUEST
CORRESPONDENCE - Draft

LETTER OF REQUEST

Job Sheet 12

OBJECTIVE: To write three letters of request

MATERIAL: Information packet on business letters

Standard-size typing paper

INSTRUCTION: 1. Be courteous. Make use of such words as please, appreciate, that is.
2. State the request briefly but clearly.
3. Be sure that the request is not excessive or unjust. This check is particularly necessary when you send letters asking for pamphlets and the like.

PREPARATION: 1. Read the information packet on business letters.
2. Write letters of request as follows.
3. Obtain the addresses of the companies.

a. To: Cost Company
   Requesting: A complete specification and price quotation
   For drafting instruments you would want to use (list below).

b. To: Any drafting and engineering company
   Requesting: 4 days tour for thirty persons

c. To: Any engineering and drafting service company
   Requesting: Consultant or technician to give lecture to the class
OBJECTIVE: To write three letters of request

MATERIALS: Standard-size typing paper

Information packet on business letters

INSTRUCTION: 1. Be courteous. Make use of such words as please, appreciate, grateful.
2. State the request briefly but clearly.
3. Be sure that the request is not excessive or unjust. This is particularly necessary when you send letters asking for favors to end the like.

ACADEMY: 1. Read the information packet on business letters.
2. Find the addresses of the companies specified.
3. Write letters of request as follows:
   a. To: United Radio Supply in Portland, Oregon
      Requesting: Their catalog
   b. To: Allied
      Requesting: Their catalog
   c. To: Lafayette
      Requesting: Their catalog
OBJECTIVE: To write three letters of request.

MATERIALS: Information packet on business letters, standard-sized typing paper, pen.

PREPARATION: 1. Be courteous. Take note of such words as please, appreciate, petulant.
2. State the request briefly but clearly.
3. Be sure that the request is not too small or unjust. This check is particularly necessary when you send letters asking for pamphlets and the like.

PROCEDURE: 1. Read the information packet on business letters.
2. Obtain the addresses of the following companies or schools.
3. Write letters of request as follows:
   a. To: Tibtex, Inc.
      Requesting: Information available for vocational curriculum, requirements, and tuition costs.
   b. To: Machinist Local 63
      Requesting: Information and requirements for apprenticeship training.
   c. To: Clackamas Community College
      Requesting: Information available for vocational curriculum, requirements, and tuition costs.
To study a model of an order letter

From file obtain a sample order letter. Pen

INFORMATION: Standards for writing a good order letter

a. Be sure that your address is written correctly in the
   heading of your letter. Many times large companies receive
   letters with money enclosed, but with the wrong address or
   with no address to which to send the article. Angry letters
   follow because the article has not been received, but the
   fault lies with the sender.

b. All important details, such as size, color, type, etc., should
   be included. One person, in sending an order, asked for a pair
   of brown leather shoes, style 3511, price $9.75. Since he had
   omitted the size, time was lost on both sides.

c. Mention if possible where you saw the article advertised. If
   ordering from a catalog, mention the year or edition. Be sure
   that you have understood the original description of the article.

d. Enclose the correct amount of money in the form of a money
   order or check, or state that the merchandise is to be charged or sent
   COD.

e. Include information as to how and when you want the article
   shipped.

f. Remember that business form should be used throughout. Make
   your order letter businesslike.

PROCEDURES: 1. Read and study the letter.
               2. Answer the following questions:

               a. What important information does the writer of the letter include?
               b. What sentence could be omitted from the letter without elimin-
                  ating any necessary detail?
               c. What errors may be made by persons ordering merchandise by mail?

                 1.
                 2.
                 3.
                 4.
                 5.
Job Sheet #5

OBJECTIVE: To write three order letters.

MATERIALS: Standard-size typing paper, Pen

INFORMATION: Refer to standards for writing a good order letter, Correspondence Job Sheet #4

PROCEDURE: Write order letters as follows:

a. To: Mr. Harold Smith
   Industrial Sales
   Snap-On Tool Co.
   Route 1, Box 94D
   Clackamas, Oregon

   Ordering the following:
   An automotive tool catalog with price sheet

b. To: Clackamas Auto Parts
   Oregon City, Oregon

   Ordering the following:
   Parts for a 1965 Chevrolet 6-cylinder
   1. Cylinder head
   2. Six intake valves
   3. Six exhaust valves
   4. Camshaft bearings
   5. Six pistons .040 oversize
   6. One set, piston rings .040 oversize
   7. Oil pressure switch

   To: Lake Auto Parts
   Lake Oswego, Oregon

   Ordering the following:
   2. Differential carrier assembly for a Ford Fairlane, 1963 model
   3. Master cylinder repair kit for 1964 Fairlane with power brakes
   5. Friction ring set, 1960 six Rambler synchro-mesh transmission

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JOB SHEET #5

CORRESPONDENCE - Draft
ORDER LETTER

Objective: To write three order letters

Materials: Information packet on business letters
Standard size typing paper
Pen

Information: Refer to standards for writing a good order letter, Correspondence Job Sheet #4.

Procedure:
1. Read the information packet on business letters.
2. Write order letters as follows:
   a. To: Kawflel and Lasser Co.
      2674 Polson Street
      San Francisco, California 94110
      Ordering the following:
      1. Blueprinting machine
      2. Lettering pens
      3. Xerox machine
      (Specify catalog number, size, etc. for each.)
   b. To: Micropen Company
      Ordering the following:
      1. Complete drawing instruments for twenty draftsmen.
      (Specify catalog numbers and prices.)
   c. To: Brodmear Garrett
      161 Commerce Circle
      Sacramento, California 94115
      Ordering the following:
      1. Complete drafting furniture. Include correct specifications.
OBJEKTIVE: To write three order letters.

MATERIALS: Information packet on business letters
Standard size typing paper
Pen

INFORMATION: Refer to standards for writing a good order letter, Correspondence Job Sheet 34.

PROCEDURE: 1. Obtain the addresses of the following companies.
2. Write order letters as follows:
   a. To: United Radio Supply Inc.
      Ordering the following:
      1. 5 AC mounting with screw terminals, type f, 4-pole.
      2. Overload continuity checker
      3. Nussler alligator clips, conventional type, lot of 10
      4. Herit antenna matching transformer, impedance ratio 72/300
   b. To: United Radio
      Ordering the following:
      1. D.C. Amp meter, range 0-50 amps, 3½ inch case.
      2. CRT rejuvenator and checker, B & K
      3. Capacitor analyser, B & K
   c. To: Radio Shack
      Ordering the following:
      1. Molded audio cable phonotub to alligator clip
      2. Electronic project kit, "Super snooper kit"
      3. Walkie-talkie, 2-watt, 3-channel
      4. Stereo headset, HORA Pro
      5. Mobile CB transceiver, Mini-six
CORRESPONDENCE - Mat. Shr.
ORDER LETTER

Job Sheet #2

OBJECTIVE: To write three order letters.

MATERIALS: Information packet on business letters
Standard size typing paper
Pen

INFORMATION: Refer to standards for writing a good order letter, Correspondence
Job Sheet #1.

