ABSTRACT

This curriculum guide provides materials for nine courses taught in the readiness program for students 15 years of age and over who are not benefiting from education in regular educational settings. (The program is intended to identify a suitable occupational field in which students can succeed and to develop their social and emotional readiness and behavior to function successfully in all occupational training programs.) Introductory materials include the program's basic philosophy, objectives, criteria for entrance into the Occupational Readiness Center, and course descriptions. Outlines follow for each course that combine academic instruction with student experience in a "live work" situation. Courses cover these trade/occupational clusters: metal trades, automotive trades, building trades (masonry/carpentry), building trades (electrician/plumber), building maintenance, horticulture/floriculture occupations, food trades, cosmetology/personal grooming, and health/personal service occupations. The courses are divided into units corresponding to specific job titles and occupations. Each unit presents this information: job title, job duties, working conditions, job requirements, job conditions, basic skills and knowledge, job practice, academic demands, additional job information, and evaluation. A unit outline details learning goals; learning activities; tools, equipment, and supplies; new terminology; math; and text, workbook, and other supplies. Some student information forms are appended. (YLB)
Occupational Readiness Center

BOARD OF COOPERATIVE EDUCATIONAL SERVICES
Putnam/Northern Westchester Education Center
Yorktown Heights, New York 10598 • (914) 245-2700

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V. GENERAL PROGRAM INFORMATION
BASIC PHILOSOPHY

All individuals are entitled to an education according to their abilities. The student who may not be benefiting from education in regular educational settings, should not be excluded, but has equal rights to achieve to the limit of his or her abilities.

The procedure and organization of his education experiences must be adapted to his competencies and needs. His or her education must begin at his level of academic, social and emotional experiences, and progress at a pace adapted to the individual. During this process of education, the individual must be helped to accept the reality of his ability level. Therefore, this education does stress social and academic skills within the occupational areas. These are the areas in which he or she may achieve success if given individualized instruction in concrete situations that can be both observed and experienced. The individual is directed at this time towards an occupational decision that is practical and realistic.

Upon leaving the school environment, the student will find it necessary to live and compete in a complex society. Thus it is deemed necessary that the school attempt to help the individual understand himself as a person and as a member of society.

With this guidance, it is hoped that the student may gain self-respect and may make the best possible adjustment in the community in which he or she lives and works.
EDUCATIONAL OBJECTIVES

I. GENERAL OBJECTIVE
   To provide information and experiences leading to a logical selection of specific occupational training.

II. SPECIFIC OBJECTIVES
   a. To continue to orientate student to the concept of work and its physical, social and emotional implications.
   b. To explore with student the training and employment opportunities in the various occupational areas.
   c. To discover occupational potentialities and interests.
   d. To provide realistic occupational experiences for the purpose of student - teacher evaluation of the student.
   e. To develop readiness for specific occupational training.
   f. To promote academic motivation through occupational exploration.
CRITERIA FOR ENTRANCE INTO O.R.C.

A candidate should:

1. Be 15 years of age and have a maturity level which would indicate probable success in the program.
2. Have had some orientation toward work.
3. Have a level of coordination which would indicate probable success in the program.
4. Have an acceptable attendance record.
5. Exhibit behavior patterns and a stability which would indicate probable success in the program.
6. Have shown ability to work independently.
7. Be able to understand and accept directions.
8. Exhibited safe work habits.
The program has two basic goals: the identification of a suitable occupational field in which students can be successful and enjoy, and the development of the students' social and emotional readiness and behavior that will enable them to function successfully in a future occupational training program. These goals are accomplished by having the students participate in a variety of occupations by experiencing them in "live work" situations, and by providing academic instruction related to each occupation.

(COURSE DESCRIPTIONS)

METAL TRADES  
Course Code 985 & 995  
YORKTOWN

Metal working, machining occupations, and drafting are covered. Included are sheetmetal worker, general machine operator, machinist apprentice, welder and electromechanical repair worker. Related academics cover vocabulary, language arts, applied math and science. Students operate various machines, use hand and power tools, perform drafting and welding experiences, and become aware of and practice the safety requirements needed in this field.

AUTOMOTIVE TRADES  
Course Code 985 & 995  
YORKTOWN

The automotive trades occupations are experienced. Included are auto mechanic, lubrication and tire specialist, service station mechanic, small engine mechanic and auto body worker. Related academics cover vocabulary, safety, language arts, applied math and science. Students practice and work on non-operating cars using hand and power tools, testing equipment, practice on engines, and perform selected projects.

BUILDING TRADES  
Masonry/Carpentry  
Course Code 986  
FOX MEADOW

The various construction trades are covered, such as bricklayer, carpenter, sheetrock, blocklayer, taper, roofer and painter. Related academics include vocabulary, language arts, related math and science. Students build various models and mock structures, moving from one trade to the next using appropriate hand and power tools. Safety as it relates to this industry is an integral part of a youngster's instructional program.

BUILDING TRADES  
Electrician/Plumber  
Course Code 985 & 995  
YORKTOWN

The various construction trades are experienced, such as plumber, electrician, plumber's helper and electrician's helper. Related academics include vocabulary, language arts, related math and science. Students build various models and mock structures, moving from one trade to the next using appropriate hand and power tools. Safety as it relates to this industry is an integral part of a youngster's instructional program.

BUILDING MAINTENANCE  
Course Code 995  
YORKTOWN

Building maintenance and custodial occupations are experienced. Included are industrial/commercial maintenance worker and custodians. Related academics are covered and (continued on reverse side)
students operate the many pieces of hand and power equipment used in this field.

HORTICULTURE/FLORICULTURE OCCUPATIONS  Course Code 985 & 995  YORKTOWN

Several floriculture/horticultural occupations are covered, including nursery worker and helper, landscape gardener and helper, greenhouse worker, horticulturist and floricul-turnist. Related academics include language arts, related math and science. Students plant, propagate floral and ornamental plants, and perform small construction projects, laboring jobs, and operate small equipment, hand and power tools.

FOOD TRADES  Course Code 980 & 990  YORKTOWN

Various occupations in the quantity food preparation and service field are covered, including chef, cook, baker, cafeteria worker, kitchen helper, waiter and waitress. Related academics include communication skills, related math and science. The students perform all aspects of this work including the preparation and service of food in a miniature cafeteria-restaurant.

COSMETOLOGY/PERSONAL GROOMING  Course Code 985 & 990  YORKTOWN

Cosmetology occupations are covered. They are manicurist, hair dresser/beautician. Students will perform various aspects of this work and emphasis will be placed on personal grooming, hair and skin care, shampooing and hair setting. Related academics include communication skills, related math and science concepts. Personal grooming experiences will be provided for selected students in need of pre-occupational preparation.

HEALTH/PERSONAL SERVICE OCCUPATIONS  Course Code 980 & 990  YORKTOWN

Several Health/Personal Services and Child Care Occupations will be included. Occupations to be experienced are orderly, ward clerk, nurse's aide, private household worker, day care center aide and other related occupations. Academics include science, math and related communication skills. Personal Service Occupations will be provided for selected students who would benefit from an exposure to motel/hotel housekeeping areas.
Dr. John Battles, District Superintendent
Dr. Daniel Koble, Director, Occupational Education

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METAL TRADES
COURSE: METAL TRADES

UNITs:

First Quarter
- General Machine Operator
- Drill Press Operator
- Lathe Operator
- Machinist Apprentice
- Electro-Mechanical Repairman (Appliances)
- Small Engine Repairman
- Welder (Electric and Gas)
- Draftsman (Mechanical)
- Ironworker

Second Quarter
- Same as First Quarter

Third Quarter
- Same as First Quarter

Fourth Quarter
- Same as First Quarter
I. JOB TITLE: General Machine Operator

II. JOB DUTIES:

To place rough metal stock in a machine tool and follow the direction of a skilled set-up man
Make minor adjustments to keep the tool operating
Follow blueprints
Use measuring tools for checking accuracy of operation
Select lubrication for operation

III. WORKING CONDITIONS:

Paid hourly on incentive rates
Must wear safety equipment.
Usually in a factory type production setup
Must work at an operating machine where oil, metal chips and some lubricating fumes are evident
Noise factor is considerable

IV. JOB REQUIREMENTS:

Background in general machine operation to include the following:
- Metal identification
- Metal characteristics
- Cutting principles
- Precision measuring-micrometer and vernier

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:

Must understand basic machine tool operation to operate more complicated production machines
Must understand the following: measurement, cutting principles, electric motor controls, lubrication, speeds and feeds

VII. JOB PRACTICE:

Shop and laboratory experience

VIII. ACADEMIC DEMANDS:

Reading: Must be able to read instructions, blueprints, manuals and handbooks
Math: Must be able to make precision measurements
- Must understand decimals
Verbal: Must know machine tool operation nomenclature to communicate with supervisor or setup man
Written: Must be able to make out production reports, time sheets and job estimates

ADDITIONAL JOB INFORMATION:

1) Disadvantages: The introduction of new more sophisticated production machines will limit the number employed in this area
Other factors such as new processes might offset this

2) Advantages: Able to be employed without extensive training
Can be a semi-skilled operator in a few weeks or after a short training period
Incentive pay enables worker to work harder and earn more

3) Training opportunities: On the Job-Vocational School

IX. EVALUATION: As determined by teachers
**COURSE:** Metal Trades  
**OCCUPATION:** General Machine Operator

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<th>TEXT, WORKBOOKS, OTHER SUPPLIES</th>
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</table>
| ... To learn all safety procedures to be followed as a General Machine Operator ... | ... Practice Safety ... Using metal lathe, shaper drill press and grinder to begin introduction to machine tool operation ... Layout of initial project-machineist hammer. Figure stock and begin turning from 1"-4" steel stock: ... Develop a plan for a hammer ... Comparison of pictures of characteristic sparks and matching of these with written fill-in notes identifying their corresponding types of metal ... Practice "dry runs" through job procedures-working drawing, job plan, bill of materials, choosing stock, etc. ... Practice looking up materials in catalogs and filling out order blanks and correctly making out arithmetic sections of order blanks ... Handling metals in the class each of which is characterized by features such as tensile strength and then describing them on mimeo fill out outline notes and on the chalk board ... Vocabulary: Spelling, usage and comprehension of related terminology ... Math: Basic measurement and drafting skills reviewed and reinforced ... Science: Basics of electricity and physics in relation to machine | Machine Lathe Shaper  
Drill Press Grinders  
a) Tool Post  
b) Tool bit  
All lathe accessories  
a) Chucks  
b) Boring tools  
c) Tool bits  
All bench tools needed  
a) Ball peen hammer  
b) Files  
c) Vises  
d) Wrenches  
e) Scratch awl  
f) Center punch  
g) Prick punch  
h) Cold chisels  
i) Aviation snips  
| | | Machine tool  
Lathe operation  
Cylindrical  
Drilling  
Boring  
Cutting speed  
Longitudinal Feed  
Cross feed  
Lathe chuck  
Chucking  
Tool bits  
Tool holder  
Grinding  
Facing  
Centerdrilling  
Lathe centers  
Aligmed  
Lathe dog  
Reaming  
Kurling  
Steady rest  
Threading  
Micrometer  
Tensile  
Strength  
Conductibility  
Ductility  
Hardness  
Hardenability  
Elasticity  
Machinability  
Brittleness  
Toughness  
Corrosion resistance  |
| ... | ... | ... | ... | ... | ... |

**FILMS**  
Safety in the Ship:  
Basic Practice - 13 min.  
BOCES Library  
Metal Ship Safety - 13 min.  
BOCES Library  
Saga of Safety Same - 12 min.  
BOCES Library  
Draina of Metal Forming - 28 min.  
BOCES Library  
Aluminium: Metal of Faces  
Department of the Interior, Bureau of Mines  
Silver  
Department of Interior, Bureau of Mines

**FIELD TRIPS**  
Hudson Wire Works  
Ossining, New York  
Phelps Doge Mfg. Division - Yonkers, New York

Teacher Made Materials
**COURSE:** Metal Trades

**OCCUPATION:** General Machine Operator

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<tr>
<td>operation</td>
<td>Occupation: Discuss the job and its requirements, opportunities and accessibility</td>
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</tbody>
</table>
I. JOB TITLE: Drill Press Operator

II. JOB DUTIES:
- Selects drills and adjusts speeds for production work
- Measures position of holes to be drilled
- Sharpens drills for operation
- Reads prints to insure accuracy of work

III. WORKING CONDITIONS:
- Works in coordination with production personnel usually standing and operating automatic feed, or performing manual operations
- Works in a well-lit and clean surroundings where noise is not a severe problem
- Size of machine could vary where heavy and light loads must be processed

IV. JOB REQUIREMENTS:
- Background in machine operations
- Blueprint reading
- Knowledge of metals
- Understanding heat treatment of metals

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Use of basic machine tools
- Sharpening of drills
- Understanding of heat treatment
- Knowledge of abrasives
- Measurement and blueprint reading

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: Must be able to read basic instructions for production
- Must be able to read technical information on how to operate and maintain the machine he is operating
- Math: Must be able to measure with a micrometer inside and outside
- Must be able to understand speed formulas for various kinds of metals and drills
- Must be able to lay out angles and distances with reasonable accuracy
- Verbal: Must understand the nomenclature of the machine and be able to communicate this to other workers and his supervisor
- Written: Must be able to fill in work records, keep time sheets and process any other reports such as accidents, etc.

ADDITIONAL JOB INFORMATION:
1) Disadvantages: The repeating of a similar operation many times might seem to be a difficult task
   Standing at the machine for long periods

2) Advantages: Employment is found in a wide range of industries
   The job can be learned in a few weeks
   Comfortable inside working conditions

3) Training opportunities: On the Job-Vocational Schools

IX. EVALUATION: As determined by teachers
## Learning Goals

- To learn all the safety rules and precautions when working in the ship at the drill press.
- Eye safety
- Clothing
- Cleaning
- To learn the function of a metal cutting drill and to be able to sharpen drill
- To understand cutting speeds for all metals
- To understand aspect of metal hardness (Brinell Hardness Test, etc.)
- To be able to accomplish drill press operation layout procedures
- To be able to follow blueprints for production to .001"

## Learning Activities

- Practice Safety
- Hammer
- Drill metal for boy interest projects such as Go Carts, Mini bikes, Small machine tools, etc.
- Drill metal for general maintenance projects
- Teacher-student projects
- Math: Review principles in addition, subtraction, multiplication, and division of fractions and decimals
- English: Comprehension of new terminology, its usage, spelling, etc.
- Science: Discuss principles of electricity and physics which relate to drill press operations
- Occupational: Drill Press Operator

## Tools, Equipment, Supplies

- Drill presses
- All drill sizes from one-sixteenth to one-half
- 29 drills fractional sizes
- Layout tools such as Dividers
- Surface gauge
- Surface table
- Combination square
- Center punch set
- Chisel set
- Counter link
- Special chuck and keys
  a) Universal
  b) Jacobs
- Assorted metal for fabrication sheet, plate, rod, Angle and square
- Arbor press
- Chuck jaw
- Chuck key
- Carbon steel
- Drill
- Drill Chuck
- Drill shank
- Drill gauge
- Drill sleeve
- Drill press
- Spindle
- Drill socket
- Drill stand
- Drilling
- Flat drill
- Tapered shank
- Straight shank
- Straight fluted drill
- Body clearance
- Continue to emphasize fractions and decimal understanding and importance
- Stress procedure

## New Terminology

- Arbor press
- Chuck jaw
- Chuck key
- Carbon steel
- Drill
- Drill Chuck
- Drill shank
- Drill gauge
- Drill sleeve
- Drill press
- Spindle
- Drill socket
- Drill stand
- Drilling
- Flat drill
- Tapered shank
- Straight shank
- Straight fluted drill
- Body clearance
- Continue to emphasize fractions and decimal understanding and importance
- Stress procedure