PROCEDURE: 1. Read information packet on business letters.
2. Obtain the addresses of the following companies.
3. Write order letters as follows:

a. To: South Bend

Ordering the following:

Replacement parts for horizontal drive headstock lathe (Model A)
List in three evenly spaced columns: A. item number
B. part number
C. part name

b. To: Clancy

Ordering the following:

Replacement parts for 10" lathe tailstock, all parts except
541-008, tailstock housing.
List in three evenly spaced columns: A. part number
B. part name

2. To: Tucker & Sons

Ordering the following:

1. 6 pairs of 8-inch pliers, combination
2. 12 10-inch mill smooth files
3. 12 10-inch round second cut
4. 96 taper, extra slim
5. Precision square number 541, 24 blade inches, 13 1/8 beam in.
6. Live center No. Morse Taper
7. Adjustable wrench, 8-inch chrome plated

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JOB SHEET #5

OBJECTIVE: To write three order letters.

MATERIALS: Information packet on business letters
Standard size typing paper
Pen

INFORMATION: Refer to standards for writing a good order letter, Correspondence Job Sheet #4.

PROCEDURE:
1. Obtain the addresses of the following companies.
2. Write order letters as follows:
   a. To: United Radio Supply Inc.
      Ordering the following:
      1. 5 AG mounting with screw terminals, type F, 4-pole.
      2. Eveready continuity checker
      3. Mueller alligator clips, conventional type, lots of 10
      4. Merit antenna matching transformers, impedance ratio 72/300
   b. To: United Radio
      Ordering the following:
      1. D.C. Amp meter, range 0-50 amps, 3 1/2 inch case.
      2. CRT rejuvenator and checker, B & K
      3. Capacitor analyser, B & K
   c. To: Radio Shack
      Ordering the following:
      1. Molded audio cable phonoplug to alligator clip
      2. Electronic project kits, "super snooper kit"
      3. Walkie-talkie, 3-watt, 3-channel
      4. Stereo headset, NORA Pro
      5. Mobile CB transceiver, Mini-six
Job Sheet #5

CORRESPONDENCE - Mat. Sh.
ORDER LETTER

OBJECTIVE: To write three order letters.

MATERIALS: Information packet on business letters
Standard size typing paper
Pen

INFORMATION: Refer to standards for writing a good order letter, Correspondence Job Sheet #4.

PROCEDURE: 1. Read information packet on business letters.
2. Obtain the addresses of the following companies.
3. Write order letters as follows:
   a. To: South Bend
      Ordering the following:
      Replacement parts for horizontal drive headstock 10K (Model A)
      List in three evenly spaced columns: A. item number
                                              B. part number
                                              C. part name
   b. To: Clauing
      Ordering the following:
      Replacement parts for 10" lathe tailstock, all parts except 31-006, tailstock housing.
      List in three evenly spaced columns: A. part number
                                             B. part name
   c. To: Tucker & Sons
      Ordering the following:
      1. 6 pairs of 8-inch pliers, combination
      2. 43 12-inch mill smooth files
      3. 72 12-inch round second cut
      4. 96 taper, extra slim
      5. Precision square number 541, 24 blade inches, 13 1/8 beam in.
      6. Live center Morse Taper
      7. Adjustable wrench, 8-inch chrome plated
CORRESPONDENCE  - Auto Mech.
Draft.
Elec.
M&L Sh.

CLAIM LETTER

Job Sheet #6

OBJECTIVE: To examine a sample claim letter and to evaluate it according to standards for writing any claim letter.

MATERIALS: The following claim letter and two additional claim letters from the file.

INFORMATION: 1. Be courteous. Assume the goodwill of the store or agency you are writing to.
2. Explain your claim justly and accurately. Have proof of your statement. Don't exaggerate. An inaccuracy is soon discovered, thus spoiling a legitimate complaint.
3. Request adjustment.

Since errors will be made by human beings and since merchandise will get broken in delivery, we should learn to write a sensible, intelligent letter requesting adjustment, not an angry, threatening letter that makes enemies.

PROCEDURE: 1. Read the following letter.
2. Answer the questions at the end of the sheet.

12 Maple Drive
Palenville, New York
April 20, 1970

Kennedy Bookstores, Inc.
2 Perching Square
New York, New York

Gentlemen:

I received in this morning's mail a package of books on radio. Unfortunately, one of these was not the book I ordered. Instead of The Amateur Radio Technician, you sent The Radio Amateur's Reference Book.

Since my interest is not advanced, I prefer the less technical book first mentioned. I am returning the Reference Book. Will you send the other to me as soon as you can?

Very truly yours,

Elwood Otis

QUESTIONS: 1. Was the tone of the above letter courteous, bitter, discourteous?
2. Was all essential information given? Support your opinion.
3. How did the writer ask for an adjustment?
4. What temptation should be resisted in all claim letters?
5. Will an angry letter be less likely to bring quick adjustment of your claim? Why?
OBJECTIVE: To evaluate two claim letters.

MATERIALS: 1. The following sample claim letters
2. Pen

INFORMATION: Criteria for a good claim letter:
   a. Be courteous. Assume the doog will of the store or agency you are writing to.
   b. Explain your claim justly and accurately. Have proof of your statement. Don't exaggerate. An inaccuracy is soon discovered, thus spoiling a legitimate complaint.
   c. Request adjustment.

PROCEDURE: 1. Read the following letters carefully.
2. Evaluate them according to the criteria for a good claim letter.
3. Answer the questions at the end of the sheet.

SAMPLE CLAIM LETTERS

17 Appleton Road
Concord, New Hampshire 03321
April 23, 1970

The Brown Store
17 Main Street
Concord, New Hampshire 03321

Gentlemen:

I cannot understand how a store of your size and supposed efficiency can be so inefficient in sending out orders. Yesterday at your store I ordered from a salesclerk a suitcase of yellow leather. I specifically mentioned yellow.

Today when your truck came and left the suitcase I found that you had sent out a brown one. You are putting me to considerable trouble writing this letter. It is trouble that could have been avoided if you had lived up to your name of efficiency. I shall expect to see your truck here tomorrow with a new yellow bag.

Yours truly,

Agatha Hansen
CORRESPONDENCE
CLAIM LETTER

A.T. Talbot and Company
47 Viburnum Avenue
San Francisco, California 65231

June 15, 1970

Gentlemen:

Yesterday I received by delivery truck a wooden filing cabinet ordered from you a week ago. When I uncrated the cabinet, I found the middle file to be defective. The base of this drawer is split, and one side is completely splintered.

I don't know whether the damage occurred in transit or at the factory, but since the drawer is not usable, I should like to have it exchanged. Since the rest of the cabinet is in good condition, it will be necessary to replace only the drawer. Will you send your truck with a replacement as soon as possible? I shall greatly appreciate your prompt action.

Yours truly,

Martha Jenson (Mrs.)

QUESTIONS: 1. Which of the two letters is the more courteous?
2. Which will receive the best service in the matter of adjustment?
3. Point out weak spots in the discourteous letter.
OBJECTIVE: To write three claim letters

MATERIALS: Information packet on business letters
Standard size typing paper
Pen

INFORMATION: Criteria for a good claim letter:
1. Be courteous. Assume the good will of the store or agency you are writing to.
2. Explain your claim justly and accurately. Have proof of your statement. Don't exaggerate. An inaccuracy is soon discovered, thus spoiling a legitimate complaint.
3. Request adjustment.