## Text Workbooks

- Basic Mathematics
- Practical Problems in Mathematics
- Occupational Dictionary
- Technical Metals
- Technical Metals Workbook
- Occupational Outlook Handbook
- Occupational Dictionary
- Basic Mathematics
- Practical Problems in Mathematics

## Other Supplies

- Free Film
- Handouts of diagrams
- Drill Press
- Teacher made materials
- Metal Occ.
- Technical Metals
- Technical Metals Workbook
- Hudson Wire Works
- Ossining, New York
I. JOB TITLE: Lathe Operator

II. JOB DUTIES:

Tends one or more previously set-up lathes to perform repetitive operations
Operations include turning, boring, threading, facing
Operates machine to feed tools to workpiece and engages automatic feed
Verifies conformity of machined work to specifications using fixed gauges, calipers and micrometers
Changes worn tools and may change machine speeds, feed rates and depth of cut
May work with nonmetallic materials

III. WORKING CONDITIONS:

Works in a factory with many other operators doing the same job
Machine tool operators are paid hourly or incentive rates
Must wear protective glasses when operating machine tools
Most machine shops are relatively clean and well-lighted
Machine work is not strenuous but the operator must stand all day

IV. JOB REQUIREMENTS:

Background in machine operations, blueprint reading, working knowledge of the properties of metals
Good vision and superior depth perception

V. JOB CONDITIONS:

Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:

Use of hand and machine tools
Blueprint reading
Precision measurement
Science of the properties of metals

VII. JOB PRACTICES:

Shop and laboratory experience

VIII. ACADEMIC DEMANDS:

Reading: Must be able to read operations sheets, blueprints
May be required to read manuals and handbooks
Math: Precision measurement, addition and subtraction of dimensions and angles
Interpret blueprints
May be required to use formulas to compute machine speed, feed, depth of cut
Verbal: Must be familiar with machine tool nomenclature in order to communicate with fellow workers and supervisor
Written: Must be able to fill out time sheets
May have to complete job estimates

ADDITIONAL JOB INFORMATION:

1) Disadvantages: Employment of workers doesn't expand as fast as demand due to the increasing productivity brought on by automation

2) Advantages: Employment in a wide range of industries

3) Training opportunities: On the Job Apprenticeship programs
Vocational Schools

IX. EVALUATION: As determined by teachers
**LEARNING GOALS**

- Understand safety procedures when operating the metal lathe.
- To operate the metal lathe and produce a simple machine project (See blue print).
- To perform, set up and maintain operations such as drilling, centering, facing, polishing and to use the micrometers.
- To understand machine lathe nomenclature.
- To have an understanding of metal cutting principles.
- To know straight turning between centers and with use of chucks.
- To know knurling, facing, shoulder cuts and polishing.
- To follow and understand a simple machine drawing.
- To know general machine operation.

**LEARNING ACTIVITIES**

- Practice Safety
- To understand machine lathe nomenclature
- To have an understanding of metal cutting principles
- To know straight turning between centers and with use of chucks.
- To know knurling, facing, shoulder cuts and polishing.
- To follow and understand a simple machine drawing.
- To know general machine operation.

**TOOLS, EQUIPMENT, SUPPLIES**

- South Bend Lathe
- 10" with assorted 20 tool equipment
- Tool post grinder
- Measuring tools
- Calipers
- Micrometers-inside and outside
- Assorted hand tools
- Box end wrenches
- Open end wrenches
- Files
- Plastic hammer
- Pilars
- Oil for lubrication
- Abrasive papers
- 7" pedestal grinder and assorted tool bit set

**NEW TERMINOLOGY**

- Micrometer decimal place
- Inside micrometer
- Depth micrometer
- Thimble
- Sleeve
- Spindle
- Ten-thousandth micrometer

**MATH**

- Addition: .600" + .050" + .031" = .781"
- .900" + .075" + .0114" = .9864"
- Set micrometer to: .001", .003", .060", .339", .881", .999", .772", .3914"
- 1.649" 2.112" 2.677"
- Whole numbers, Fractions, Decimals, Cutting speeds

**VOCABULARY**

- Alignment
- Back gear lever
- Boring bar
- Boring tool
- Centerdrilling
- Chalk mark
- Chuck wrench
- Chuck
- Carriage
- Clamp dog
- Compound rest
- Countershaft
- Dead center
- Faceplate
- Facing
- Feed
- Gib
- Handwheel
- Headstock
- Knurling
- Lathe dog
- Lathe tool
- RPM

**TEXT, WORKBOOKS OTHER SUPPLIES**

- I Think 19 minutes
- BOCES Library
- The Turning Point 33 Minutes
- Free Film
- The Tools and Rules for Precision
- Measuring - 39 Minutes
- Shop Procedures - 17 Minutes
- Hudson Wire works
- Yonkers, New York
- Phelps Dodge
- Ossining, New York
- Teacher made materials
- Metalwork Technology and practices
- Metal work Technology and Practices Workbook
- Basic Math simplified
- Practical Problems in Mathematics; Machine Trades
### COURSE: Metal Trades

**OCCUPATION:** Lathe Operator

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<td>Spindle hold</td>
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<td>Straight tool holder</td>
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<td>Tool list</td>
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**NO. 3**

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I. JOB TITLE: Machinist Apprentice

II. JOB DUTIES:
- Engage in a learning program that would include many machine operations
- Perform the cleanup of various machines
- Assist the experienced personnel in setting up machine operations
- Carry out the routine maintenance of the machine shop
- Conduct some of the basic production work that is not too complicated

III. WORKING CONDITIONS:
- Similar to factory work where machines are operated in large rooms with other machines
- Hands get soiled
- Standing at machines while in operation
- Lifting some heavy work and some moving of very heavy equipment

IV. JOB REQUIREMENTS:
- Must understand all basic math, geometry and some algebra
- Must understand the science of machines, both mechanical and electrical
- Must be able to read well to understand the operation of new and sophisticated machinery
- Must have good vision and physical ability

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Must have a proven skill and ability in machine tool operation and the academic knowledge to engage in the learning program

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: Must be able to read and understand operation sheets, job sheets, manuals and other technical instructions as required
- Math: All Basic math
- Precision measurement, tolerances, gauges, and the use of formulae and charts
- Verbal: Must be able to relate to the more experienced personnel by use of machine nomenclature, etc.
- Written: Must perform all the basic record keeping for maintenance and manufacture
  - Be able to take notes from instruction and write instructions for other workers
  - Requires a substantial vocabulary of machine and technical terms

ADDITIONAL JOB INFORMATION:
1) Disadvantages: The time required to become a master machinist is long and the skill is substantial. The pay is not high and work depends upon production demands

2) Advantages: The work is not repetitive and allows for much inventiveness and special work. Job mobility should be good
- Can advance to other technical jobs in machine programming and tooling
- Can open own shop and subcontract

3) Training opportunities:

IX. EVALUATION: As determined by teachers
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<td>Disassemble, inspect, and repair various kinds of machines...</td>
<td>Grinding (Tool post) Tool Grinding...</td>
<td>Free Film Grinding Wheel Safety 20 Minutes Free Film Grinding Wheel 10 Minutes Free Film How to Select the Right Grinding Wheel 30 Minutes Free Film Modern Heat Treating Methods 15 Minutes Free Film Metal Band Saw 30 Minutes Tomorrow's Abrasive Tools Today 22 Minutes Free Film Your Job 13 Minutes BOCES Library</td>
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<td>Plan and produce repaired and new parts for maintenance...</td>
<td>Drilling Facing...</td>
<td>Free Film Heat Treating Methods 15 Minutes Free Film Metal Band Saw 30 Minutes Tomorrow's Abrasive Tools Today 22 Minutes Free Film Your Job 13 Minutes BOCES Library</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clothing and cleaning safety...</td>
<td>Operate such machines as necessary for the above...</td>
<td>Straight turning between centers to .001&quot;...</td>
<td>Continue fractions stressing multiplication of fractions Discuss fraction conversion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To understand the basic nomenclature of the small metal lathe and to be able to operate for the following:...</td>
<td>To make a small machinist hammer...</td>
<td>Machinist lathe Drilling Facing Grinding...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The understand the basic nomenclature of the small metal lathe and to be able to operate for the following:...</td>
<td>To heat treat a small machine part such as a punch...</td>
<td>Machine lathe Shaper Grinder...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To repair, replace and maintain small machine devices for boy interest projects...</td>
<td>To repair, replace and maintain small machine devices for boy interest projects...</td>
<td>Stud welding...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math: Continue work with fractions, decimals, and measurement...</td>
<td>Math: Continue work with fractions, decimals, and measurement...</td>
<td>Stud welding...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science: Review basics in electricity and physics related to machine operation...</td>
<td>Science: Review basics in electricity and physics related to machine operation...</td>
<td>Stud welding...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English: Vocabulary, spelling, grammar and usage...</td>
<td>English: Vocabulary, spelling, grammar and usage...</td>
<td>Stud welding...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupation: Discuss occupation in detail...</td>
<td>Occupation: Discuss occupation in detail...</td>
<td>Stud welding...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOOLS, EQUIPMENT, SUPPLIES:**

- Machine lathe
- Shaper
- Grinder
- Metal Punch
- Shears-straight
- Shears-Beverly
- Hohfoss Bender
- Brake
- Forming Rolls
- Power hack saw
- Band Saw
- All assorted hand tools such as chisels, hammers, punches, pliers, micrometers, gauges
- Small South Bend machine lathes with all accessories
- 1 tool post grinder
- Micrometers outside 1", 2", 3\(\frac{3}{4}\), 4"
- Micrometer inside 1" to 5"
- Calipers
- Box and open end wrench set
- Threading tools 8-32 to 1"
- 3/4" tool bits
- 1" Round Stock iron machine
- 1" Round Stock iron machine
- 1" Round stock heat treatable
- Lathe
- Grinder
- Milling machine
- Shaper
- Drill press
- Grinding wheel
- Chuck
- Twist Drill
- Squaring shears
- Bar Brake
- Forming Roll
- Rivets
- Pop Rivet
- Bolts
- Screws
- Nuts
- Washers
- Fender
- Beverly Shears
- Metal Punch
- Power Hack Saw
- Cold Chisel
- Hammers
- Pliers
- Micrometers
- Gauge
- Hack saw
- Warding file
- Mill file
- Flat file
- Hand file
- Pillar file
- Square file
- Round file
- Half round file
- Three square file
- Knife file

**NEW TERMINOLOGY:**

- MATH
  - Continue fractions stressing multiplication of fractions
  - Discuss fraction conversion

**TEXT, WORKBOOKS:**


**OTHER SUPPLIES:**

- I Am 14 Minutes BOCES Library
- Grinding Wheel Safety 20 Minutes Free Film
- How to Select the Right Grinding Wheel 30 Minutes Free Film
- Modern Heat Treating Methods 15 Minutes Free Film
- Tomorrow's Abrasive Tools Today 22 Minutes Free Film
- Your Job 13 Minutes BOCES Library
## Learning Goals

<table>
<thead>
<tr>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT, SUPPLIES</th>
<th>NEW TERMINOLOGY MATH</th>
<th>TEXT, WORKBOOKS OTHER SUPPLIES</th>
</tr>
</thead>
</table>

**LEARNING ACTIVITIES**

**TOOLS, EQUIPMENT, SUPPLIES**

**NEW TERMINOLOGY MATH**

**TEXT, WORKBOOKS OTHER SUPPLIES**

- **FILM LOOPS**
  - The All-around Machinist Encyclopedia British Vocational Series

- **FIELD TRIPS**
  - Emery Mine
  - Croton, New York
  - Phelps Dodge
  - Yonkers, New York

- Teacher Made Materials
Trade: Metal

I. JOB TITLE: Electro-Mechanical Repairman (Appliance Repairman)

II. JOB DUTIES:
   To disassemble electrical machinery
   Inspect it and decide the course of action for repair
   To repair electrical machinery and place it back into operation
   To perform the routine preventive maintenance functions

III. WORKING CONDITIONS:
   In a shop where tools and repair equipment are available
   On the job where disassembly and installation take place
   This would include working in some difficult places such as underground passages and on tall buildings
   and, at times, in adverse weather

IV. JOB REQUIREMENTS:
   Must be mechanically inclined
   Must have a basic talent for understanding electrical theory
   Mathematics for electrical theory

V. JOB CONDITIONS:
   Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
   To know how most basic machines operate to include pumps, winches, hydraulics, moving devices, fans,
   etc.
   To understand basic electricity and control as related to the above mentioned machinery
   Must be able to diagnose machine problems and make a maintenance decision

VII. JOB PRACTICE:
   Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
   Reading: Must have a reading skill and vocabulary at about level (9)
   This mostly for installation instructions and electrical theory training
   Math: Must have a good basic knowledge of mathematics
   There must be a knowledge of basic algebra to solve electrical equations
   Verbal: Must be able to communicate instructions on the job
   Written: Must be able to use electric communications for orders and various instructions
   Written: Must be able to draw basic diagrams for appliance circuits

ADDITIONAL JOB INFORMATION:
   1) Disadvantages: Work might be temporary
      2) Advantages:
      3) Training opportunities: Apprenticeship

IX. EVALUATION: As determined by teachers
**COURSE:** Micro-grades  

**OCCUPATION:** Electro-Mechanical Repairman (Appliance Repairman)

<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT, SUPPLIES</th>
<th>NEW TERMINOLOGY MATH</th>
<th>TEXT, WORKBOOKS OTHER SUPPLIES</th>
</tr>
</thead>
</table>
| ... To understand safety procedures of Electro-Mechanical Repairman Faulty wiring Overloading wire Broken wires | ... Practice safety procedures ... Remove, inspect and disassemble all types of electrical mechanical devices | All machines and tools required for machinist, lathe operator and sheet metal worker | Ohm-resistance  
Ampere  
Voltage  
Battery  
Circuit  
Series, meter-multi tester  
Parallel  
AC  
DC  
Insulator Magnetic  
Open and closed circuit | Electricity Made  
Simple, Henry Jacobwitz  
Coubleday & Co.  
Metalworking and Technology Workbook  
Handbook of Practical Electricity, Howard Sam's Pub. Co, Motors-Guide For Auto Mechanics  
Glenn's Automotive Repair Manual  
Automotive vacuum and Wiring Diagrams |
| ... To be familiar with basic electricity Direct current  
Alternating current  
Ohms law, circuits and magnetism | ... Remove, inspect and replace parts of electrical devices | DC-0-1000 volts  
AC-0-1000 volts  
Ohms, 0 to 100 |  
E= IR  
I= R  
R= I  
Resistance in series and parallel circuits  
Amps in series and parallel circuits  
P = IE  
Reading Meter | FILMS:

- Principles of Electricity  
  20 Minutes  
  BOCES Library
- The Road Ahead  
  20 Minutes  
  Telephone Co.
- Electrons at Work  
  14 Minutes  
  BOCES Library
- Bell Solar Battery  
  12 minutes  
  Telephone Co.
- Electricity and How It is Made  
  16 Minutes  
  BOCES Library
- What is Electric Current?  
  14 Minutes  
  BOCES Library |
| ... To understand how electrical machinery functions | ... Use the ohm meter for the detection of trouble in simple circuits | Meg ohm  
Insulating material  
Tape  
Wire  
Terminal kit  
Alligator clips  
Solder  
Variable voltage source such as a battery charger  
Assorted fuses, bulbs and variable resistances | |
| ... To understand how to conduct a machine preventive maintenance operation | ... Remove, inspect and replace electrical wires for the maintenance of circuits | DC-0-1000 volts  
AC-0-1000 volts  
Ohms, 0 to 100 | |
| ... To be able to install new replacement parts and to follow electrical installation procedures | ... Read and follow installation instructions for electrical machinery | Meg ohm  
Insulating material  
Tape  
Wire  
Terminal kit  
Alligator clips  
Solder  
Variable voltage source such as a battery charger  
Assorted fuses, bulbs and variable resistances | |

<p>| <img src="https://via.placeholder.com/769x615.png?text=31" alt="Image" /> | 31 | <img src="https://via.placeholder.com/769x615.png?text=3" alt="Image" /> |</p>
<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT, SUPPLIES</th>
<th>NEW TERMINOLOGY MATH</th>
<th>TEXT, WORKBOOKS OTHER SUPPLIES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td>How to Produce Electric</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td>Currents with Magnets</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>11 Minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BOCES Library</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FIELD TRIPS</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Westinghouse Corp.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yonkers, N.Y.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>Teacher Made Materials</td>
</tr>
<tr>
<td>33</td>
<td></td>
<td></td>
<td></td>
<td>34</td>
</tr>
</tbody>
</table>
I. JOB TITLE: Small Engine Repairman

II. JOB DUTIES:
- Raises vehicle with hydraulic jacks and removes wheel and brake drum
- Replaces defective brake shoes or disks
- May rivet new linings to shoes
- Repairs or replaces defective wheel cylinders and/or master cylinder
- Checks and bleeds brakes at all four wheels

III. WORKING CONDITIONS:
- Work week is approximately 40-48 hours
- Usually works indoors
- Must be able to bend, crawl, stoop, and lift heavy objects

IV. JOB REQUIREMENTS:
- Have mechanical aptitude and ability
- Be in good physical health
- Have a driver's license

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Must understand the hydraulic principles involved in the operation of brakes
- Must have mechanical skill and aptitude
- Will soon have to understand the operation of anti-skid brakes

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: Must be able to read manuals due to the various types of brake systems now available
- Math: Adding repair bills
  - Computing sales tax
- Verbal: Communicate with supervisor and may have to communicate with customer
- Written: Minimal, may have to write repair bills

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Dirty, pily work in a noisy environment
2) Advantages: Steady indoor work

3) Training opportunities: On the job-Vocational Schools

IX. EVALUATION: As determined by teachers
<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT, SUPPLIES</th>
<th>NEW TERMINOLOGY AND VOCABULARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>... To identify types of machinery and hazards involved</td>
<td>... Planning-personal shop safety plan</td>
<td>Goggles</td>
<td>Hazard</td>
</tr>
<tr>
<td>... To understand the working and procedures of the shop (orientation)</td>
<td>... Operation-function of shop machinery, tools and equipment</td>
<td>a) Gas welding</td>
<td>Injury</td>
</tr>
<tr>
<td>... To operate a safe shop</td>
<td>... Analysis of job hazards</td>
<td>b) Arc-welding</td>
<td>Statistic</td>
</tr>
<tr>
<td>... To understand the principle of operation of the Internal combustion engine (small engine repairman)</td>
<td>... Prevention-Precautionary measures and preventative procedures</td>
<td>c) Grinding</td>
<td>Compensation</td>
</tr>
<tr>
<td>... To identify major parts of engine and be familiar with their functions</td>
<td>... Demonstration of fire extinguisher</td>
<td>d) Chiselling</td>
<td>Inspection</td>
</tr>
<tr>
<td>... To understand the principles of the operation of the fuel and exhaust system</td>
<td>a) Invite Fire Dept. to demonstrate importance</td>
<td>Guards</td>
<td>Prevention</td>
</tr>
<tr>
<td>... To identify major parts of system and be familiar with their functions</td>
<td>... Demonstrate engine operation with model engine (Small engine)</td>
<td>Coveralls</td>
<td>Regulation</td>
</tr>
<tr>
<td>... Become familiar with the principles of the operation of the automobile ignition and electrical system</td>
<td>... Disassemble single cylinder engine and discuss major parts and their function</td>
<td>Shopcoat</td>
<td>Equipment</td>
</tr>
<tr>
<td>... Identify major parts of system and be familiar with their functions</td>
<td>... Demonstrate and discuss operating engine</td>
<td>Vents and Exhaust system</td>
<td>Machinery</td>
</tr>
<tr>
<td>... Understand the operation and function of the crankcase lubrication system</td>
<td>... Disassemble auto engine and discuss major parts and their functions</td>
<td>Flammable liquid storage</td>
<td>Prevention</td>
</tr>
<tr>
<td>... To know the operation of the cooling system of car engines and small engines</td>
<td>... Identify major parts of engine on teacher made ditto</td>
<td>Machinery and hand tools that will be used</td>
<td>Safety</td>
</tr>
<tr>
<td>... To know the parts and their functions in the cooling of engines</td>
<td>... Read and Discuss chapter on &quot;The Engine&quot; in text Understanding the Auto</td>
<td>Fire</td>
<td>Apron</td>
</tr>
<tr>
<td>... To understand how power is transmitted from the engine to transmission via clutch or automatic transmission through drive shaft, differential the axles, and to the wheels</td>
<td>... Demonstrate manually the operation of fuel pump</td>
<td>Demonstration model engine</td>
<td>Dangerous</td>
</tr>
<tr>
<td>... To understand the workings of the complete braking system</td>
<td>... Disassemble fuel pump and carburetor and discuss major parts and their function</td>
<td>Small engines</td>
<td>Flammable</td>
</tr>
<tr>
<td>... Discuss primary and secondary systems</td>
<td>... Demonstrate and discuss fuel system in operation</td>
<td>Mechanics hand tools</td>
<td>Codes</td>
</tr>
<tr>
<td>... Discuss major parts of both engines and small engines</td>
<td>... Identify major parts of fuel pump</td>
<td>Compression tester</td>
<td>Two cycle</td>
</tr>
<tr>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>Auto engines (demonstration)</td>
<td>Four cycle</td>
</tr>
<tr>
<td>... Discuss primary and secondary systems</td>
<td>... Discuss primary and secondary systems</td>
<td>Gear pullers</td>
<td>Strokes</td>
</tr>
<tr>
<td>... Discuss major parts of both engines and small engines</td>
<td>... Discuss major parts of both engines and small engines</td>
<td>Arbor press</td>
<td>Intake</td>
</tr>
<tr>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>3/8&quot; socket set</td>
<td>compression</td>
</tr>
<tr>
<td>... Discuss primary and secondary systems</td>
<td>... Discuss primary and secondary systems</td>
<td>1/2&quot; socket set</td>
<td>power</td>
</tr>
<tr>
<td>... Discuss major parts of both engines and small engines</td>
<td>... Discuss major parts of both engines and small engines</td>
<td>Open and box end wrenches</td>
<td>exhaust</td>
</tr>
<tr>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>Carburetor</td>
<td>Camshaft</td>
</tr>
<tr>
<td>... Discuss primary and secondary systems</td>
<td>... Discuss primary and secondary systems</td>
<td>Fuel pump</td>
<td>Crankshaft</td>
</tr>
<tr>
<td>... Discuss major parts of both engines and small engines</td>
<td>... Discuss major parts of both engines and small engines</td>
<td>Gas filter</td>
<td>Piston</td>
</tr>
<tr>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>Gas lines</td>
<td>Piston rings</td>
</tr>
<tr>
<td>... Discuss primary and secondary systems</td>
<td>... Discuss primary and secondary systems</td>
<td>Manifold (exhaust)</td>
<td>Cylinder</td>
</tr>
<tr>
<td>... Discuss major parts of both engines and small engines</td>
<td>... Discuss major parts of both engines and small engines</td>
<td>Muffler</td>
<td>Wrist pins</td>
</tr>
<tr>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>Pipe expander</td>
<td>Journal</td>
</tr>
<tr>
<td>... Discuss primary and secondary systems</td>
<td>... Discuss primary and secondary systems</td>
<td>Clamps</td>
<td>Bearings</td>
</tr>
<tr>
<td>... Discuss major parts of both engines and small engines</td>
<td>... Discuss major parts of both engines and small engines</td>
<td>Air chisel</td>
<td>Rocker Arms</td>
</tr>
<tr>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>Hackaw</td>
<td>Overhead valve</td>
</tr>
<tr>
<td>... Discuss primary and secondary systems</td>
<td>... Discuss primary and secondary systems</td>
<td>Tubing cutter</td>
<td>Valve seats</td>
</tr>
<tr>
<td>... Discuss major parts of both engines and small engines</td>
<td>... Discuss major parts of both engines and small engines</td>
<td>Flaming tool</td>
<td>Connecting rods</td>
</tr>
<tr>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>Starter</td>
<td>Compression test</td>
</tr>
<tr>
<td>... Discuss primary and secondary systems</td>
<td>... Discuss primary and secondary systems</td>
<td>Battery</td>
<td>Flywheel</td>
</tr>
<tr>
<td>... Discuss major parts of both engines and small engines</td>
<td>... Discuss major parts of both engines and small engines</td>
<td>Generator</td>
<td>Gasoline</td>
</tr>
<tr>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>Alternator</td>
<td>Carburator</td>
</tr>
<tr>
<td>... Discuss primary and secondary systems</td>
<td>... Discuss primary and secondary systems</td>
<td>Voltage regulator</td>
<td>Atomizer</td>
</tr>
<tr>
<td>... Discuss major parts of both engines and small engines</td>
<td>... Discuss major parts of both engines and small engines</td>
<td>Coll</td>
<td>Fuel pump</td>
</tr>
<tr>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>... Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>Distributor</td>
<td>Vacuum</td>
</tr>
<tr>
<td>... Discuss primary and secondary systems</td>
<td>... Discuss primary and secondary systems</td>
<td>Spark plugs</td>
<td>Manifold</td>
</tr>
</tbody>
</table>

**TOOLS, EQUIPMENT, SUPPLIES**

- Goggles
- a) Gas welding
- b) Arc-welding
- c) Grinding
- d) Chiselling
- Guards
- Coveralls
- Shopcoat
- Vents and Exhaust system
- Flammable liquid storage
- Machinery and hand tools that will be used
- Fire
- Demonstration model engine
- Small engines
- Mechanics hand tools
- Compression tester
- Auto engines (demonstration)
- Gear pullers
- Arbor press
- 3/8" socket set
- 1/2" socket set
- Open and box end wrenches
- Carburetor
- Fuel pump
- Gas filter
- Gas lines
- Manifold (exhaust)
- Muffler
- Pipe expander
- Clamps
- Air chisel
- Hackaw
- Tubing cutter
- Flaming tool
- Starter
- Battery
- Generator
- Alternator
- Voltage regulator
- Coll
- Distributor
- Spark plugs

**NEW TERMINOLOGY AND VOCABULARY**

- Hazard
- Injury
- Statistic
- Compensation
- Inspection
- Prevention
- Regulation
- Equipment
- Machinery
- Prevention
- Safety
- Apron
- Dangerous
- Flammable
- Codes
- Two cycle
- Four cycle
- Strokes
- Intake
- Compression
- Power
- Exhaust
- Camshaft
- Crankshaft
- Piston
- Piston rings
- Cylinder
- Wrist pins
- Journal
- Bearings
- Rocker Arms
- Overhead valve
- Valve seats
- Connecting rods
- Compression test
- Flywheel
- Gasoline
- Carburator
- Atomizer
- Fuel pump
- Vacuum
- Manifold

**TEXT WORKBOOKS OTHER MATERIALS**

- Basic Auto Repair-1
- Basic Body Repair-1
- Booklet of Standard Safety
- Appeals Board Small Gasoline Engines
- Understanding the Auto
- Practical Problems in Mathematics; Auto Trades
- Automotive Chassis and Body
- Automotive Encyclopedia
- Car Service
- Service Check

**CASSETTE TAPES**

- Your Future as an Auto Mechanic

**FIELD TRIPS**

- Dino's Transmission Service
- Putnam Valley and Croton Falls General Motors School for Mechanics
- Tarrytown, New York Auto Show, New York Coliseum
- Teacher Made Materials Carburetor, fuel pump, etc.

**TRANSPARENCIES**

- As prepared by teacher

**FILMSTRIPS**

- Charts
- Oil filter
- Anti-freeze
- Car Service Check
- Basic Automotive Ignition System
- Workmens Compensation Laws

**THE ROTARY ENGINE, 1 DANA CORP.**
LEARNING GOALS
of the auto
... To know how to inspect and determine when brakes need replacing
... To be able to replace the brake shoe of an auto
... To understand differences between Drum Brakes and Disc Brakes
... To understand power brakes

LEARNING ACTIVITIES
systems and the function of these parts
... Disassemble and discuss functions of major parts of starter, generator, alternator, distributor
... Discuss electrical system as it pertains to accessories (lights, radio, air-conditioning, etc.)
... Trace the oil circulatory system in an engine-types of lubricants, method of venting crankcases and cooling oil
... To trace the power from the engine to the wheels with engine model
... Remove and replace universal joints of drive shaft
... Trace the hydraulic system from the pedal to the tires
... To adjust drum brake
... To replace drum brake shoes
... To replace disc brake pads

TOOLS EQUIPMENT SUPPLIES
Solenoid
Oil pumps from small engines and from auto engine
Crankcase and dipstick
PCV Valves
Filters
Filter wrenches
Water pumps from auto engine
Thermostat
Hydrometer
Drive shaft with universal joints
 Brake fluid
Brake spoon
Brake spring tool
Diagonal pliers
Tubing wrenches
Single and double master cylinder
 Wheel cylinder

NEW TERMINOLOGY MATHEMATICS
(Intake and exhaust)
Flexible diaphragm
Pressure
Proportions
Float
Muffler
Tailpipe
Solenoid
Volute
Amperes
Bendix drive
Field coil
Armature
Magnetism
Filter screen
Dipstick
Filters
Pressure gauge
Oil lines
Friction
Pressure relief valve
Crankcase ventilation
P.C.V.
Thermostat
Radiator
Hose clamp
Clamp pliers
Universal joint
Flywheel
Clutch
Throwout bearing
Thrust bearing
Drive shaft
Differential
Torque converter
Bleed brakes
Brake spoon
Dual Cylinders
Brake shoes
Disc pads
Calipers
Hydraulic
Booster

MATH
Ratios
gear to gear
Torque-foot and pounds
Liquid measure
Decimals

TEXT, WORKBOOKS
Automobile Mechanic, Encyclopedia Britannica

FILM MATERIALS
The Gas Turbine Engine
BOCES Library
General Motors
Detroit, Mich.
Victory Circles, Dana Corp.
Performance Starts in The Garage, Dana Corp.
Automotive Service Opportunities, Ford Motor Co.
Auto Mechanic: It's For You, Modern Talking Pictures
Each Day at Dawn, Modern Talking Pictures
No Time to Waste, Modern Talking Pictures
Series of Films on Racing and Auto Mechanics, Goodyear Tire and Rubber Co., Public Relations Film Library, Akron, Ohio 44316
I. JOB TITLE: Welder, Electric and Gas

II. JOB DUTIES:
- Fabricate on the job such as buildings, tanks, bridges, fire escapes and other metal devices
- Fabricate in a shop devices that are installed somewhere else
- The worker must fuse the metal with a high degree of correctness since safety is always involved
- Must cut and salvage steel parts by the gas and electric method
- Must engage in a wide variety of maintenance work, repairs, etc.