PROCEDURE: 1. Read the information packet on business letters.
2. Obtain addresses for the following companies.
3. Write claim letters as follows:
   a. To: Oregon Auto Insurance Co.
      Claim adjustment as follows:
      A reported accident to the company on January 1, 1979, was successfully handled and prompt attention was much appreciated.
   b. To: Sun Electric Corporation
      Claim Adjustment as follows:
      Have had unsatisfactory performance and excessive repair cost on a sun test equipment number 1020.
   c. To: Postmaster, West Linn
      Claim adjustment as follows:
      Letter requesting follow-up or investigation of correspondence not received from General Motors Corporation, Detroit, Michigan. Your personal contact with the company reveals correspondence was sent June 1, 1970.
OBJECTIVE: To write three claim letters


INSTRUCTION: Criteria for a good claim letter:
A. Be courteous. Assume the good will of the store or agency you are writing to.
B. Explain your claim justly and accurately. Have proof of your statement. Don’t exaggerate. An inaccuracy is soon discovered, thus spoiling a legitimate complaint.
C. Request adjustment.

PROCEDURE: 1. Obtain the addresses of the following companies.
2. Write claim letters as follows:

A. To: EICO Company
Claim adjustment as follows: VTVM broken on arrival from the company

B. To: Hickok Teaching Systems, Inc.
Claim adjustment as follows: Digital counter, volt meter Mac-735, has broken and there was a one-year warranty on it.

C. To: Heath Kit Company
Claim adjustment as follows: An oscilloscope you ordered was damaged enroute.
Objective: To practice filling out order forms accurately and completely

Materials: A list of items to be ordered. See below.
Catalog(s) from which to obtain the information necessary to order the correct item.
Order forms. Obtain from file.

Procedure:
1. Locate all items in list below in each of the four catalogs.
2. Make a note of order number, price, size, description, etc. of each item.
3. Obtain order blanks from file.
4. Fill in legibly and accurately all the information necessary to order the exact items you want. Order all the items four times—once from each of the four companies.
5. Turn in your four order blanks to teacher.

List of Items:
1. T-Square - 24 inch
2. Architect's Scale - 12 inch
3. Engineer's Scale - 12 inch
4. 30° by 60° Triangle - 12 inch
5. 45° by 45° Triangle - 12 inch
6. Pencil pointer with sandpaper
7. Drawing shield
8. Semi-circular protractor, .090 thick
9. Beam compass (complete set)
10. Drawing board - 13 inch by 24 inch
11. Drawing ink - 3/4 ounce
12. Dusting brush - 15/8 inches long
13. Drafting tape - 1/2 inch by 60 yards
14. Drawing pencils - one dozen

Catalog or Company:
3. Taero, Division of A & T Importers, Inc.
4. Dietzgen Drafting Equipment and Supply Company
Job Sheet #9

OBJECTIVE: To practice filling out order forms accurately and completely.

MATERIALS: A list of items to be ordered. See below
Catalog(s) from which to obtain the information necessary to order
the correct item
Order forms. Obtain from file.

PROCEDURE:
1. Locate items in each list below in appropriate catalog(s).
2. Make a note of order or catalog number, price, size, description,
etc. of each item.
3. Obtain order blanks from file.
4. Fill in legibly and accurately all the information necessary to
order the exact item you want.
5. Turn in your order blanks to teacher.

LISTS OF ITEMS:
1. Catalog or company: Graymark Enterprises Inc.
   2 - 510 five-tube radio projects
   1 - 517 Mini-wink project
   20 - 301 A crystal diodes
   1 - 307 AE capacitor set, 50 in package
   1 - 321 C rear seat speaker
   4 - 337 transformers

2. Catalog or company: Radio Shack catalog 191
   3 Bantamweight "B" batteries, 15 volts
   1 expert dual-heat soldering gun
   1 CTR-5 compact pushbutton recorder
   1 diamond needle - Ronette - DC-04
   1 lb. assorted solderless lugs

3. Catalog or company: Burstein-Applebee (BA) catalog #711
   10 Workman AMP fuses - 3 Kelly green, 1 yellow, 1 maroon, 1 pink,
   2 red, 2 black.
   1 in-circuit capacitor tester - a kit
   1 omnidirectional dynamic microphone, HK-112
   1 mobile ham antenna - super hustler resonator - 22-27 inches,
total length

303
OBJECTIVE: To practice filling out order forms accurately and completely.

MATERIALS: A list of items to be ordered. See below. Catalogs from which to obtain the information necessary to order the correct item.

PROCEDURE:
1. Locate items in each list below in appropriate catalog.
2. Make a note of order number, price, size, description, etc. of each item.
3. Obtain order from blanks from file.
4. Fill in legibly and accurately all the information necessary to order the exact item you want.
5. Turn in your order blanks to the teacher.
6. Return catalogs to the bookshelf.

LIST OF ITEMS:

1. Tucker & Sons Catalog:

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12 Industrial counter brushes (9&quot;)</td>
</tr>
<tr>
<td></td>
<td>12 File cards with pick and brush</td>
</tr>
<tr>
<td></td>
<td>3 Machinist frames</td>
</tr>
<tr>
<td></td>
<td>1 Wire grip wrenches</td>
</tr>
<tr>
<td></td>
<td>1 Hex log kit</td>
</tr>
<tr>
<td>154-156</td>
<td>1 Small hole gauge</td>
</tr>
<tr>
<td></td>
<td>3 five centers</td>
</tr>
<tr>
<td>200</td>
<td>6 Single pick-up tongs</td>
</tr>
<tr>
<td>204</td>
<td>6 Flat jaw gage tongs</td>
</tr>
</tbody>
</table>

2. Midwest Shop-Supplies Catalog:

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>195</td>
<td>1 Jacobs commutator chuck kit</td>
</tr>
<tr>
<td>10 . 0</td>
<td>1 Center post 10&quot; Lathe</td>
</tr>
<tr>
<td>607</td>
<td>1 Bench grinder</td>
</tr>
<tr>
<td>906.62</td>
<td>1 3/8&quot; Industrial drill</td>
</tr>
<tr>
<td>9-415</td>
<td>12 Weld Master welding helmets</td>
</tr>
<tr>
<td>Model A7</td>
<td>1 Metal cutting band saw</td>
</tr>
</tbody>
</table>

3. Woodhead-Carrttt Catalog:

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>175</td>
<td>6 Steel protractors</td>
</tr>
<tr>
<td>209</td>
<td>6 Micrometer gauge 9 leaves</td>
</tr>
<tr>
<td>301</td>
<td>12 Super junior clamps, 3&quot; opening</td>
</tr>
<tr>
<td>6-5</td>
<td>1 Die two helical flutes, single end</td>
</tr>
<tr>
<td>403</td>
<td>1 M. H. Dia. 3/8&quot; chuck die, 12/16&quot; length</td>
</tr>
<tr>
<td>291</td>
<td>6 Protractor and depth gauge</td>
</tr>
<tr>
<td>377</td>
<td>4 Center gauge</td>
</tr>
<tr>
<td>675-69</td>
<td>6 Dividers 6&quot;</td>
</tr>
<tr>
<td>310</td>
<td>12 Stiff stainless steel rules</td>
</tr>
</tbody>
</table>

304
OBJECTIVE: To develop skills in communicating through brief, clear, and precise note writing.

In the machinist trade, note writing is most necessary when oral communication isn’t possible. For example, a machinist on swing shift (4 to midnight) leaves a job for a day machinist (6 a.m.–4 p.m.) to finish.

Information on what has been done and what is yet to be done must be accurate, neat, and precise. A misunderstanding may result in a spoiled job.

PROBLEM: You are working swing shift (4 to midnight). Your job is not completed, and the day shift will have to finish it. You must write a note giving all the necessary information on what you have completed and what is left to finish.

JOB: You are given three 1" x 3" x 30' lengths of bar stock.

Operations:

a. Saw 1" x 3" x 3" pieces (see sketch) 200 quantity.
b. Deburr all sharp edges with a file.
c. Drill 2" dia. hole approx. center of 3" x 3" surface.
d. File and polish 2 sides. See sketch.

You have completed on your shift:

a. Sawing 200 pieces.
b. You have drilled 100.
c. You have filed 3 sides on 35.

Note 1 - In a note, explain to the day shift what needs to be done to finish the job.

Note 2 - In another note, explain what you completed. (Remember to be as brief as possible and yet understandable in your message.)
OBJECTIVE: To find out what you know about the world of work.

MATERIALS: This job sheet
The answer key in the file

PROCEDURE:
1. This job sheet is organized so that the questions will test how carefully you have read the material. All information is to be found in this job sheet.
2. Read carefully, then answer the questions.
3. Obtain the answer key from the file and correct your own work.
4. Indicate the number wrong on top of the job sheet.
5. Hand in when completed and corrected.

EXPLORING THE WORLD OF WORK

The song tells us that, "It's a big, wide, wonderful world we live." Let's find out more about it. What jobs are available in this wonderful world? Before selecting your career, learn something about the world of work. Know what occupations are available. Find out about these different jobs. Answer the following to determine how much you know about occupations.

1. Because it is impossible to look at the thousands of different jobs, we shall look at major job groups. Sometimes they are called occupational families. As in a human family, all jobs in the group are related in some way. That is, all jobs in the group

   _________ are alike
   _________ have some features in common
   _________ both
   _________ neither

2. Industry employs all kinds of workers. There are those without skills. They are called:

   _________ industrial help
   _________ unskilled workers
   _________ both
   _________ neither

3. Usually unskilled workers are laborers. They may work inside or outside. Their work may involve heavy physical labor, or it may consist of light work indoors. Which of these might a laborer or unskilled worker do?
Your first job may be in the unskilled group. With occupational planning, you can advance. The next group in our occupational family is the semiskilled worker.

4. With training, many unskilled workers move up to SEMISKILLED JOBS. Semiskilled workers work with their hands. Their work is usually routine. It calls for a limited amount of training. Often this is in the form of on-the-job training. They are given brief instructions and told exactly what to do. Under supervision they go through the same motions over and over. The requirements for unskilled and semiskilled workers are different because:

- Unskilled workers need little or no education and training.
- Semiskilled workers need a limited amount of on-the-job training.
- Both
- Neither

5. Semiskilled workers hold jobs in almost every major industry. The majority of these workers are found in the manufacturing industries. Other workers in this class are truck, bus, and taxi drivers. George drives a long-distance moving van for a large moving company. George should be classified as a(n):

- Unskilled worker
- Skilled worker
- Both
- Neither

6. There will be thousands of job opportunities in the semiskilled occupations during the 1970's. There will be greater need for workers, however, in the skilled and technical fields. Spend a bit more time and effort. Get training beyond the semiskilled stage. Advance to the next level as a ________ worker.

7. SKILLED workers are craftsmen who earn a living by making things with their hands. Many are employed in the mechanical and building trades. All of our tall buildings, machines, dams and bridges were built by the efforts of various ________ craftsmen.

- Unskilled
- Semiskilled
- Both
- Neither
3. When you are a skilled worker, you'll have greater job security. There'll be better chances for advancement. You may become self-employed. Your wages will be higher than those of the semiskilled and unskilled. Name two advantages of being a skilled rather than an unskilled worker.

1. ________________
2. ________________

9. There are good opportunities for skilled workers in every one of the fifty states. The general employment outlook in the skilled occupations is very favorable. The greatest opportunities are in the large industrial states. Examples are New York, California, Pennsylvania, Illinois, Ohio and Michigan.

________________ any of the states.
________________ only in the large industrial states.
________________ only in New York, California, and Ohio.

10. A large number of craftsmen belong to smaller groups. Among these are bakers who produce products such as bread, cakes, and pies. Jewelers are skilled workers. They make and repair jewelry of all sorts. Tailors also are skilled workmen. They do hand and machine sewing in making clothes. Each of these craftsmen uses his hands to make things. It is most important that the skilled worker have:

________________ verbal skills
________________ a good personality
________________ both
________________ neither

11. Name three families of workers that have been discussed so far.

(1) ___________________
(2) ___________________
(3) ___________________

12. Complete these sentences.

Unskilled work offers (few, many) chances for advancement.

Semiskilled workers work at (routine tasks, new and different tasks) each day.

There will be more need in the future for

________________ unskilled workers
________________ skilled workers
________________ both
________________ neither
13. Match the following jobs with the job family.
   a. ______ digging a ditch 1. skilled
   b. ______ driving a truck 2. semiskilled
   c. ______ making a suit of clothes 3. unskilled
   d. ______ welding a fender

14. Those who work in the service occupations are grouped together because they all serve the public in some way. The services which they provide vary. Therefore, the amount and kind of training required varies. One thing which all workers in service occupations have in common is:
   ______ serving the public.
   ______ different qualifications.
   ______ same job title.

15. Depending upon where and how they serve, those who work in service occupations may be divided into four groups. These are (1) domestic service workers, (2) protective service workers, (3) personal service workers, and (4) business and industrial service workers. The largest group in the service occupations is the domestic service workers.

   (1) ______________________
   (2) ______________________
   (3) ______________________

16. Over 750,000 civilian workers are responsible for the protection of public life and property. These are the protective service workers. If you would like to enter this field of work, there are strict personal and physical requirements. The educational requirements vary with the specific position. Protective service workers:
   ______ protect public property and lives.
   ______ protect personal and physical property
   ______ both
   ______ neither

17. There are three large subgroups of protective service workers. The largest of these is guards and watchmen. The second largest is made up of policemen and detectives. Firemen are in the third subgroup. These three subgroups make up more than 90% of all protective service workers.

18. Industry spends over one billion dollars a year for workers to look after its property and trade secrets. This work is done by:
Job Sheet #1

______ firemen
______ guards and watchmen
______ both
______ neither

19. Not much special training is required if you want to be a watchman or a guard; most police departments require that applicants be able to pass certain examinations. You must meet certain physical, mental, and educational requirements. From the advertisement below, list one mental, one physical, and one educational requirement.

POLICEMEN WANTED
Starting salary $9,010
1. Age 21-29 years
2. Min. height 5'8"
3. Min. weight 145 lb.
5. Pass written test
6. 20/20 vision corrected
7. Physically fit
8. Good moral character
9. H.S. diploma/ or G.E.D. or prior experience

(1) Mental requirement ________
(2) Physical requirement ________
(3) Educational requirement ________

20. The third group under the heading of service occupations is the personal service workers. These workers do something personal for the people for whom they work. Which one of these workers is a personal service worker?

______ a barber
______ a taxi driver

21. The remaining group of service workers are engaged in the business and industrial service occupations. Among these workers are bellboys, busboys, cooks and chefs, elevator operators, and janitors. Which one of the following workers does not belong with this group?