III. WORKING CONDITIONS:
- Works in production welding shop in the presence of heavy duty machinery where fumes and vapors are present (heavy, oily)
- Works outside on high platforms and scaffolds
- Could do light welding and brazing on a production line in a clean and neat factory

IV. JOB REQUIREMENTS:
- Background in welding
- Machine types and uses
- Knowledge of metals and how the welding process takes place
- A keen eye and a steady, skillful hand to perform the welding process
- To have a knowledge of lifting and supporting heavy metal devices

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Must understand metals and how heat is conducted in metal
- Must understand the basic principles of welding machines, AC, DC, oxyacetylene, beller arc and electric spot welding
- Must be able to do brazing, silver soldering, vertical, horizontal and other special welding such as stalkle coating
- Must understand heat treatment of steel

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: To be able to draft specifications and drawings
- Instruction manuals
- Math: Basic math
- Verbal: Must be familiar with nomenclature of trade
- Written: Must be able to complete job progress reports and time sheets

ADDITIONAL JOB INFORMATION:
1) Disadvantages: The physical strain of eye concentration and muscle movement is present
- Exposure to fumes and high heat

2) Advantages: Work is common to all industries and mobility is great
- Pay is good and future development makes it an ever expanding industry
- Great savings made in manufacture and repair make jobs plentiful
- The skill range is wide for training in a few weeks to several years

3) Training opportunities:

IX. EVALUATION: As determined by teachers
<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT, SUPPLIES</th>
<th>NEW TERMINOLOGY</th>
<th>MATH</th>
<th>TEXT, WORKBOOKS, OTHER SUPPLIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>... To understand reason and procedures for good safety in the welding shop</td>
<td>... Practice safety procedures</td>
<td>Oxyacetylene weld equipment</td>
<td>VOCABULARY</td>
<td>Math</td>
<td>Metalwork Technology and Practices, Ludwig</td>
</tr>
<tr>
<td>a) Protective clothing</td>
<td>... To design and make boy interest projects that require welded joints</td>
<td>All size tips and cutting torch</td>
<td>Alternating current</td>
<td>Concentrated work in Practical Problems in Math to simulate actual situations and independent approaches to solutions</td>
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<td>b) Goggles and safety glasses</td>
<td>... To repair metal parts of bicycles, motorbikes, engines</td>
<td>Special wrenches</td>
<td>Arc</td>
<td>Sets for Oxyacetylene and Arc Welding</td>
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<tr>
<td>c) Tank safety</td>
<td>Math: Emphasize work with problems to develop cognition and deductive thinking</td>
<td>Cart for tanks</td>
<td>Base metal</td>
<td>Sets for Procedure and Technique for Positioning Parts and Testing for Strength of Welds</td>
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<td>d) Electrical welding safety</td>
<td>Science: Principles of physics and heat treatments of metals</td>
<td>Electric welder</td>
<td>Brittle, Brazing</td>
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<td>e) Eye safety</td>
<td>... English: Comprehension of new terminology, its spelling, usage</td>
<td>20 to 300 amps</td>
<td>Butt joint</td>
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<td>Technical safety standards</td>
<td>... Occupational: Brazer, sold er, welder</td>
<td>AC with all accessories</td>
<td>Carburizing flame</td>
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<tr>
<td>... To understand need for welders test requirements for production</td>
<td>Weld, helmets for Electric and goggles for gas welding</td>
<td>Closed circuit</td>
<td>Corner joint</td>
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<tr>
<td>... To become an entry level welder for steel sheet, plate, bar and pipe</td>
<td>Wide assortment of welding rods, coated steel, aluminum, brass, etc.</td>
<td>Coated electrode</td>
<td>Direct current</td>
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<td>Special Marquette welders rods</td>
<td>Electrode</td>
<td>Edge joint</td>
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<td>Filler rod</td>
<td>Electrode</td>
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<td>Lap joint</td>
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<td>Needle valve</td>
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<td>Neutral flame</td>
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<td>Weld metal</td>
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</table>

**VOCABULARY**
- Alternating current
- Arc
- Base metal
- Brittle, Brazing
- Butt joint
- Carburizing flame
- Closed circuit
- Coated electrode
- Corner joint
- Direct current
- Edge joint
- Electrode
- Filler rod
- Flux
- Fusion
- fusion weld
- Ignite
- Inert
- Lap joint
- Needle valve
- Neutral flame
- Nitrides
- Oxides
- Oxidizing flame
- Oxyacetylene weld
- Polarity
- Slag, Soldering
- Tack
- Tee joint
- Weld metal

**TEXT, WORKBOOKS, OTHER SUPPLIES**
- Metalwork Technology and Practices, Ludwig
- Metalwork Technology and Practices, Workbook, Ludwig
- Technical Metals, Johnson
- Technical Metals Workbook, Johnson
- Basic Mathematics Simplified, Delmar
- Practical Problems in Mathematics
- Occupational Outlook Handbook
- Occupational Dictionary
- FILMS
  - Almost Everyone Does 14 Minutes
  - BOCES Library
  - Story of Arc Welding 24 Minutes
  - Free Film
  - The Oxyacetylene Flame, The Master of Metals Department of the Interior, Bureau of Mines
  - Oxyacetylene Cutting, Yorktown Welding Co.
COURSE: Metal Trades

OCCUPATION: Welder (Electric and Gas) Continued

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<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT, SUPPLIES</th>
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<th>MATH</th>
<th>TEXT, WORKBOOKS</th>
<th>OTHER SUPPLIES</th>
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</tbody>
</table>

FILM LOOP
Oxyacetylene Welder and Cutter, Encyclopedia Britannica Educational Corp.

FIELD TRIPS
Conny Welding Products
White Plains, N.Y.

Teacher Made Materials
I. JOB TITLE: Draftsman

II. JOB DUTIES:
Translate the ideas, rough sketches, specifications, and calculations of engineers, architects and designers into working plans which are used in making a product.
May calculate the strength, reliability and cost of materials in their drawings and specifications.
Describe exactly what materials that workers are to use on a particular job.

III. WORKING CONDITIONS:
Usually works in a well-lighted and air conditioned room where he has large flat tables and many drawing instruments.
Conditions are comfortable and pleasant.

IV. JOB REQUIREMENTS:
Develop a sense of perfection and accuracy.
Specifications and drawings must be precise and exact.

V. JOB CONDITIONS:
Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
Must have a definite skill in the graphic presentation area.
Must have completed at least 2 years practice in formal Mechanical Drawing instruction or be in a drawing apprentice program.
Must have knowledge of orthographic projection, isometric drawing, machine drawing, architectural presentation and some topographical knowledge.

VII. JOB PRACTICE:
Shop and laboratory experience.
Some site work.

VIII. ACADEMIC DEMANDS:
Reading: Must be at least 10th grade level.
    Be able to improve such skill in specific areas where special language and conventions are used.
Math: Must have a good knowledge of basic math for measurement, angles, volumes, proportions, etc.
Verbal: To be able to communicate with fellow workers in field.
Written: Must be able to use the language of drawing; symbols, arrows, abbreviations, etc.

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Electronics eliminating many jobs.
2) Advantages:
3) Training opportunities:

IX. EVALUATION: As determined by teachers.
## LEARNING GOALS

- To know the basic principles of graphic presentation
- Orthographic - 3 Dimension views Isometric and Dimensioning
- To know the use of drafting tools
- To have the ability to sketch and produce a machine drawing with instructions as to how to follow for use
- To trace, reproduce and understand blueprints
- To know the symbolic language of drawing and blueprints; both abbreviations and lines
- Identify drafting accessories from pictorial worksheets and understand their uses

## LEARNING ACTIVITIES

- Draw a simple machine drawing of a project and reproduce for use in the shop
- Produce a small machine or metal working project by use of the drawing and to follow dimensions and shape as specified
- Sketch ideas where no drawing exists and to produce a project from the sketch
- Copy professional blueprints to develop correct technique, accuracy and neatness

## TOOLS, EQUIPMENT, SUPPLIES

- Drawing bench with drawing board on top
- One T-square
- Triangles 60, 30, 40
- 1 set drawing instruments
  - a) Bow compass
  - b) Dividers
  - c) Trammel points
- French curves
- 6 side Scale Ruler
- Tape
- Paper
- Scissors
- Pencils

## NEW TERMINOLOGY

### VOCABULARY

- Diameter
- Diagonal
- Design
- Cylinder
- Circle
- Semicircle
- Screw thread
- Tracing
- Tangent line
- Area
- Area
- Trammel
- Divider
- Isometric
- Orthographic
- Dimension
- Triange
- Compass
- Blueprint
- Scale
- Drafting
- T-Square
- Axis
- Ellipse
- Working drawing
- Radius
- Degree
- Visible line
- Hidden line
- Extension line
- Dimension line
- Horizontal
- Vertical
- Circumference
- Translucent
- Sketching
- Center
- Center line
- Arrow head
- View
- Symbol

## TEXT, WORKBOOKS, OTHER MATERIALS

- Metalwork Technology and Practice, Ludwig
- Technical Metals, Johnson
- Practical Problems in Mathematics
- Machine Trades
- Shop Made Easy, Frank Cattaneo

### FILMS

- The Game
  - 28 minutes
  - BOCES Library

- Language of Drawing
  - 10 Minutes
  - BOCES Library

### TRANSPARENCIES

- Orthographic Views of objects
- Geometric Shapes, Angles and Lines

### FIELD TRIPS

- General Motors
- Assembly Plant, Tarrytown, N.Y.
- Teacher Made Materials
<table>
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<th>LEARNING GOALS</th>
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<th>TOOLS, EQUIPMENT, SUPPLIES</th>
<th>NEW TERMINOLOGY</th>
<th>MATH</th>
<th>TEXT, WORKBOOKS OTHER MATERIALS</th>
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<td>- - minus/less</td>
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<td>g - centerline</td>
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<td>D or dia. - diameter</td>
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<td>R or rad. - Radius</td>
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<td>LH - left hand</td>
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<td>Thds. - threads</td>
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<td>Csk - Counter sink</td>
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<td>HRS - hot rolled steel</td>
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<td>HSS - High speed steel</td>
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<td>Addition, subtraction and multiplication of fractions and decimals</td>
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</table>
Trade: Metal

I. JOB TITLE: Ironworker

II. JOB DUTIES:
- Erect, assemble or install fabricated metal products primarily in industrial, commercial and large residential buildings
- Rig heavy construction machinery for moving
- Carry out alteration operations such as installing steel stairs, etc.

III. WORKING CONDITIONS:
- Nature of the work is such that much is done under hazardous conditions
- Great weights, heights, large moving machinery, high temperatures and much adverse weather conditions

IV. JOB REQUIREMENTS:
- Excellent physical ability and strength
- Be able to withstand the most difficult conditions of weather, heat and air pollution

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILL AND KNOWLEDGE:
- To know and understand how to form and shape ferrous metals and all alloys
- To know basic welding (electric and gas)

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: Not highly essential to this job
  - Reading thermometers and temperatures
- Math: Basic math and measurement and some geometry
- Verbal: No great demand for verbal skills
- Written: Ability to write and understand Fahrenheit and Centigrade temperature

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Working in all kinds of weather
2) Advantages: Outlook for employment is good
3) Training opportunities: Apprenticeship of 3 years

IX. EVALUATION: As determined by teachers
### COURSE: Trades

**OCCUPATION: Ironworker**

**LEARNING GOALS**

- To understand the safety procedures to be practiced by the iron worker in industry
  - a) hard hat
  - b) foot protection
  - c) lifting procedure
  - d) etc.
- To understand basic ferric metallurgy for detection and proper use of steel
- To be able to select stock, shape it and assemble for production work
- To be able to install fabricated steel products
- To understand how to repair and replace structural steel parts
- To understand temperature effects from heat treatment
- To understand temperature reading

**LEARNING ACTIVITIES**

- Use good safety procedures
- Produce projects (boy interest) such as mini bikes, wagons, tables, etc. where all the skills can be learned; such as cutting, drilling, welding, bending, brazing, shaping and heat treating
- To operate all machines to accomplish the above
  - a) band saws
  - b) power hack saw
  - c) drill press
  - d) arc and oxyacetylene welding equipment
  - e) benders
  - f) furnaces
    - 1) forging
    - 2) blast
- Use of worksheets for understanding of temperature changes, boiling point, freezing point, melting point and thermometers
- Write and study notes on types of steel and their percentage of carbon

**TOOLS, EQUIPMENT, SUPPLIES**

- Electric welder
- Oxyacetylene weld equipment
- Gas heating furnace for heat treatment
- Anvil and hammer
- Metal lathes
- Drill press
- Diacrho punch with all dies
- Power hack saw
- Power band saw with metal cutting blades
- Assorted grinders
- All hand metal-working tools as indicated in machinist area

**NEW TERMINOLOGY**

- Pig iron
- Ingot stripper
- Ladle
- Iron pourer
- Molten
- Furnace tender
- Skipman or stockhouse man
- Molten
- Blast furnace
- Ore
- Coke
- Slag
- Limestone
- Blowers
- Apprentice
- Metallurgy
- Iron
- Carbon
- Cupola
- Silicon
- Sulfur
- Cast iron
- Tempering
- Annealing
- Quenching
- Quenching solution
- Hardening
- Case hardening
- Heat treatment
- Hardening temperature
- Time-temperature cycle
- Full annealing
- Process annealing
- Magnetic point
- Flame hardening
- Induction hardening
- Carburizing
- High carbon steel
- Medium carbon steel
- Low carbon steel
- High-speed steel

**TEXT, WORKBOOKS OTHER MATERIALS**

- Metalwork Technology and Practice, Ludwig
- Technical Metals, Johnson
- Basic Mathematics Simplified, Delmar
- Metalworking Technology and Practice Workbook, Ludwig
- Elementary Metallurgy
- Arithmetic That We Need, Mooney (F.E. Richards' Series) Chapter on Temperature

**FILMS**

- How Steel is Made
- The Drama of Metal Forming
- Cast-Iron; Biography of a Metal, Department of the Interior, Bureau of Mines
- The Lead Matrix Department of the Interior, Bureau of Mines

**TRANSPARENCIES**

- Process of Making Iron and Steel

**FIELD TRIPS**

- Marks Iron Works
- Teacher Made Material
### COURSE: Metal Trades

### OCCUPATION: Ironworker (Continued)

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<th>LEARNING GOALS</th>
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<th>TOOLS, EQUIPMENT, SUPPLIES</th>
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<th>TEXT, WORKBOOKS OTHER MATERIALS</th>
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<td>Hot-rolled steel</td>
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<td>Cold rolled steel</td>
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<td>Alloy steel</td>
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<td>a) chromium</td>
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<td>b) tungsten</td>
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</table>

53

54
OCCUPATIONAL READINESS CENTER

COURSE: AUTO TRADES

UNITs:

First Quarter
Service Station Attendant
Lubrication Specialist
Pneumatic Tire Specialist
Auto Mechanic
Auto Body Repairman (Oxyacetalene Welder)

Second Quarter
Same as First Quarter

Third Quarter
Same as First Quarter

Fourth Quarter
Same as First Quarter
I. JOB TITLE: Service Station Attendant

II. JOB DUTIES:
Supply cars with gasoline, oil, water, and air
Change oil, lubricate vehicles, sell tires, batteries, light bulbs and other parts
Install windshield wipers, rear view mirrors, and spark plugs
Change and repair tires
May also wash automobiles
Repair flat tires, rotate tires, change snow tires
Pump gas
Clean windshields
Check water levels in batteries and radiators
Check oil in engines and automatic transmissions
Check tires for correct air pressure
Handle cash payments, prepare charge slips for credit card customers
Clean service station and rest rooms
Sets up displays and takes inventory
Provides emergency road service

III. WORKING CONDITIONS:
Works out of doors in all kinds of weather
Must move rapidly and does lifting and stooping
Spends much time on his feet
Frequently gets dirty
Possible injuries from sharp edges and burns from hot engines
Shift work with weekend duty
Noisy surroundings with gasoline and oil fumes present

IV. JOB REQUIREMENTS:

16 WITH WORK PERMIT
Have pleasant personality and poise and tact in dealing with customers
Have mechanical aptitude and ability
Ability to speak well and clearly
Be in good physical health
Have driver's license

V. JOB CONDITIONS:
Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
Some knowledge of tools, equipment and mechanics is helpful
Sales knowledge is an important factor
Knowledge of general custodial maintenance duties required
Move arms, hands and fingers easily to manipulate tools and parts
Use basic mathematics
Learn and apply procedures relating to sales and service work
Work to prescribed standards

VII. JOB PRACTICE:
Shop and lab experience

VIII. ACADEMIC DEMANDS:
Reading: Manuals, maps, credit cards, gas pumps, lubricant and oil charts
ACADEMIC DEMANDS (continued).

Math: Basic mathematical operations, compute tax, add up bills, calculate change, become familiar with liquid and linear measurement.

Verbal: Must be able to communicate with a wide range of customers.

Written: Must be able to fill out repair bills and charge forms.