______ a bellboy
______ a hatcheck girl
______ a chef
______ a policeman

22. As a rule, clerical workers work in clean, well-ventilated offices. Their clothing at the end of the day is as clean as it was when they went to work in the morning. Many of the men wear white shirts. This group of workers has come to be known as "white-collar"
workers. The skilled and semiskilled workers are often called blue-collar workers. (If you want to look nice on the job you would like being a:

- white-collar worker
- blue-collar worker
- both
- neither

23. Clerical workers should have a high school education. Some training in business courses is needed. If you're good in arithmetic, spelling, and grammar, so much the better. Knowing how to operate some of the different office machines will help you get a job. Planning to be a clerical worker? You must have:

- a good basic education
- a degree from a business college
- both
- neither

24. Salespeople require less training than most other white-collar workers. Is your appearance clean and neat? Do you speak well? Can you persuade customers to buy what you are selling? If your answer is "yes" to these questions, you:

- will not need a great deal of training
- will find that the field of selling offers many different opportunities
- both
- neither

25. The farm worker is being replaced by machinery. By 1975, only one out of every ten youths will be able to get a good job in farm production work. Farmers are using more modern methods. The student who plans to go into farm work must:

- know how to run the equipment used on a modern farm.
- choose from many farm jobs.
- both
- neither

26. Many of the occupations in the technical, managerial, and professional groups call for a college degree. There are some exceptions. See if you are interested in these exceptions.
27. There are two basic types of professions: (1) Those which require a great deal of formal education. Doctors, lawyers, and teachers are examples of this type. (2) Those which do not call for as much knowledge. They require creative talent and skill. Examples of such workers are actors, athletes, artists, or musicians. Which of the following would require a college education?

- doctor
- artist

28. Match the following Job Titles to the name of the Job Family to which each belongs:

<table>
<thead>
<tr>
<th>Job Titles</th>
<th>Job Families</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpenter</td>
<td>1. Unskilled workers</td>
</tr>
<tr>
<td>Ditchdigger</td>
<td>2. Semiskilled workers</td>
</tr>
<tr>
<td>Teacher</td>
<td>3. Skilled workers</td>
</tr>
<tr>
<td>Farmer</td>
<td>4. Service workers</td>
</tr>
<tr>
<td>Salesman</td>
<td>5. Clerical workers</td>
</tr>
<tr>
<td>Typist</td>
<td>6. Sales workers</td>
</tr>
<tr>
<td>Waiter</td>
<td>7. Professional workers</td>
</tr>
<tr>
<td>Fireman</td>
<td>8. Farm workers</td>
</tr>
<tr>
<td>Bus Driver</td>
<td></td>
</tr>
</tbody>
</table>

29. In January, 1966, less than 4 percent of all people looking for work were unemployed. This is the lowest rate of unemployment in 9 years. A report from Washington, D.C. says that the number of unemployed will continue to drop. What does this mean to you? Soon you will enter the labor market. If you are capable, your chances of finding a job are:

- good and getting better
- good right now but expected to get worse
- neither

30. The job picture for the youth of today is bright. But you must be prepared. Learn a skill which employers need. Get a good basic education. Education and training are the keys to a better life. You can have your chance to earn good wages, have steady employment and be happy in your work. You are now at the crossroad. START NOW IN THE RIGHT DIRECTION!

JOB EXPLORATION

Job Sheet #2
(Each student will do three of these)

OBJECTIVE: To obtain specific information about a specific vocational area.

MATERIALS: Vocational Area Bibliography
Available materials in library and study center: books, pamphlets, tapes, filmstrips and tapes, filmstrips and records

PROCEDURE: 1. Go to the file and obtain the Vocational Area Bibliography.
2. Decide on one job area that you wish to investigate.
3. Note where the materials you want are located and obtain a hall pass.
4. Research the job area thoroughly; sometimes it will be necessary to go to more than one source for all the information you want.
5. INSTRUCTIONS FOR THE LIBRARY:
   a. From the reserve shelf choose several books that deal with the vocational area you are investigating.
   b. Read the questions below.
   c. Overview each of the books or pamphlets you have chosen; decide on those which will best give you the information you want. Return those you are not going to use to the desk.
   d. Using the index and table of contents, preview chapters in the books or pamphlets that look like they might give you the information you need.
   e. Once you have found the exact information you are looking for, read the material carefully and answer the questions below.
   f. Return all books to the reserve desk.

INSTRUCTIONS FOR THE STUDY CENTER:
   a. If you want printed material ask the secretary to direct you to the Vocational Pamphlet file and other pamphlets which are available.
   b. If you wish to view a filmstrip ask the secretary to help you find the one of your choice and assist you in setting up the filmstrip projector and record player or cassette.
   c. Read the questions below before you start viewing the filmstrip.
   d. View the filmstrip and record your answers. (Note: Sometimes it might be helpful to view the filmstrip more than once. The first time to get the general overview; the second time to obtain specific information.
   e. Return all materials to the secretary.

QUESTIONS: 1. Choose one specific job to investigate thoroughly and answer the following questions:
   a. Give the title of the specific job:
   b. List all possible places of employment. (Example: private industry, county, state or federal agencies, self-employment, etc.)
c. Does the job involve:
   (1) Working with people and/or animals? Yes No
   (2) Working with concepts and ideas? Yes No
   (3) Working with machines and objects? Yes No

d. What are the educational requirements for this job? List all.
e. What special qualifications are necessary for this job?
   (Mental abilities, physical abilities, special skills, etc.)

f. Find the following information about earnings:
   (1) Expected beginning salary. By the hour? _______
       Per year? _______
   (2) What is the possible maximum salary? By the hour? _______
       Per year? _______

g. How many hours per week would you expect to work in this job?

h. Are there any health hazards involved in this job? _______
   If so, what are they?

i. Is the competition for this job
   None Very little Increasing
   Very great In other words, how crowded is this vocational area?

j. List the possibilities for advancement in terms of
   (1) Responsibilities –
   (2) Wages or salary–

k. What, if any, are the seasonal variations which affect this job?

l. What are the fringe benefits to this job?

m. What you have learned about this specific vocational area?
   State your personal feelings about it as a future vocation for yourself. List the pros and cons.
OBJECTIVE: To learn how to obtain a work permit.

MATERIALS: Obtain from the file an application form for a work permit. Information packet on work permits. ("The Work Permit, Your Job and the Bureau of Labor")

PROCEDURE:
1. Read the brochure: "The Work Permit..., Your Job..., And the Bureau of Labor."
2. If you already have your work permit, you have completed this job sheet. Hand it in.
3. If you do not have a work permit, obtain an application from the file, and fill it out accurately and legibly.
4. Show the completed form, together with this job sheet, to your instructor for an OK.
5. NOTE: If you do not have a copy of your birth certificate, write a letter requesting one. You will find the address in the file.
6. Obtain an envelope from the instructor and mail your application for your work permit.
FINDING & GETTING A JOB — Ag.
Draft.
Elec.
Met. Sh.

SOCIAL SECURITY NUMBER

Job Sheet #4

OBJECTIVE: To learn how to obtain a Social Security Number.

MATERIALS: Obtain from the file an application blank for a Social Security Number.

INFORMATION: Before you can hold a job, you must get a Social Security card.

What is Social Security?

When you work, you must pay about five cents out of every dollar to the government. Your employer takes this money out of your pay check. He also pays the government about five cents for every dollar you earn. So for every dollar you earn, about ten cents goes to the government. The government uses this money to help you in several ways.

1. When you retire from work, you get money to live on. The age of retirement for women is 62. For men, it is 65.
2. If a man dies before his wife, she gets money to live on.
3. Suppose you get sick or hurt while working. You get money until you are well enough to work again.
4. After you are 65, part of your doctor bills are paid for. This is called Medicare.

It is easy to get a Social Security card. Obtain an application form for a Social Security number. After you fill it in, mail it to the Social Security office nearest you. This address can be obtained from the phone book. You then will be sent a Social Security card with your number on it. This will be your number for the rest of your life. If you lose your card, you can get another one. But it's a good idea to keep your card in a safe place. Carry it only when you go for a job.

PROCEDURE:
1. Read the above INFORMATION section.
2. If you have your Social Security number, write it and your name in the spaces below.
3. You have completed this job sheet. Hand it in.
4. If you do not have your Social Security number, obtain a form from the file and fill it out accurately and legibly.
5. Show the completed form together with this job sheet to your instructor for an OK.
6. Obtain an envelope from the instructor and mail the application to the Social Security office nearest you.

NAME ____________________________

SOCIAL SECURITY# __________________

3/16/3/22
LETTER OF APPLICATION

Job Sheet #5

(NOTE: THIS JOB SHEET IS TO BE DONE AFTER COMPLETING CHAPTER 4 IN THE TEXT AND BEFORE BEGINNING CHAPTER 5.)

OBJECTIVE: To examine two sample letters of application to find out the information a good letter of application should contain.

MATERIAL: Sheet entitled "In the Boss's Shoes"

PROCEDURE: 1. Do this job sheet before you begin Chapter 5 in your text, "How to Write a Letter of Application".
2. Obtain the sheet "In the Boss's Shoes" from the file.
3. Read carefully the sample letters of application.
4. Answer the questions according to the directions.
5. Hand in the completed job sheet.
6. Begin Chapter 5 in your text.
Draft.
Elec.
Met. Sh.

APPLICATION FORMS

Job Sheet #6

(NOTE: EACH STUDENT MUST DO THREE OF THESE AFTER COMPLETING CHAPTER 6 IN THE TEXT.)

OBJECTIVE: To practice completing job application forms with accuracy and legibility.

MATERIALS: In the file are application forms from the following companies:
1. Fred Meyer
2. Pendleton Woolen Mills
3. Tektronix
4. Pacific Northwest Bell
5. Crown Zellerbach Corporation
6. Spokane, Portland and Seattle Railway
7. Meier & Frank Co.
9. Pacific Power and Foundry Co. - Renton Division
10. American Can Company
11. Earle M. Jorgensen Co.
12. State of Oregon Civil Service

PROCEDURE:
1. Choose three of the above application blanks.
2. Using pen complete each application form accurately and legibly. Remember that this application form represents you to the employer before he even sees you.
3. If you have questions, refer to Chapter 6 "Give Your Application Blank Sales Appeal" in your text.
4. When you have completed the application form, recheck to make sure you have answered all the questions.
5. Hand in three completed application forms.
APPRENTICESHIP TRAINING

Job Sheet #1

OBJECTIVE: To gain general information about apprenticeship training.

MATERIALS: Pamphlet: "Some Questions & Answers About Apprenticeship Training".

PROCEDURE:
1. Obtain the assigned pamphlet from the file.
2. How many trades and crafts are apprenticeable in Oregon?

QUESTIONS:
1. What is an apprenticeship?
2. How many trades and crafts are apprenticeable in Oregon?
3. What is the average time wait for an apprenticeship opening after a person applies?
4. State the opportunities for advancement beyond being a journeyman.
5. How would it be possible to become a journeyman without serving an apprenticeship?
6. How much education must an individual have to qualify for an apprentice program?
7. What trades do not require a high school diploma in order to enter their apprenticeship program?
8. Name the courses a high school student should take to prepare for an apprenticeship.
9. What are the age limits for an apprentice?
10. Of what value is high school vocational training in obtaining an apprenticeship?
11. Could a person who had served time in prison qualify for an apprenticeship?
12. How long a time does an apprentice serve in training?
13. In addition to working on the job, what other training does an apprentice receive?
14. What wages can an apprentice expect to receive?
15. What expenses does the apprentice have?
16. How can an apprentice keep from losing his apprenticeship in the event he is drafted?
FINDING & GETTING A JOB

APPRENTICESHIP TRAINING

Job Sheet #3

OBJECTIVE: To gain information about a specific apprenticeship training program.

MATERIALS: Apprenticeship Information Center Bulletins, available in the file and in the study center.

PROCEDURE: 1. Obtain a pass to the study center.
2. Ask the secretary to direct you to Apprenticeship Information Center (AIC) Bulletins.
3. Answer the following questions.

QUESTIONS: 1. List all the vocational areas you can find in which one can go through apprenticeship training.
   a. 
   b. 
   c. 
   d. 
   e. 
   f. 
   g. 
   h. 
   i. 
   j. 

2. Choose one of the above apprenticeship programs to investigate thoroughly, and answer the following:
   a. Name of program.
   b. What kind of work do workers in this program do?
   c. How are applicants chosen to become apprentices in this program?
   d. List the minimum basic requirements for this apprenticeship in terms of
      (1) Age
      (2) Health
      (3) Education
      (4) Tests
      (5) References
   e. How long is the apprenticeship?
   f. What wages will the apprentice be paid?
   g. What wages could the apprentice expect to receive when he became a journeyman?
   h. Give the address where one would go to apply for this apprenticeship program.
**OBJECTIVE:** To assess the main points presented by a film or a guest speaker.

**MATERIALS:** This job sheet to be turned in for each film or speaker.

**PROCEDURE:**
1. Read the questions below before viewing a film or hearing a speaker.
2. Listen attentively to the presentation.
3. Answer the questions below.

**QUESTIONS:**
1. State the title of the film or the name of the speaker:

2. List the three most important points you feel the film or the speaker made:
   a. 
   b. 
   c. 

3. State two items of information about Finding and Getting a Job that you learned from this presentation which you did not know before:
   a. 
   b. 

4. Write a statement telling how the information given by the film or speaker could be valuable to you personally.
BIBLIOGRAPHY OF MATERIALS
USED IN
VOCATIONAL ENGLISH PROGRAM
AUTO MECHANICS BIBLIOGRAPHY

BOOKS

Motors Flat Rate & Parts Manual.

PAMPHLETS & PERIODICALS

Alemite's Recommended Training Procedure for Wheel Alignment.
Autolite, Spark Plug 1964 Dealer Catalog.
Machinist, The. published by International Assoc. of Machinist and Aerospace Workers
"20,000 Volts Under the Hood." Delco-Remy, Anderson, Indiana.
"Questions and Answers on Apprenticeship Training"
DRAFTING BIBLIOGRAPHY

BOOKS


PERIODICALS

Engineer, Engineers Joint Council, New York, New York.

"Questions and Answers on Apprenticeship Training", U.S. Dept. of Labor

"Western Architect and Engineer."
ELECTRONICS BIBLIOGRAPHY

BOOKS


Dictionary of Electronic Terms, The.


G.C. Electronics Catalog.


Cavallari, P.D. The Transistor-Study Guide No. 5.

PERIODICALS & PAMPHLETS

Electronics Digest. Wm. M. Palmer, Editor and Publisher, 2615 West 7th Str., Fort Worth, Texas 76107.


Lafayette Radio Electronics.

Radio Shack Annual Catalog.

"Some Questions and Answers on Apprenticeship Training" pub. by State of Oregon, Employment Division, Salem, Oregon.
METAL SHOP BIBLIOGRAPHY

BOOKS


American Steel Catalog.


Giachino, J. Basic Bench Metal Practice. Bennett, 1943.