ADDITIONAL JOB INFORMATION:

1) Disadvantages: Long shifts, working holidays, evenings, etc.
   Noisy dirty working conditions with gas fumes, carbon monoxide fumes always present.
   Poor fringe benefits.
   May have to work weekends, holidays and rotating shifts.
   Work is dirty, oily and greasy.
   Work outdoors in all kinds of weather.

2) Advantages: Steady work.
   Many advancement opportunities.
   Opportunity to meet and help people.

3) Training opportunities: On the job vocational trade schools.
   Oil company training programs.

IX. EVALUATION: As determined by teachers.
OCCUPATION: Service Station Attendant

LEARNING GOALS

... Make students aware of shop safety hazards and safety procedures
... Identify the equipment used in a service station operation
... Understand the working and procedures of the shop
... Learn proper use of Lubrication Guide Charts

LEARNING ACTIVITIES

... Demonstrate use of shop machinery, tools and equipment
... Read and review auto safety procedures and precautions
... Obtain safety vocabulary from teacher made handouts
... Demonstrate use of Lubrication Guide Charts
... Use Lubrication Guide Charts to solve problems in shop and classroom
... Demonstrate and have students change oil filter
... Check oil, water, battery, transmission, brake and power steering fluid
... Clean windshields and headlights
... Replace wiper blades and arm assemblies
... Check fan belts
... Display, discuss and use hand tools
... Discuss wrench sizes and types thoroughly
... Group discussion of cooling system
... Practice using charts-Antifreeze concentrations
... Check cars for antifreeze levels and advise on adding antifreeze when needed
... Demonstrate cooling system operations-radiators, thermostats and hoses
... Replacing gaskets on thermostat housing
... Trace the cooling system of engines, both water cooled and air cooled
... Use of hydrometer with car radiator

TOOLS, EQUIPMENT, SUPPLIES

... Lift
... Grinder
... Tire machine
... Clean-o-matic
... Goggles
... Speedy dry
... Fire extinguisher
... Floor jacks
... Steam cleaner
... Impact wrench
... Hand tools
... Oil filter
... Oil filter wrench
... Air operated gun
... Hand gun
... Adapter
... Oil
... Water
... Transmission fluid
... Wiper cloths
... Air Lift
... Hydraulic jacks
... Batteries
... Electrolyte
... Hydrometer
... Thermometer
... Thermostats
... Battery hydrometer
... Radiator water pump

NEW TERMINOLOGY

MATH

... Basic math processes
... Liquid measure
... Fractions
... Money change sheets
... Service station transactions
... Sales slips

VOCABULARY

... Lift
... Drain container
... Extinguisher
... Oil filter wrench
... Drain plug
... Lubrication
... Grease fitting
... Grease gun
... Adapter
... SAE
... Anti-freeze
... Boiling point
... Open end wrench
... Box wrench
... Ratchet handle
... Breaker handle
... Socket
... Allen wrench
... Specific gravity
... Temperature
... Degrees
... Ethylene glycol
... Hydrometer
... Thermostat

TEXT, WORKBOOKS, OTHER MATERIALS

Safety "Car-Chek" Guide
Safety Sheet handouts
Service Station Management
Automotive Service Tool Cards
Car Service
Service Station Record-Keeping, Noble, Fritz
Know Your Motor Oil
How to Sell Motor Oil
Battery Service Manual
It's Easy to be an Expert-Battery Man, That Is Understanding the Automobile

Films

Five Steps to Friendly Service, Mobil Oil Co.

Films

How Man Learned to Count
Introduction to Fractions
Basic Shop Safety
Split Second to Disaster
It Didn't Have to Happen
Don't Push Your Luck, N.Y. State Board of Health
Thermometers and How They Work
Car is A Woman
The Story of the Modern Storage Battery, Bureau of Interior
Story of Gasoline, Bureau of Interior Service Station Refinery Processes
Wild Cat
It Never Rains Oil
It Might Have Happened

Film Strips

Basic Shop Safety
<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT, SUPPLIES</th>
<th>NEW TERMINOLOGY</th>
<th>MATHEMATICS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>... Fill out sales slips</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>... Fill out credit card forms</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>... Discussion and explanation of automotive (storage) battery</td>
<td></td>
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<tr>
<td></td>
<td>... Charging a battery</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>... Practice temperature correcting and hydrometer reading</td>
<td></td>
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<tr>
<td></td>
<td>... Check cars for percentage of charge in battery</td>
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</tr>
<tr>
<td></td>
<td>... Demonstrate use of battery charger and voltage tester</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NEW TERMINOLOGY**

**MATH**

**TEXT, WORKBOOKS, OTHER MATERIALS**

- The Service Station Attendant, BOCES Library
- FILM LOOPS
  - Safety, BOCES
  - Gasoline Service Station Attendant, Encyclopedia Britannica
- CASSETTE TAPES
  - Your Career as a Service Station Attendant, BOCES
- TRANSPARENCIES
  - The Starting System, 3M Co.
- Credit Card and Sales Slips, Teacher Made
- CHARTS
  - Specific Gravity of Electrolyte
  - Anti-freeze
- TEACHER MADE MATERIALS
  - Computing Anti-freeze concentrations
  - Using Auto Manuals to determine cooling system capacities
  - Auto Trades General Safety Precautions
  - Battery Problems to Correct Specific Gravity Readings for Temperature
- FIELD TRIPS
  - Shell Station, Whitehall Corners, Somers, New York
  - Curry Chevrolet, Rt. 202, Yorktown
  - Credit Card Machine
  - Cutaway of 12 Volt Storage Battery
I. JOB TITLE: Lubrication Specialist

II. JOB DUTIES:
- Inject grease into springs, universal joints, steering knuckles, suspension elements
- Check fluid levels of steering gear, engine, transmission, differential, radiator, power steering
- Drains and replaces fluids in all the above
- Replaces oil, air, and PCV filters
- Sprays leaf springs with lubricant
- Checks and refills battery cells

III. WORKING CONDITIONS:
- May work indoors or outdoors in all weather
- Must work rapidly and does considerable lifting and stooping
- Spends time on his feet

IV. JOB REQUIREMENTS:
- Have some mechanical aptitude and ability
- Be able to follow lubrication charts

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Some knowledge of tools, equipment and mechanics is helpful
- Knowledge of general custodial duties required

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: Lubrication charts and manuals
  Filter replacement charts
- Math: Liquid measurement, addition, subtraction, linear measurement
- Verbal: Must be able to communicate with supervisor
- Written: Must be able to fill out repair bills and/or maintenance records

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Dirty greasy work in a carbon monoxide and gas fume environment
2) Advantages: Steady work
3) Training opportunities: On the job Vocational Schools

IX. EVALUATION: As determined by teachers
# Learning Goals

- Familiarize students with how and why lubricants are used on springs, steering, transmission, differential, and wheel bearings.
- To know the location of lift points.
- To have students become aware of the different types of lubricants and where they are used (oil and grease).
- To become familiar with lubrication points.
- To become aware of types of oil filters and pollution control devices such as P.C.V. filters.

# Learning Activities

- Grease or oil various types of automobiles:
  - a) filters-air, oil, gas
  - b) fittings
  - c) greases
  - d) Oils
- Remove and install oil filters.

# Tools, Equipment, Supplies

- Greasing equipment
- Oil Pump
- Oil drain

# New Terminology

- Lubrication
- Viscosity
- 10-20-30
- Lithium
- Graphite
- Friction
- SAE
- Positive
- Crankcase
- Ventilation

# Vocabulary

- Facis About Purolator Oil/Gas Air Filters
- Texacol Inc. N.Y., N.Y.
- Shell Oil Co.
- Oil
- Frontiers of Friction
- Project Moholo-Phase I
- Case of the Slippery Oil
- Dana Corp.

# Films

- Air Force
- Texaco Inc. N.Y., N.Y.
- Shell Oil Co.
- Oil
- Frontiers of Friction
- Project Moholo-Phase I
- Case of the Slippery Oil
- Dana Corp.

# Field Trips

- Curry Chevrol - Route 202, Yorktown
- Model-Cutaway of oil filter
I. JOB TITLE: Pneumatic Tire Specialist

II. JOB DUTIES:
- Remove and replace wheels on all sizes and types of vehicles
- Mount and dismount tires on rims
- Repair tires
- Sells tires and tubes
- Collects cash
- Writes credit slips
- Uses charts

III. WORKING CONDITIONS:
- Outside in all weather
- Subject to injuries from tools
- Grease, oil, and dirty work
- Most of working hours are spent standing

IV. JOB REQUIREMENTS:
- 16 years old
- Some mechanical ability
- Drivers license
- Have ability to lift

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Manipulate tools

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: Must be able to read work orders and locate correct tire sizes in stockroom
- Math: May have to add up bills, compute federal, state and local taxes
- Verbal: Must be able to communicate with supervisor and/or customer
- Written: May have to write up bills

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Weekend and holiday work
   Dirty sometimes greasy work
   Outdoors in bad weather
   Subject to injuries from tools

2) Advantages: Steady work if employed by a high volume distributor

3) Training opportunities: On the job Vocational Schools

IX. EVALUATION: As determined by teachers
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<th>LEARNING GOALS</th>
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<th>MATH</th>
<th>TEXT, WORKBOOKS OTHER MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>... To learn how to remove wheels from cars, learn lug sizes and left and right tread</td>
<td>... Use tire machine</td>
<td>Tire machine</td>
<td>VOCABULARY</td>
<td>Goodyear and Firestone Tire Booklets</td>
<td></td>
</tr>
<tr>
<td>... Learn how to remove tires from wheels by use of tire machine</td>
<td>... Check air pressure in tires</td>
<td>Valve stem replacement</td>
<td>Tire</td>
<td>Goodyear Auto Tires</td>
<td></td>
</tr>
<tr>
<td>... Familiarize student with the repairing of tires and tubes</td>
<td>... Demonstrate that tire wear points can indicate nature of problem</td>
<td>Valve core tool</td>
<td>Tread</td>
<td>Firestone Tire and Rubber Co.</td>
<td></td>
</tr>
<tr>
<td>... Make students aware of different types of tread design, needs and cords</td>
<td>... Repair tires and tubes and tubeless tires</td>
<td>Pressure gauge</td>
<td>Depth</td>
<td>Goodyear Tire, Akron, Ohio</td>
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<tr>
<td>... Familiarize student with how to interpret tire wear</td>
<td>... Show students different types of tires and rims</td>
<td>Tubless tire repair kit</td>
<td>Radial</td>
<td>Test Drive For Safety</td>
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<td></td>
<td>... Demonstrate and have students use manufacturers' tire chart to find such things as load range, pressure, recommended tires for specific purposes, ply rating, etc.</td>
<td>Lift</td>
<td>Cord</td>
<td>Rubber from Oil, Bureau of Interior</td>
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<tr>
<td></td>
<td>... Show students how to determine different size tires and rims</td>
<td>Impact wrench</td>
<td>Studded snow</td>
<td>Rubber by Design, Shell Oil Co.</td>
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<td></td>
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<td>Tire chart</td>
<td>Polyglass</td>
<td>FILMS</td>
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<td>Steel belted</td>
<td>Firestone Tire and Rubber Co.</td>
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<td>Lug wrench</td>
<td>Goodyear Tire, Akron, Ohio</td>
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<td>Fly</td>
<td>Test Drive For Safety</td>
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<td>Rubber from Oil, Bureau of Interior</td>
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<td>Rubber by Design, Shell Oil Co.</td>
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<td>FIRESTRIPS &amp; TAPES</td>
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<td>Fixing A Flat Tire</td>
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<td>FIELD TRIPS</td>
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<td>Tire Dealer</td>
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<td>Baldwin Place</td>
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</tbody>
</table>
I. JOB TITLE: Auto Mechanic (Gasoline Engine Repairman including outboard engines and lawn mower mechanics)

II. JOB DUTIES:
- Service and repair fractional - horsepower gasoline engines
- Examine and test engine to locate cause of malfunction
- Disassemble engine and inspect and clean parts
- Adjust, repair or replace parts
- Assemble engine
- Clean and adjust spark plugs, carburetor, magneto and other components
- Start repaired engine and check performance
- Change oil and lubricate moving parts of engine
- Prepare shop repair record and customer's bill

III. WORKING CONDITIONS:
- Work alone, or around others, in well-lighted and ventilated repair shop or plant
- Travel to location of engine breakdown to make repairs under varying climate conditions
- Be exposed to oil, grease and dirt from handling tools and materials
- Be subject to minor cuts, shocks and strains

IV. JOB REQUIREMENTS:
- Read, write and speak English
- Be 18 years of age
- Have some vocational or trade school education in the repair of gasoline engines
- Have a driver's license
- Complete employer's on-the-job training of 1 to 2 years
- Be able to stand at work for long periods
- Have adequate use of arms, legs, hands and fingers
- Be able to bend, stoop, kneel, crouch and move around easily
- Be able to lift and carry materials weighing up to 50 pounds
- Have good vision and hearing (normal or corrected)
- Be free of allergies to dust, dirt, oil, and grease

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Learn and apply scientific principles and technical knowledge easily
- Use independent judgement in planning sequence of operations and in selecting proper tools and materials
- Visualize arrangement and relationship of stationary and moving parts as represented in diagrams
- Handle and manipulate tools and equipment skillfully
- Understand the operation of 2 cycle, 4 cycle engines
- Understand thoroughly the magneto ignition

VII. JOB PRACTICE:
- Shop and laboratory practice

VIII. ACADEMIC DEMANDS:
- Reading: Must be able to read and interpret engine manuals, service bulletins, etc.
- Math: Must be able to add up bills, compute labor charges, compute sales tax, make precision measurements, and be familiar with liquid measure as well as gas/oil mixtures
- Verbal: Must be able to communicate with customers tactfully to determine repair work that must be done
JOB TITLE: Auto Mechanic (Gasoline Engine Repairman including outboard engines and lawnmower mechanics) (cont.)

ACADEMIC DEMANDS: (continued)

Written: Must be able to write up repair bills, keep a log of work to be done, etc.
May have to take inventory, order parts, etc.

ADDITIONAL JOB INFORMATION:

1) Disadvantages: Work tends to be seasonal

2) Advantages: Work is usually done indoors

3) Job Training: On the job Vocational Schools

IX. EVALUATION: As determined by teachers
I. JOB TITLE: Auto Mechanic

II. JOB DUTIES:
- Performs preventive maintenance tasks
- Troubleshoots malfunctioning automobiles
- Repairs automobiles
- Questions customer about the performance of the vehicle
- Tests the operation of motor, transmission, steering gear, and brakes
- Plans work, using charts, repair manuals and experience
- Removes part of automobile to be repaired, using various hand and power tools
- Conducts test on engine, cooling system, carburetor, electrical system, and other parts using special testing instruments
- Overhauls, repairs or replaces worn or faulty parts
- Makes necessary adjustments to parts
- Tests automobile to see that it has been restored to proper working order
- Write up work record and costs
- Fill out customer’s bill

III. WORKING CONDITIONS:
- Work both inside and outside under a variety of weather conditions
- Work up to 6 days a week which may include nights, weekends and holidays
- Work with greasy tools and parts in a noisy environment with the presence of gas and carbon monoxide fumes

IV. JOB REQUIREMENTS:
- Have full use of arms, legs, hands and fingers
- Be able to bend, stoop, crouch, kneel and move around easily
- Be able to lift and carry materials weighing up to 75 pounds
- Have good vision or corrected
- Be free of allergies to dirt, dust, oil and grease
- Speak, read and write English
- Be 18 years of age
- Complete 2 to 4 years of vocational education and employer’s on-the-job training of one to two years; or complete an apprenticeship of 3 to 4 years
- Have a driver’s license

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Must have a good understanding of the operation of an automobile to facilitate troubleshooting
- Must have good skill with the use of a wide variety of hand and machine tools as well as being able to make precision measurements

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: Must be able to read service bulletins, lubrication charts, part substitution charts, maintenance manuals, flat rate manuals, etc.
- Math: Must be able to add up repair bills, compute tax, bookkeeping (if self employed), subtract
- Verbal: Must be able to communicate well with a wide variety of customers
- Written: Must keep a log of repair work to be done, write up bills, keep records, take inventories
JOB TITLE: Auto Mechanic (continued)

ADDITIONAL JOB INFORMATION:

1) Disadvantages: Irregular hours
   Exposure to gas and exhaust fumes
   Work is dirty, greasy and can be hazardous

2) Advantages: Opportunity for advancement in the trade or to own a business

3) Job Training: On the job Vocational Schools
   Company sponsored training programs oriented to one manufacturer's automobiles
   Armed Forces Training program

IX. EVALUATION: As determined by teachers
### LEARNING GOALS

<table>
<thead>
<tr>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT, SUPPLIES</th>
<th>NEW TERMINOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning-personal shop safety plan</td>
<td>Goggles</td>
<td>VOCABULARY</td>
</tr>
<tr>
<td>Operation-function of shop machinery, tools and equipment</td>
<td>a) Gas welding</td>
<td>Hazard</td>
</tr>
<tr>
<td>Analysis of job hazards</td>
<td>b) Arc welding</td>
<td>Injury</td>
</tr>
<tr>
<td>Prevention-Precautionary measures and preventative procedures</td>
<td>c) Grinding</td>
<td>Statistical</td>
</tr>
<tr>
<td>Demonstration of fire extinguisher</td>
<td>d) Chiseling</td>
<td>Compensation</td>
</tr>
<tr>
<td>a) Invite Fire Dept. to demonstrate Importance</td>
<td>Guards</td>
<td>Inspection</td>
</tr>
<tr>
<td>Demonstrate engine operation with model engine (Small engine)</td>
<td>Fire</td>
<td>Prevention</td>
</tr>
<tr>
<td>Disassemble single cylinder engine and discuss major parts and their function</td>
<td>Demonstration model engine</td>
<td>Regulation</td>
</tr>
<tr>
<td>Demonstrate and discuss operating engine</td>
<td>Small engines</td>
<td>Equipment</td>
</tr>
<tr>
<td>Disassemble auto engine and discuss major parts and their functions</td>
<td>Mechanics hand tools</td>
<td>Machinery</td>
</tr>
<tr>
<td>Identify major parts of engine on teacher made ditto</td>
<td>Compression tester</td>
<td>Precaution</td>
</tr>
<tr>
<td>Read and Discuss chapter on &quot;The Engine&quot; in text Understanding the Auto</td>
<td>Auto engines (demonstration)</td>
<td>Safety</td>
</tr>
<tr>
<td>Demonstrate manually the operation of fuel pump</td>
<td>Gear pullers</td>
<td>Apron</td>
</tr>
<tr>
<td>Disassemble fuel pump and carburetor and discuss major parts and their function</td>
<td>Arbor press</td>
<td>Dangerous</td>
</tr>
<tr>
<td>Discuss and discuss fuel system in operation</td>
<td>3/8&quot; socket set</td>
<td>Flammable</td>
</tr>
<tr>
<td>Identify major parts of fuel pump</td>
<td>1/2&quot; socket set</td>
<td>Codes</td>
</tr>
<tr>
<td>Read and discuss chapter &quot;Fuel and Exhaust System&quot; in Understanding the Auto</td>
<td>Open and box end wrenches</td>
<td>Two cycle</td>
</tr>
<tr>
<td>Discuss primary and secondary systems</td>
<td>Carburetor</td>
<td>Four cycle</td>
</tr>
<tr>
<td>Discuss major parts of both</td>
<td>Fuel pump</td>
<td>Strokes</td>
</tr>
<tr>
<td>- To identify types of machinery and hazards involved</td>
<td>Gas filter</td>
<td>Intake</td>
</tr>
<tr>
<td>- To understand the working and procedures of the shop (orientation)</td>
<td>Gas lines</td>
<td>Compression</td>
</tr>
<tr>
<td>- To operate a safe shop</td>
<td>Manifold (exhaust)</td>
<td>Power</td>
</tr>
<tr>
<td>- To understand the principle of operation of the internal combustion engine (small engine repairman)</td>
<td>Muffler</td>
<td>Exhaust</td>
</tr>
<tr>
<td>- To identify major parts of engine and be familiar with their function</td>
<td>Pipe expander</td>
<td>Camshaft</td>
</tr>
<tr>
<td>- To understand the principles of the operation of the fuel and exhaust system</td>
<td>Clamps</td>
<td>Crankshaft</td>
</tr>
<tr>
<td>- To identify major parts of system and be familiar with their functions</td>
<td>Air chisel</td>
<td>Piston</td>
</tr>
<tr>
<td>- Become familiar with the principles of the operation of the automobile ignition and electrical system</td>
<td>Hacksaw</td>
<td>Piston rings</td>
</tr>
<tr>
<td>- Identify major parts of system and be familiar with their functions</td>
<td>Tubing cutter</td>
<td>Cylinder</td>
</tr>
<tr>
<td>- Understand the operation and function of the crankcase lubrication system</td>
<td>Flaming tool</td>
<td>Wrist pins</td>
</tr>
<tr>
<td>- To know the operation of the cooling system of car engines and small engines</td>
<td>Starter</td>
<td>Journal</td>
</tr>
<tr>
<td>- To know the parts and their functions in the cooling of engines</td>
<td>Battery</td>
<td>Bearings</td>
</tr>
<tr>
<td>- To understand how power is transmitted from the engine to transmission via clutch or automatic transmission through drive shaft, differential the axles and to the wheels</td>
<td>Generator</td>
<td>Rocker Arms</td>
</tr>
<tr>
<td>- To understand the workings of the complete braking system</td>
<td>Alternator</td>
<td>Valve seats</td>
</tr>
<tr>
<td>- Discuss primary and secondary systems</td>
<td>Voltage regulator</td>
<td>Connecting rods</td>
</tr>
<tr>
<td>- Discuss major parts of both</td>
<td>Coil</td>
<td>Compression test</td>
</tr>
<tr>
<td>- To understand how power is transmitted from the engine to transmission via clutch or automatic transmission through drive shaft, differential the axles and to the wheels</td>
<td>Distributor</td>
<td>Flywheel</td>
</tr>
<tr>
<td>- To understand the workings of the complete braking system</td>
<td>Spark plugs</td>
<td>Gasoline</td>
</tr>
<tr>
<td>- Discuss primary and secondary systems</td>
<td>Spark plugs</td>
<td>Carburetor</td>
</tr>
<tr>
<td>- Discuss major parts of both</td>
<td>Spark plugs</td>
<td>Atomizer</td>
</tr>
<tr>
<td>- To understand the working and procedures of the shop (orientation)</td>
<td>Spark plugs</td>
<td>Fuel pump</td>
</tr>
<tr>
<td>- To operate a safe shop</td>
<td>Spark plugs</td>
<td>Vacuum</td>
</tr>
<tr>
<td>- To understand the principle of operation of the internal combustion engine (small engine repairman)</td>
<td>Spark plugs</td>
<td>Manifold</td>
</tr>
<tr>
<td>- To identify major parts of engine and be familiar with their function</td>
<td>Spark plugs</td>
<td></td>
</tr>
</tbody>
</table>
### LEARNING ACTIVITIES

<table>
<thead>
<tr>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>To know how to inspect and determine when brakes need replacing</td>
</tr>
<tr>
<td>To be able to replace the brake shoe of an auto</td>
</tr>
<tr>
<td>To understand differences between Drum Brakes and Disc Brakes</td>
</tr>
<tr>
<td>To understand power brakes</td>
</tr>
<tr>
<td>Disassemble and discuss functions of major parts of starter, generator, alternator, distributor</td>
</tr>
<tr>
<td>Discuss electrical system as it pertains to accessories (lights, radio, air-conditioning, etc.)</td>
</tr>
<tr>
<td>Trace the oil circulatory system in an engine-types of lubricants, method of venting crankcases and cooling oil</td>
</tr>
<tr>
<td>To trace the power from the engine to the wheels with engine model</td>
</tr>
<tr>
<td>Remove and replace universal joints of drive shaft</td>
</tr>
<tr>
<td>Trace the hydraulic system from the pedal to the tires</td>
</tr>
<tr>
<td>To adjust drum brake</td>
</tr>
<tr>
<td>To replace drum brake shoes</td>
</tr>
<tr>
<td>To replace disc brake pads</td>
</tr>
</tbody>
</table>

### TOOLS, EQUIPMENT

<table>
<thead>
<tr>
<th>Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solenoid</td>
</tr>
<tr>
<td>Oil pumps from small engines and from auto engine</td>
</tr>
<tr>
<td>Crankcase and dipstick</td>
</tr>
<tr>
<td>PCV Valves</td>
</tr>
<tr>
<td>Filters</td>
</tr>
<tr>
<td>Filter wrenches</td>
</tr>
<tr>
<td>Water pumps from auto engine</td>
</tr>
<tr>
<td>Thermostat</td>
</tr>
<tr>
<td>Hydrometer</td>
</tr>
<tr>
<td>Drive shaft with universal joints</td>
</tr>
<tr>
<td>Brake fluid</td>
</tr>
<tr>
<td>Brake spoon</td>
</tr>
<tr>
<td>Brake spring tool</td>
</tr>
<tr>
<td>Diagonal pliers</td>
</tr>
<tr>
<td>Tubing wrenches</td>
</tr>
<tr>
<td>Single and double master cylinder</td>
</tr>
<tr>
<td>Wheel cylinder</td>
</tr>
<tr>
<td>Crankcase ventilation</td>
</tr>
<tr>
<td>P.C.V.</td>
</tr>
<tr>
<td>Thermostat</td>
</tr>
<tr>
<td>Radiator</td>
</tr>
<tr>
<td>Oil lines</td>
</tr>
<tr>
<td>Friction</td>
</tr>
<tr>
<td>Pressure relief valve</td>
</tr>
<tr>
<td>Hoseclamps</td>
</tr>
<tr>
<td>Clamp pliers</td>
</tr>
<tr>
<td>Universal joint</td>
</tr>
<tr>
<td>Flywheels</td>
</tr>
<tr>
<td>Clutches</td>
</tr>
<tr>
<td>Throwout bearing</td>
</tr>
<tr>
<td>Thrust bearing</td>
</tr>
<tr>
<td>Drive shaft</td>
</tr>
<tr>
<td>Differential</td>
</tr>
<tr>
<td>Torque converter</td>
</tr>
<tr>
<td>Bleed brakes</td>
</tr>
<tr>
<td>Brake spoon</td>
</tr>
<tr>
<td>Dual cylinders</td>
</tr>
<tr>
<td>Brake shoes</td>
</tr>
<tr>
<td>Disc pads</td>
</tr>
<tr>
<td>Calipers</td>
</tr>
<tr>
<td>Hydraulic booster</td>
</tr>
</tbody>
</table>

### NEW TERMINOLOGY

<table>
<thead>
<tr>
<th>Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Intake and exhaust)</td>
</tr>
<tr>
<td>Flexible diaphragm</td>
</tr>
<tr>
<td>Pressure</td>
</tr>
<tr>
<td>Proportions</td>
</tr>
<tr>
<td>Float</td>
</tr>
<tr>
<td>Muffler</td>
</tr>
<tr>
<td>Tailpipe</td>
</tr>
<tr>
<td>Solenoid</td>
</tr>
<tr>
<td>Volts</td>
</tr>
<tr>
<td>Amps</td>
</tr>
<tr>
<td>Bendix drive</td>
</tr>
<tr>
<td>Field coils</td>
</tr>
<tr>
<td>Armature</td>
</tr>
<tr>
<td>Magnetism</td>
</tr>
<tr>
<td>Filter screen</td>
</tr>
<tr>
<td>Dipstick</td>
</tr>
<tr>
<td>Filters</td>
</tr>
<tr>
<td>Pressure gauge</td>
</tr>
<tr>
<td>Fluid</td>
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<tr>
<td>Pressure relief valve</td>
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<td>Crankcase ventilation</td>
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<tr>
<td>Universal joint</td>
</tr>
<tr>
<td>Flywheels</td>
</tr>
<tr>
<td>Clutch</td>
</tr>
<tr>
<td>Throwout bearing</td>
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<td>Thrust bearing</td>
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<td>Drive shaft</td>
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<tr>
<td>Calipers</td>
</tr>
<tr>
<td>Hydraulic booster</td>
</tr>
</tbody>
</table>

### MATH

<table>
<thead>
<tr>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratios-gear to gear</td>
</tr>
<tr>
<td>Torque-foot and pounds</td>
</tr>
<tr>
<td>Liquid measure</td>
</tr>
<tr>
<td>Decimals</td>
</tr>
</tbody>
</table>

### FILM LOOPS

- Automobile Mechanic, Encyclopedia Britannica
- The Gas Turbine Engine
- BOCES Library
- General Motors
- Detroit, Mich.
- Victory Circles, Dana Corp.
- Performance Starts in The Garage, Dana Corp.
- Automotive Service Opportunities, Ford Motor Co.
- Auto Mechanic: It's For You, Modern Talking Pictures
- Each Day at Dawn, Modern Talking Pictures
- No Time to Waste, Modern Talking Pictures
- Series of Films on Racing and Auto Mechanics, Goodyear Tire and Rubber Co., Public Relations Film Library, Akron, Ohio 44316
I. JOB TITLE: Auto Body Repairman

II. JOB DUTIES:
- Repair and refinish damaged bodies and body parts of automobiles and light trucks
- Examine vehicle to determine type and extent of damage to be repaired
- Remove upholstery, accessories, equipment and trim
- Remove and replace damaged fenders, panels and grills
- Repair breaks in body metal
- Remove dents with hammer and steel blocks
- Fill in dents and fillable holes
- Smooth repaired and filled-in areas with files
- Refinish repaired surfaces by painting
- Spray final coat of paint
- May estimate cost of repairs

III. WORKING CONDITIONS:
- Work with and around other workers
- Work both inside and outside
- Work up to 6 days a week
- Work in dirty, dusty and noisy surroundings filled with fumes from welding, solvents and paints
- Work must be done in cramped positions

IV. JOB REQUIREMENTS:
- Be at least 18 years of age
- Speak, read and write English
- Complete 2-4 years of vocation education in mechanical work
- Have a driver's license
- Be able to drive both a manual and automatic shift vehicle
- Be willing to purchase your own tools
- Must have good vision
- Mechanical aptitude

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- All phases of metalworking
- Use fingers and hands rapidly and skillfully
- Manipulate small and large tools and equipment
- Distinguish colors for color-matching and painting

VII. JOB PRACTICE:
- Shop and Laboratory experiences

VIII. ACADEMIC DEMANDS:
- Reading: May have to read manuals for parts and/or job cost estimates as well as paint color selection and mixing
- Math: May have to compute labor costs
- Add repair bills, compute tax and make change
- Verbal: Must be able to communicate with customers
- Written: May have to write up work orders, keep a log of pending jobs, and fill out repair bills and estimates
Auto Body Repairman (Continued)

ADDITIONAL JOB INFORMATION:

1) Disadvantages: Work is dirty, dusty and noisy
   Possibility of strains from heavy lifting, cuts and burns
   Few promotional opportunities

2) Advantages: Work is usually done indoors
   Opportunity to become self employed

3) Job Training: On the job Vocational Schools
   Industrial Training Programs

IX. EVALUATION: As determined by teachers
**LEARNING GOALS**

- To understand hazards involved in use of high air pressure (safety)
- To understand the skills necessary to become an auto body repairman
- To identify and classify auto body tools and equipment
- To know how to do minor body repairs
- To identify and know how to use cleaners, sandpapers, thinners, reducers, primers, paints, compound
- To know frame and suspension parts of system
- To know how to do major body repairs
- To identify and know how to use cleaners, sandpapers, thinners, reducers, primers, paints, compound
- To know frame and suspension parts of system