DoAll Cutting Tools Catalog. #66.


Smith. Machining of Metals.


Johnson, H.V. Technical Metals.

Tucker & Sons Catalog, 1970.
VOCATIONAL ADVISORY COMMITTEE MEETINGS

PERTAINING TO VOCATIONAL-ENGLISH
METAL SHOP BIBLIOGRAPHY

PERIODICALS & PAMPHLETS

**AFL-CIO NEWS.** 315 Sixteenth Street, N.W. Washington, D.C.

**The Federationist.** Official monthly magazine of the AFL-CIO, Washington, D.C.

**The Machinist.** Published by International Assoc. of Machinists & Aerospace Workers.

**Steel Facts.** Published Public Relations Dept., American Iron Steel Institute, Washington, D.C.

"Some Questions & Answers About Apprenticeship Training." Published by State of Oregon, Employment Division, Salem, Oregon
VOCATIONAL-ENGLISH EVALUATION PROCEDURE

Evaluation in this class will operate just as it does on the job. On-the-job evaluation is usually of three parts: Productivity, Work Habits, and Attendance Record. These areas will be defined in Vocational-English as follows:

A. Attendance . . . . . 1 pt. per day

B. Productivity . . . . 1 pt. for each Job Sheet satisfactorily completed.

C. Work Habits:
   1. Be in class on time with proper equipment . . . . 1 pt. per day
   2. Begin work immediately; work until bell . . . . 1 pt. per day
   3. No disruptive behavior . . . . . . . . . 1 pt. per day
   4. Return all materials . . . . . . . . . 1 pt. per day

You will earn points daily in these six areas. Each day you will evaluate your own class performance on the form below, giving yourself 1 point in each area in which you have earned it. You will be using the honor system in tallying points; however, should you violate it, points will be deleted by the teacher and deducted in the final grade evaluation.

In order to earn a point for a job sheet, it must be satisfactorily completed with an OK from the teacher and be filed in your folder for the 9-weeks evaluation, at that time the number of job sheet points must correspond with the number of OK'd job sheets in your folder.

In addition, it will be possible to earn BONUS POINTS for perfect attendance (5 points for 3-weeks perfect attendance) and for assisting in the classroom operation. See posted Job Descriptions for details.

Be sure to take the last five minutes of each period to return materials and to evaluate your daily performance. Remember, you are responsible for keeping your own records!
ELECTRONICS ADVISORY COMM.
April 5, 1971

NOTES:

1. Students should explore the different fields of electronics so they know the specific one they wish to enter. "There are a lot of unhappy technicians around who are not in the job they want to be in, because they didn't investigate the field."

How to do this?

a. Speakers from employment agencies
b. Visit Bell System — they have an open house periodically
c. Visit General Telephone
d. Not feasible for students to spend a day at any of the companies represented here — insurance and other factors against it.

2. Correspondence skills:

a. IMPORTANT!
b. Comments: "One of the world's greatest aptitudes is to be able to sit down and write a letter."

"When I was in school I learned two forms for a letter — slanted and block — but I never knew what to write in either form."

"Password to success — work hard; be courteous; do good work, and be able to write a letter."

c. It is a necessary skill in the business world to be able to organize one's thoughts and put them on paper.
d. Teach them to write technically. Memos are used constantly — students should be taught how to write them.

3. Reading skills:

a. In the technical field, knowing where to look for information and how to find it increasingly important.
b. Scanning important for retrieving information when you want it.
c. Example: Telephone technician said that 23 loose-leaf binders came with his new truck, and he had to be able to find information in them quickly in order to use his equipment properly.

4. Technical terminology:

a. In industry they just use abbreviations. The worker has to know! There is no shortcut for simply memorizing them.

5. Getting and finding a job — the text for this area looked good to them.

6. Suggestions: 1. Have seniors write a resume at beginning of senior year and again at the end.

2. Include in the course skills in taking notes and in how to keep a notebook.
NOTES:

1. Correspondence skills:
   a. Letter writing not necessary skill. Foreman would not write letters.
   b. Memos — most used form of written communication in shop.
      (1) Form of Memo: To:
           From:
           Subject:
      (2) Information on memo should be clear and concise. Would often include a sketch or machine drawing.
         (a) Possible to work up job sheet with hypothetical situations that would necessitate writing memo.
         (b) Memo from Day Shift to Night Shift — must be written so message is understood. Possible job sheet.
            Example: 2 key ways in a shaft, halfway completed. Day shift writes a note explaining what has been done and where job should be picked up.

2. Technical terminology:
   a. Good. Need to have in order to read blueprints.
   b. Some shops don't use it. Every shop that has own draftsman has own terminology.
   c. Are there any standardized abbreviations? Yes. Army and Navy have their own. Set up own standards. Military specifications.
   d. Symbols — more important than abbreviations. Make up job sheet so students learn symbols.

3. Reference skills:
   a. Always important to look things up. Be thorough. Double check everything.
   b. Possible references to use for job sheets:
      (1) Wolfe (from Ford Motor Co.). "How to Run a Milling"...
      (2) Kearney & Treager (sp?) "Milling Machining Operation"
      (3) Write to factories in South Bend for pamphlets.

4. Getting a job:
   a. Text looks OK.
   b. Important to learn how to sell self.
   c. Know how to speak to an employer properly.
   d. Important to follow the direction on an application. Employer judges applicant on this. "If he can't follow instructions on an application, he can't follow instructions on the job."
   e. Unions — Students should be exposed to unions and what they do.
(1) Speaker from local union. (Mr. Simenson suggested one and he would help contact when we need one.)

(2) Machinist Paper – Have students read. Perhaps work up Job Sheet using it.

f. Students must decide whether they want a job on the line or in business for themselves.

(1) Metal trades a wide field. Student expected to know a little bit about all of it.

5. Suggestions:
   a. Spelling – plain and simple. Important to know!
   b. Job sheet – write up a comparison of two tools. Give opinion of each in plain English. (This type of writing often part of the job.)
   c. Learn how to read calibers, how to set up a part and lay it out.
   d. Mathematics is really important!!
AUTO MECHANICS ADVISORY COMM.
May 19, 1971

NOTES:

1. Reading:
   a. Just like a doctor or a lawyer, a mechanic can not remember everything. Therefore it is important to read to keep up in field. Skills of skimming and scanning excellent for this purpose.
   (1) Auto becoming more complex all the time.
   (2) Technical bulletins come in twice a week.

2. Spelling
   a. "Spelling is as important as knowing how to use the wrench!"
   b. Records go up to the boss; embarrassing, if not correct.
   c. Written material must be legible if passing on to a boss.

3. Jobs
   a. Attitude is really important. Employee must be willing to begin at the bottom. Stress this.
   b. There is a demand for mechanics - a place where you start and a career that you work into.
   c. Get through to students how many craftsmen make money.
   d. Students would be aware that the union exists and the importance of it.
   (1) Obtain union information regarding benefits, wages, etc. from the Labor Temple.

4. Habits on the job:
   a. Cleaning up is important. Be sure students put away materials and leave room clean when class is over!