**LEARNING ACTIVITIES**

- Mix plastic body filler
- Shape and sand body filler
- Mix primers
- Sand primers with proper sandpaper
- Bump out and fill small dents
- Spray primer and sand to prepare for finish
- Compound and clean painted surfaces
- Static wheel balancing
- Wheel alignment geometry
- Adjust steering
- Adjust toe-in on front wheels
- Replacement of shock absorbers

**TOOLS, EQUIPMENT SUPPLIES**

- Body hammers
- Body dollys
- Vixen files
- Picks
- Body jacks
- Grinders
- Sanders
- Spray gun
- Primers
- Sandpapers
- Laquers
- Enamels
- Wheel balancer
- Toe-in gauge
- Socket wrenches
- Box and open end wrench sets
- 3/8" and 1/2" drive socket sets
- Floor lift
- Impact hammer

**NEW TERMINOLOGY**

<table>
<thead>
<tr>
<th>VOCABULARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ding hammer</td>
</tr>
<tr>
<td>Spoons</td>
</tr>
<tr>
<td>Body blocks</td>
</tr>
<tr>
<td>Disc sander</td>
</tr>
<tr>
<td>Sanding block</td>
</tr>
<tr>
<td>Friction</td>
</tr>
<tr>
<td>Grit</td>
</tr>
<tr>
<td>Impact</td>
</tr>
<tr>
<td>Foot power</td>
</tr>
<tr>
<td>King pins</td>
</tr>
<tr>
<td>Ball joint</td>
</tr>
<tr>
<td>Tie rod ends</td>
</tr>
<tr>
<td>Drag links</td>
</tr>
<tr>
<td>Sector gear</td>
</tr>
<tr>
<td>Pitman arm</td>
</tr>
<tr>
<td>Toe-in or out</td>
</tr>
<tr>
<td>Direct-acting shock</td>
</tr>
<tr>
<td>Absorber</td>
</tr>
<tr>
<td>Vibration</td>
</tr>
<tr>
<td>Bushings</td>
</tr>
<tr>
<td>Oscillation</td>
</tr>
<tr>
<td>Recoil</td>
</tr>
<tr>
<td><strong>MATH</strong></td>
</tr>
<tr>
<td>Liquid measure</td>
</tr>
<tr>
<td>Square measure in inches and feet</td>
</tr>
<tr>
<td>Force</td>
</tr>
<tr>
<td>Addition and Subtraction of fractions</td>
</tr>
</tbody>
</table>

**TEXT, WORKBOOKS OTHER MATERIALS**

- Auto Body Repair - 1
- Vocational Division Curriculum Lab
- New Jersey
- Related Mathematics; Auto Body
- Vocational Division
- Curriculum Lab, New Jersey
- Automotive Refinish Manual
- Ditzler Repaint Manual
- Understanding the Auto
- Automobile Chassis and Body
- Steering
- Shock Absorber
- Dealer Supply
- Catalogs
- Monroe, Delco, etc.

- **FILMS**
  - Ford Motor Co.
  - Dearborn, Mich.
  - General Motors
  - Tarrytown, New York
  - Paint
  - People Who Fix Things
  - Good Hand, Good Eye, Dupont
  - PPG-Glass for the Seventies
  - Modern Talking Pictures

- **CASSETTE TAPES**
  - Your Future as an Auto Body Repairman

- **FILM LOOPS**
  - Automotive Body Repairman
  - Encyclopedia Britannica

- **FIELD TRIPS**
  - General Motors Plant
  - Tech Center Class
I. JOB TITLE: Auto Body Repairman (Oxyacetylene/Welder)

II. JOB DUTIES:
- Welds metal parts together according to the blueprints or work orders
- May perform related tasks such as flame cutting and grinding
- May repair broken or cracked metal parts
- Selects and uses oxyacetylene, arc or TIG welding process depending on the job and material being welded
- Positions work in jigs, fixtures or clamps
- May also do brazing, silver soldering, heat treating, bending as well as repair machinery

III. WORKING CONDITIONS:
- Work may be performed inside or outside
- Welder may be exposed to fumes

IV. JOB REQUIREMENTS:
- Steady hand and good eye-hand coordination
- Must be a very careful worker
- May be required to pass a qualifying examination

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Must be able to plan work
- Move hands and fingers rapidly and accurately
- Work within prescribed standards and specifications
- Measure accurately
- Be able to visualize objects from drawings

VII. JOB PRACTICE:
- Shop and laboratory experiences

VIII. ACADEMIC DEMANDS:
- Reading: Welding manuals, trade journals, blueprint reading, welding charts
- Math: Must be familiar with measurement
- Verbal: Must be able to communicate with supervisor and fellow workers
- Written:

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Outside work is seasonal and requires careful budgeting of income
   Welder is always subject to severe burns from hot metal or torch flame

2) Advantages: Employment opportunities are available in virtually every field
   Opportunity for advancement

3) Job Training: On the job Apprentice programs in industry
   Armed Forces training programs
   Vocational Schools
IX. EVALUATION: As determined by teachers
**LEARNING GOALS**

- To develop an understanding of the working of the oxyacetylene torch in a safe manner
- To know how to properly light and use a welding torch
- To learn how to cut metal with an oxyacetylene torch
- To become familiar with the welding process with an oxyacetylene torch

**LEARNING ACTIVITIES**

- Set up, turn on and use properly the oxyacetylene torch
- Weld together sections of 1/8" ferrous metal
- Braze sections of 1/8" ferrous metal
- Cut up metal with an oxyacetylene torch

**TOOLS, EQUIPMENT & SUPPLIES**

- A complete welding set
- Welding rods
- Brazing rods
- Spark lighters
- Gloves
- Welding bench
- Metal for welding
- Metal for cutting

**NEW TERMINOLOGY**

- 3/32 rod
- 1/8 rod
- Brazing flux
- Brazing rod
- Welding tip
- Welding rod
- Penetration
- Oxygen
- Acetylene
- Ferrous
- Non-ferrous
- Quench
- Preheat
- Spark lighter
- Crack cylinder valves
- Blow thru
- Carbonizing
- Carbonsading
- Neutral flame
- Fusion
- Tacking
- Butt weld
- Lap weld

**TEXT, WORKBOOKS & OTHER MATERIALS**

- Auto Body Repair, N.J. State Education Department
- Opportunities in Welding, American Welding Society
- Trade films-American Welding Soc.
 345 E. 47th Street
 345 E. 47th Street
 N.Y., N.Y. 10017

- Oxyacetylene Flame-Master of Metals, U.S. Bureau of Mines

- Westchester Iron Works

- County Welding Supply, Croton Falls, N.Y.
BUILDING TRADES
(Carpentry/Masonry)
COURSE: BUILDING TRADES

UNITS:

First Quarter: Masonry and Bricklaying
                Bricklayer, Mason's Apprentice
                Concrete Finishing (Mason's Apprentice)
                Carpentry
                Carpenter
                Roofer
                Resilient Tile Mechanic
                Insulation Mechanic
                Dry Wall Applicator
                Taper
                Painter Apprentice

Second Quarter: Same as above.

Third Quarter: Same as above.

Fourth Quarter: Same as above.
I. JOB TITLES: Bricklayer/Mason's Apprentice
   Concrete finisher/Mason's Apprentice

II. JOB DUTIES:

- Lay out work by measuring distances from reference points and marking guidelines on working surfaces
- Measure and mix quantities of sand, gravel, Portland cement to form concrete
- Spread a soft bed (layer) of mortar that serves as a base and binder for the bricks, using a trowel
- Apply mortar to brick ends and position brick in mortar bed
- Tap bricks with trowel to level, line, and embed them in mortar allowing specified thickness of joint
- Remove excess mortar from face of brick, using trowel
- Finish mortar between bricks with pointing tool or trowel
- Break bricks to fit spaces too small for whole brick, using edge of trowel or brick hammer
- Determine vertical and horizontal alignment of courses (rows), using plumb bob, gaugeline (tightly stretched cord) and level guides
- Fasten brick or terra cotta veneer to face of structures with tie wires embedded in mortar between bricks, or in anchor holes in veneer brick.
- Construct forms for footings:
- Stack and store brick and block safely
- Store and pile cement in weather tight piles

III. WORKING CONDITIONS:

- Work with and around others, indoors and outdoors
- Be exposed to all kinds of weather
- Be subject to cuts and bruises from tools and materials
- Be subject to possibility of falls from ladders and high places
- Be required to travel to various job locations

IV. JOB REQUIREMENTS:

- Be able to stand for long periods of time
- Be able to bend, stoop, crouch, kneel, and crawl
- Be able to lift and carry up to 95 pounds
- Have good vision and hearing (normal or corrected)
- Be able to climb ladders and walk on scaffolds

V. JOB CONDITIONS:

- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:

- Move fingers and hands rapidly and accurately
- Work to prescribed standards (mixes)
- Visualize forms and shapes from blueprints and sketches
- Perform arithmetic computations accurately
- Plan work and make decisions

VII. JOB PRACTICE:

- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:

- Reading: Be able to read instructions
  Beginner blueprint and bills for materials, trade journals
- Math: Be proficient in arithmetic computations such as fractions, decimals, how to measure and square materials, elementary surveying
- Verbal: Be able to communicate with co-workers, supervisors, and or customers
- Written: Be able to draw and label simple plans and sketches, write up job cost estimates

ADDITIONAL JOB INFORMATION:

1) Disadvantages: Work is frequently curtailed in bad weather
   Hazard of injuries from falls, and bruises from handling materials
2) Advantages: Good opportunity for advancement
   Good pay and fringe benefits for union members
3) Training opportunities: Vocational Schools
   Apprentice Program in industry

IX. EVALUATION: As determined by teachers
**COURSE:** Building Trades 1  
**OCCUPATION:** Bricklayer (Mason's Apprentice)

<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT SUPPLIES</th>
<th>NEW TERMINOLOGY</th>
<th>MATH</th>
</tr>
</thead>
<tbody>
<tr>
<td>... To identify masonry tools and their proper use</td>
<td>... Construct square corners using layout ratio 3:4:5</td>
<td>Mason trowel</td>
<td>VOCABULARY</td>
<td>MATH</td>
</tr>
<tr>
<td>... To identify types of brick, block and related masonry materials</td>
<td>... Construct corners of brick and block in shop area</td>
<td>Mason's hammer</td>
<td>Butter, Bed, Strike, Run, Mud, Bond, Binders, Joint, Face, Mortar, Clay, Shale, Lap, Line, Temper</td>
<td></td>
</tr>
<tr>
<td>... To develop an understanding of how to mix cement mortar (proportions, mixing)</td>
<td>... Construct walls between two corners with emphasis on spacing to a line, joints and safety</td>
<td>Mason's ruler</td>
<td>Whole numbers, Fractions, Linear measure, Area, Perimeter</td>
<td></td>
</tr>
<tr>
<td>... To develop the ability to bed and apply mortar to brick</td>
<td>... Construct actual foundation using 8” concrete block for exterior walls and columns (small house)</td>
<td>Mason’s line</td>
<td></td>
<td></td>
</tr>
<tr>
<td>... To continue to develop the ability to lay brick to a line and to construct corners, plumb, straight, and square</td>
<td>... Apply brick veneer to front of existing foundation</td>
<td>Plaster trowel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>... Show and discuss different types of brick and block</td>
<td>... Show measuring tools and discuss uses</td>
<td>Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>... Show amounts to mix ratios of 1:2:4, 1:3:5, 1:3:6</td>
<td>... Find amounts of sand, cement, and gravel</td>
<td>Jointer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>... Measure linear, square and cubic as it relates to forms and mix</td>
<td></td>
<td>Hawk</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NEW TERMINOLOGY**

- Butter, Bed, Strike, Run, Mud, Bond, Binders, Joint, Face, Mortar, Clay, Shale, Lap, Line, Temper

**MATH**

- Whole numbers, Fractions, Linear measure, Area, Perimeter

**TOOLS, EQUIPMENT SUPPLIES**

- Mason trowel
- Mason’s hammer
- Mason’s ruler
- Mason’s line
- Plaster trowel
- Level
- Jointer
- Hawk
- Float-wood
- Float-rubber
- Hoe
- Mixing box
- Shovel (Flat)
- Water barrel
- Straight edge
- Edger
- Liner
- sand
- Lime
- Portland cement
- Mortar cement
- Water
- Stone-aggregate

**TEXT, WORKBOOKS OTHER MATERIALS**

- Concrete Form Construction
- Concrete Technology
- Blueprint Reading and Sketching, All by Delmar
- Bricklaying I & II Workbook
- Mathematics for Masonry Trade Workbook
- Mathematics for Carpentry Workbook, All by Delmar

**FILMS**

- U.S. Navy Department Safety Films
- Teacher Made Worksheet
### LEARNING GOALS

- To understand reasons for practicing good safety as a concrete finisher
- To understand principles, methods and reasons for using reinforcing rods and/or mesh in concrete pads
- To identify materials and be able to understand how to mix cement in correct proportions
- To understand how to pour cement into a form and establish levels of finish
- To understand how to finish cement pad
- To understand reasons for and methods of sectioning off pad and finishing edges

### LEARNING ACTIVITIES

- Construct footing forms
- Layout pad in equal squares. Line with liner and edger
- Establish levels for footings in forms
- Layout and tie reinforcing rods in shop and on project pad
- Mix concrete in a concrete mixer using correct proportions of sand, gravel, Portland cement, and water
- Even off cement with float and finish with cement finishing trowel
- To understand reasons for and methods of sectioning off pad and finishing edges

### TOOLS, EQUIPMENT SUPPLIES

- Cement finishing trowel
- Float
- Kneeling pads
- Metal liner
- Metal Edger
- Straight edge
- Wheel barrow
- Shovel
- Rake
- Concrete mixer
- Portland cement
- Bolt cutter
- Marking crayon
- 6' Folding ruler
- Side cutting plier
- Size 14 wire

### NEW TERMINOLOGY

- Vocabulary
  - Concrete
  - Form
  - Frost line
  - Excavation
  - Cavities
  - Fill
  - Shoe
  - Stud
  - Barrels
  - Spreaders
  - Brace
  - Stakes
  - Facing
  - Screened Portland cement
  - Drum
  - Pail
  - Chute
  - Floated Batch
  - Hopper
  - Setup
  - Puddle

### MATH

- Whole numbers
- Fractions
- Linear measure
- Weight measure
- Area
- Perimeter

### TEXT, WORKBOOKS OTHER MATERIALS

- Home and Building Maintenance, McKnight & McKnight
- Concrete Form Construction, Delmar Masonry Trade Mathematics Workbook, Delmar
- Safety
- A Chance to Build Hidden Strength
- Atlas Portland Cement

### FIELD TRIPS

- Cement Plant
- Hudson, N.Y.
- Montross Concrete Block

- Teacher Made Transparencies
I. JOB TITLE: Carpenter and Carpenter's Apprentice

II. JOB DUTIES:

- Read blueprints and sketches to obtain information as to type of material required and dimensions of structure or fixture to be made.
- Select specified type of lumber or other materials.
- Mark cutting and assembly lines on materials.
- Shape materials to prescribed measurements using saws, chisels and planes.
- Fasten shaped and assembled materials with nails, dowel pins, or glue.
- Verify trueness of structure.
- Erect framework for structure and lay sub-flooring.
- Build stairs.
- Install partitions and cabinets.
- Lay hardwood, parquet and woodstrip block floors.
- Apply shock-absorbing, sound deadening, and decorative paneling to ceiling and walls.
- Fit and install prefabricated window frames, doors, doorframes, interior and exterior trim, and finish hardware.
- Construct concrete forms and pouring chutes.
- Erect scaffolding and ladders.

III. WORKING CONDITIONS:

- Work inside and outside under a variety of climatic conditions.
- Work with and around others or alone.
- Be exposed to dust and dirt from work site.
- Possibly work in high places on ladders and scaffolds.
- Be subject to possibility of cuts from tools and sharp materials.