5. Suggested job sheets:
   a. Write a summary of a job performed.
   b. Write a warranty repair.
   (1) Student writes a description of the failure and what he did to repair it.
NOTES:

1. **Reading:**
   a. Scanning is important.
      (1) Scan first; then go back for technical information.
   b. "No such thing as a draftsman; he's part engineer."
   c. Introduce students to broad spectrum of kinds of reference materials available.
      (1) Technical magazines - have students preview.
      (2) The biggest problem in industry is the mass of material available; no one can possibly keep up.
      (3) Write a letter to secretaries of Society of Mechanical Engineers and Society of Electrical Engineers to get back issues of their periodicals.
      (4) Devote 1 period a week to overviewing a magazine.
      (5) Trade journals should be in the room - as many as possible.
   d. Read specifications and contracts.

2. **Technical terminology:**
   a. "The language of drafting is the big thing."
   b. Important to know engineering terms and materials.
   c. Stress work with words.

3. **Writing:**
      (1) What is it? Why is it good?
      (2) Write a report, a survey report, which analyzes a problem by putting it on paper. Give a qualified opinion of the problem.
   b. "Fog Index" - a measure of how clearly one writes. (Mr. Woodworth will loan his copy).
   c. Letter writing - important!

4. **Speaking**
   a. Spoken language is important. Advancement comes by demonstration of ability - can't be tongue-tied!
   b. Suggested activities:
      (1) Have a dictaphone available; each student talk in one.
      (2) Chalk talk. Each student make an explanation, using a piece of chalk to illustrate.
      (3) Give each student one word and have him talk one minute on it.

5. **Reference**
   a. Highly important!
      (1) From the time they get out of school draftsmen need to know how to find reference material. No more memorizing; he has to know where to find information.
      (2) Only a small part of the engineering exam (a 2-day test) is a closed book. Called "the suitcase test."
      (3) It's a true test if the individual can use the reference material available to him.
Summary of Various Parents Critiques

1. Did you notice any change in his attitude toward writing, reading, or English last fall term?
   .. first English class he's had that was directly related to his interests.
   .. reads more magazines now than before.
   .. more knowledgeable about filling out forms.
   .. attitude more positive; he liked the class.
   .. was boring at first, but later enjoyed the reading and writing.
   .. no change because it was taken for vocational credit.

2. Does he feel differently now about language arts instruction than before? (positive or negative)
   .. he was positive before, and still is.
   .. can't see that he does.
   .. yes, he knows more about machinery and their parts.
   .. yes.
   .. more positive; he feels better prepared for shop classes to come.
   .. yes.

3. Did he like the individualized job sheets? Why?
   .. liked the individual job sheets very much.
   .. yes; it gave him a chance to get a work permit, which he is using.
   .. yes, because he thought they'd help him fill out applications to find a job.
   .. yes, but he thought there were too many.
   .. yes; he felt they covered what was important for the students to know.
   .. yes; they taught you just what you needed to know.

4. Any other comments or pertinent information.
   .. continue the program; write another semester of it; expand it into other subjects.
   .. have more field trips.
   .. only English class he has ever liked; one of his two best high school classes.
   .. excellent class; class should be continued because it does involve understandings necessary to effectively compete in the field.
   .. he liked the class very much; it was a useful class.
EVALUATION
by
OUT-OF-DISTRICT TEAM
May 10, 1972

Evaluation Report

for

DEVELOPMENT OF COMMUNICATION SKILLS

PROGRAM FOR VOCATIONAL STUDENTS

West Linn High School  West Linn Oregon  97068
Dr. Alvin K. Pfahl, Director

Evaluation Committee:

Warren Rathbun, Area III Portland Public Schools, 1221 S. E. Madison Street,
Portland, OR  97214.

Lee Maxwell, Gardiner Jr. High, 180 Ethel Street, Oregon City, OR  97045.

Harry R. Burnham, Whitaker Middle School, 5135 N. E. Columbia Blvd., Portland,
OR  97218.

The committee reviewed the project with Dr. Pfahl, Project Director, Mrs.
Schuberg, English teacher, who did the teaching of the classes involved in the
project. The committee was impressed by the enthusiasm Mrs. Schuberg displayed
for the project and the feeling that she had that the students were responding to
this type of instruction with much more interest and enthusiasm than they had in
the conventional English classes she had taught.

The original project for the school year 1970-71 saw the development of a
fairly large number of job sheets for the English classes. These were written
by the English teachers and the Industrial teachers in the areas of Metals, Me-
chanics, Drafting and Electricity-Electronics. This project was funded by Dis-
trict funds.
The exemplary project 1971-72 was for the purpose of reviewing the original job sheets and adding many more. It was also anticipated that job sheets developed by Northwest Regional Educational Laboratory be adapted to use at West Linn. This latter part was found to be not practical and that part of the project was discarded. Some of the original job sheets were revised and many more were written so there is now a total of 287 useable job sheets available. These are by areas as follows: Metals 89, Mechanics 94, Drafting 88, and Electricity-Electronics 116. This total was somewhat short of the planned total of two hundred for each area, but should be adequate for a semester's course.

The revision of the original job sheets was partly as a result of review of them by an Industry Advisory Committee for each occupation during the Spring of 1971. Also the revisions were a result of experience in use of the originals. The Evaluation Committee did not see all the job sheets but did see a sampling for each occupational area.

A review of the specific objectives of the project are as follows:

Objective #1: Have all existing job sheets reviewed by the respective industry advisory committee to ascertain their occupational relevance.

The original job sheets were reviewed by the Advisory Committees during the Spring of 1971 and the rewriting was a partial result of this. The Advisory Committee involvement was also good public relations as it resulted in the committee members becoming more interested in the problems of the school and voluntarily supplying materials that were of use to the school.

The new job sheets have not been reviewed by the Advisory Committee but it is anticipated that they will do so this fall. It is the feeling of the Evaluation Committee that this should be pursued as the expertise of the industry representatives should be very useful and the public relations resulting can also be valuable.
Objective #2: Re-edit the existing job sheets, revising and extending industrial content.

The existing job sheets were re-edited and revised and extended as a result of the Advisory Committee's report and also as a result of the experience with using the job sheets.

Objective #3: Bibliographical materials of content will be updated and corrected.

Bibliographical materials have been updated partly as a result of the Advisory Committee's suggestions. It seems apparent that a complete listing of materials need to be made, especially as this would be useful for anyone else wanting to develop a similar program.

Objective #4: New Job Sheets will be added.

New job sheets have been developed. No breakdown was given the Committee as to how many of the job sheets now in existence are new and how many were previously developed.

Objective #5: Improve differentiation of category 4 (terminology, symbols, etc.) and category 5 (job hunting skills.)

The Committee never really came to an understanding of what was intended here. Mrs. Schuberg stated that the students were not as interested in the job hunting part of the English course as they were in the other parts of it. There apparently was a lot of student interest in the other categories.

A set of the job sheets will be appended to this report by the project director.

Recommendations of the Evaluation Committee

1. The Evaluation committee feels that this project fulfills a real need. It helps to make English a much more relevant subject to the vocational student for which it is designed. As a result of this the Committee feels that this
program should be continued and expanded.

2. This is a program that is transportable to other schools or should be with modifications to fit local needs. There are a number of schools in Portland Area III that are interested in this area/communication between these schools should be of advantage to both.

3. It was the feeling of the committee that a program similar to this should be established relating Mathematics with the Shop programs. If West Linn is not interested or able to do this some other school should study what they have done here in the communication skills and institute a similar program in Mathematics. Possibly a similar program could also involve Science and the Shop program.

4. It was also the feeling of the Committee that many of the elements of this program could be integrated into a regular English class to make it more relevant to today's needs.

signed

Harry R. Burnham
Warren Rathburn
Lee Maxwell

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