IV. JOB REQUIREMENTS:

- Be able to stand for long periods of time.
- Have full use of arms, legs, hands and fingers.
- Be able to bend, stoop, kneel, crouch and move around easily.
- Be able to lift and carry materials weighing up to 75 pounds.
- Be able to climb ladders and work in high places.
- Be able to tolerate noise and dust.
- Be able to distinguish colors.
- Have good vision and hearing (normal or corrected).

V. JOB CONDITIONS:

- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:

- Use of hand and power woodworking tools.
- Ability to measure quickly and accurately.

VII. JOB PRACTICE:

- Shop and laboratory experience.

VIII. ACADEMIC DEMANDS:

- Reading: Be able to read instructions.
  - Beginner blueprint reading.
  - Read bills for materials.
- Math: Be proficient in arithmetic computations such as fractions, decimals, and how to square materials.
  - Some knowledge of trigonometry is helpful.
- Verbal: Be able to communicate with co-workers, supervisors and customers.
- Written: Be able to draw and label simple plans.

ADDITIONAL JOB INFORMATION:

1) Disadvantages: Weather conditions may hamper work or reduce work hours.
   - Work is often on a short-term basis.
   - Must provide own transportation to frequently changed work site.
2) Advantages: Employment opportunities and pay are good. Opportunities for advancement are excellent.

3) Training opportunities: Vocational Schools, Apprentice programs in industry.

IX. EVALUATION: As determined by teachers.
COURSE: Carpentry

OCCUPATION: Carpenter and Carpenter's Apprentice

LEARNING GOALS

... To understand reasons for practicing good safety
... To become qualified in the use of power tools and hand tools used in a shop.
... To identify and know uses of materials commonly used in wall framing.
... To identify and know uses of materials commonly used in floor framing.
... To identify and know uses of materials commonly used in roof framing.
... To understand the application of all aspects of house construction.

LEARNING ACTIVITIES

Discuss safety as it pertains to carpentry.
- a) Clothes
- b) Hard hat
- c) Shoes
- d) Goggles
- e) Loose clothes
- f) Tools (Power and hand)

Observe safety films.

Construct mock-up of exterior partitions in shop to include:
- Studs
- Sheathing
- Fire stops
- Top and bottom plates
- Layout and construct girders and floor platform (bridging, sill, lally column, box frame)

Construct mock-up of roof including ridge, roof rafters, sheathing, gable studs, soffit, facia.

Install on mock-up asbestos shingles, cedar, clapboard, plywood.

Apply knowledge in sequential steps in the construction of a house.

Study and know different types of building materials and their uses in construction.

Familiarize students with specific trade (construction) vocabulary.

Practice in the use of various types of measurement and measuring tools as it relates to the construction field to include measuring and squaring planes.

TOOLS, EQUIPMENT, SUPPLIES

2x6
2x8
4x8x1/2 plywood
6d common nails
8d common nails
16d common nails
Asbestos shingles
Cedar shingles
Clapboard shingles
Texture shingles

NEW TERMINOLOGY

VOCABULARY

Top plate
Sole plate
Sheathing
Studs
Rafter
Ridge
Bridge
Girder
Header
Lally column
Gable end
Soffit
Facia
Studs
Ridge
Jack Rafters
Jack Studs
Hips
Valley
Rake
Birds mouth
Tail (rafter)

MATH

Square measure
Perimeter
Board measure
Cubic measure
Linear measure
Fractions
Addition, subtraction, division, multiplication

TEXT, WORKBOOKS, OTHER MATERIALS

PORTABLE POWER TOOLS

HAND WORKWOODING TOOLS

FRAMING, SHEATHING, AND INSULATION, ALL DELMAR

MODERN CARPENTRY, GOODHEART & WILCOX PUB.

PRACTICAL PROBLEMS IN MATHEMATICS WORKBOOK

BLUEPRINT READING AND SKETCHING WORKBOOK

INTERIOR AND EXTERIOR TECHNICAL WORKBOOK, ALL DELMAR

BENCH WOODWORKING

WOODWORKING TECHNOLOGY, McKNIGHT & MCKNIGHT

MEASURE UP, FERRON PUB.

PAMPHLETS

LOYD LUMBER CO., INC.

SCHOOL SHOP PLYWOOD SERIES

FILMS

SAFETY FILMS

AREA AND PERIMETER

HAND SAW

MEASURING AND SQUARE PLANES

HAND TOOLS

GEORGIA PACIFIC FILM SERIES

FIELD TRIPS

SAWMILL

DANBURY, CONN.

GYPSUM WALLBOARD PLANT

BUCHANAN, N.Y.

KITCHEN CABINET FACTORY

MIDDLETOWN, N.Y.

LOCAL BUILDING SITE

KELLY SAW MILL

DOVER PLAINS, N.Y.
Trade: Building Trades

I. JOB TITLE: Roofer

II. JOB DUTIES:

Cuts roofing paper to size and aligns material with edge of roof
Fastens shingles or sheets to roof with nails or cement
Punches holes in slate, tile, wooden shingles with punch and hammer
Cuts and installs flashing at all angles formed by chimneys, walls, vents, and intersecting roof surfaces
Installs tar paper, liquid tar and gravel

III. WORKING CONDITIONS:
Works outside under a variety of climatic conditions
May work at extreme heights on ladders and scaffolds

IV. JOB REQUIREMENTS:
Good physical condition and good sense of balance
Apprenticeship Program - 3 years

V. JOB CONDITIONS:
Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
Measurement, good physical balance and endurance
No vertigo
Basic mathematical computation of areas, ratios, etc.

VII. JOB PRACTICE:
Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
Reading: Read instruction sheets, blueprints
Math: Calculate surface areas, compute quantities of material required, measure with steel tape or ruler
Verbal: Be able to communicate with co-workers and supervisor
Written: May be required to draw and label simple sketches
Prepare estimates

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Work may be hampered by weather
   Possibility of serious injury due to falls

2) Advantages: Pride of accomplishment since it is finishing work
   Satisfying to those who enjoy exercise

3) Training opportunities: On the Job Apprenticeship Program
   Vocational Schools

IX. EVALUATION: As determined by teachers
**COURSE:** Building Trades 1  
**OCCUPATION:** Roofer

<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT</th>
<th>NEW TERMINOLOGY</th>
<th>TEXT, WORKBOOKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>... To understand reasons for practicing good safety in roofing trade ... To identify and know use of materials and tools commonly used in roofing ... To understand the application of shingles on house roof ... To understand the application of shingles on house roof</td>
<td>Discuss safety as it pertains to roofing  Climbing ladders  Picking up heavy bundles  Storage of materials on roofs  Proper shoes  Discarding materials ... Safety film strips ... Scaffold Guard ... Properly install on mock-up</td>
<td>Claw hammers  Utility knife  Staple gun  Staple hammer  Tin snips  Chalk line  Ruler</td>
<td>Vocabularies:  Alternate  Flat roof  Pitched roof  Slope  Roof deck  Bitumen  Membrane  Gutters  Vertical  Horizontal  Adhesives  Felt  Slag</td>
<td>World of Construction, McKnight  Modern Carpentry, Goodhart &amp; Wilcox  Roof Framing, Delmar  Mathematics Carpentry  Trade Workbook  Delmar  Measure Up, Ferron</td>
</tr>
<tr>
<td>... To understand the application of shingles on house roof</td>
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</tr>
</tbody>
</table>

**TOOLS, EQUIPMENT**  
**SUPPLIES**  
Claw hammer  Utility knife  Staple gun  Staple hammer  Tin snips  Chalk line  Ruler

**NEW TERMINOLOGY**  
**MATH**  
Vocabulary:  Alternate  Flat roof  Pitched roof  Slope  Roof deck  Bitumen  Membrane  Gutters  Vertical  Horizontal  Adhesives  Felt  Slag  
Mathematics:  Linear measure  Square measure  Fractions  Whole numbers  Percentage  Perimeter  Weight measure

**TEXT, WORKBOOKS**  
**OTHER MATERIALS**  
World of Construction, McKnight  Modern Carpentry, Goodhart & Wilcox  Roof Framing, Delmar  Mathematics Carpentry  Trade Workbook  Delmar  Measure Up, Ferron

**FILMSTRIPS**  
Tom Fairly  BOCES Library

**OTHER MATERIALS**  
World of Construction, McKnight  Modern Carpentry, Goodhart & Wilcox  Roof Framing, Delmar  Mathematics Carpentry  Trade Workbook  Delmar  Measure Up, Ferron

... Filmstrips  
Familiarize students with roofing materials, tools, and vocabulary  
... Practice measuring requirements for roofing, gutters and leaders  
... Estimate materials and costs  
... Compute area and quantities  
... Practice accurate measurement
I. JOB TITLE: Resilient Tile Mechanic

II. JOB DUTIES:
- Install, replace and repair resilient tile, linoleum and vinyl sheet goods
- Plan work from sketch or plans
- Calculate quantities from plans
- Order materials
- Layout jobs according to schedule

III. WORKING CONDITIONS:
- Indoors, dry and warm
- Often works alone
- Travels from job location to job location
- Must provide own tools
- Provide own transportation
- Work daytime hours normally

IV. JOB REQUIREMENTS:
- Be able to lift boxes and cans weighing up to 50 pounds
- Be able to handle and manipulate tools (hand)
- Be able to kneel for long periods of time
- Be able to bend, stoop, crouch

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Measure and mark off floor in accordance with floor covering plan
- Make simple sketches
- Cut and fit materials
- Proper adhesives used for each type material
- Proper preparation of floor surfaces

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: Read blueprint, instructions, bills for material (shipping invoices)
- Math: Calculate quantities for square feet, yards, etc.
  - Calculate quantities for quarts, gallons, etc.
- Verbal: Follow verbal instructions and communicate with customer and/or supervisor
- Written: Keep job sheets, time sheets, etc.

ADDITIONAL JOB INFORMATION:
1) Disadvantages:

2) Advantages: Installers may shift from new construction to replacement jobs for winter season

3) Training opportunities: On the Job Vocational Schools

IX. EVALUATION: As determined by teachers
**LEARNING GOALS**

- To understand reasons for practicing good safety in resilient floor installation.
- To identify and know use of materials, adhesives and tools used in resilient tiling.
- Discuss safety pertaining to flooring.
- Lifting boxes and cans.
- Lifting rolls of linoleum.
- Properly install resilient tile on mock-up and any permanent installations that become installable.
- Familiarize students with blue prints, instructions, bill of materials, etc.
- Calculate quantities for square feet, yards, quarts, and gallons.
- Familiarize students with roofers' "Job Sheet".

**LEARNING ACTIVITIES**

- Chalk line
- Ruler
- Razor knife (retractable)
- Square
- Knotched trowel
- Scratch awl.
- Snips
- Roller
- 9" and 12" tile
  - a) Vinyl asbestos
  - b) Asphalt
  - c) Rubber
- White adhesive
- Asphalt base adhesive

**TOOLS, EQUIPMENT SUPPLIES**

- VOCABULARY
  - Scribe
  - Spread
  - Resilient
  - Cement

- MATH
  - Whole numbers
  - Fractions
  - Square measure
  - Linear measure
  - Perimeter

**NEW TERMINOLOGY**

- Home and Building Maintenance, McKnight & McKnight Construction, McKnight & McKnight
- Carpentry Mathematics Work-book, Delmar Measure Up, Ferron

- FILMS
  - A Chance to build Safety
Trade: Building Trades

I. JOB TITLE: Insulation Mechanic

II. JOB DUTIES:
Fasten sheets, batt, blanket and similar types of building insulation to walls, floors, ceilings and partitions with staples or nails
Cut insulation to size and shape with hand tools or portable power tools
Fit insulation around obstructions such as pipes or wiring
May wrap insulating material around air-conditioning ducts

III. WORKING CONDITIONS:
Work is performed indoors
Often works alone

IV. JOB REQUIREMENTS:
Physical endurance and tolerance of repetitive tasks

V. JOB CONDITIONS:
Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
Use of hand tools

VII. JOB PRACTICE:
Lab and shop practice

VIII. ACADEMIC DEMANDS:
   Reading: Helpful to be able to read blueprints, lists of materials, insulation instructions
   Math: May be required to calculate areas to size a job
   Verbal: Must be able to follow supervisor's instructions
   Written: May be required to prepare cost estimates

ADDITIONAL JOB INFORMATION:
Disadvantages: Seasonal work

IX. EVALUATION: As determined by teachers
### LEARNING GOALS

... To be able to install and secure insulating materials in structure framing, on air ducts and piping...

... To be able to work from ladders and scaffolds having both hands free for work...

... To be able to safely handle ladders, scaffolds, and tools of the trade...

... To maintain tools and equipment in workman-like condition...

... To be able to identify most common types of insulation materials...

### LEARNING ACTIVITIES

... Installation of batt and roll-type "Rock-wool" insulation in walls and ceilings of frame structures, using hammer and nails, stapling machines and staple hammer...

... Cutting material with knives and snips to length, also cutting out for pipes and electrical fixtures...

... Installation of roll-type insulation on metal ducts, using adhesives and wire to secure material. Cutting material to fit with knives and snips...

... Applying insulation material to pipes, using bands, clips, and joint cement...

### TOOLS, EQUIPMENT, SUPPLIES

- Hammers
- Staples
- Nails
- Staplers
  - a) Guns
  - b) Hammer
- Knives
- Snips-Scissors
- Wire-cutting plier
- Tle-wire
- Trowels
- Asbestos cement
- Rulers
- Measuring tapes
- Ladders
- Horses-planks
- Rolling scaffold

### NEW TERMINOLOGY

- Bath
- Roll
- Rock-wool
- Asbestos cement
- Aluminum foil
- Vapor barrier
- Blanket
- Foam
- Granules

### MATH

- Weight measure
- Linear measure
- Square measure
- Fraction
- Whole numbers
- Estimating

### TEXT, WORKBOOKS, OTHER MATERIALS

- World of Construction
- Home and Building Maintenance, McKnight
- Modern Carpentry, Goodheart & Willcox
- Framing, Sheathing and Insulation, Wkbk., Delmar
- Measure Up, Ferron
- FILMS
- U.S. Navy Department
I. JOB TITLE: Dry Wall Applicator

II. JOB DUTIES:
- Applies plasterboard or other wallboard to ceiling and interior walls of building
- Cuts and fits wallboard tostudling and joints using hand tools
- Scribes measurements in wallboard using hawk-bill knife and hammer
- Trims edges to obtain even joint
- Workers perform as a team when installing ceilings

III. WORKING CONDITIONS:
- Work is performed indoors

IV. JOB REQUIREMENTS:
- Be able to lift sheets of wallboard
- Good physical endurance

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Measurement layout and use of hand tools

VII. JOB PRACTICE:
- Lab and shop practice

VIII. ACADEMIC DEMANDS:
- Reading: Blueprints and work orders
- Math: May be required to calculate surface areas to order materials, compute labor time and cost for estimates
- Verbal: Must communicate with supervisor and/or with customers
- Written: May be required to write up job cost estimate for labor and material

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Work is seasonal
2) Advantages: Work is indoors
3) Job Training: On the Job Vocational Schools

IX. EVALUATION: As determined by teachers
### COURSE: Building Trades 2

### OCCUPATION: Dry Wall Applicator

#### LEARNING GOALS

- To be able to erect and secure gypsum wallboard panels on interior walls, partitions, and ceilings
- To be able to measure, cut and apply panels to wood studs and rafters
- To be able to handle bulky panels safely and to work safely with sharp cutting tools
- To be able to adjust, repair, and maintain tools

#### LEARNING ACTIVITIES

- Measuring, laying-out, and cutting 4' x 8' panels to fit areas of walls and ceilings using 4' T-square and wallboard knife
- Laying out and cutting holes for plumbing and electrical outlets using ruler, knife, and keyhole saw
- Working in teams to erect ceiling panels, using T supports while nailing
- Setting nail heads below surface to receive spackling

#### TOOLS, EQUIPMENT SUPPLIES

- 4' T-square
- Ruler
- Chalk-line
- Nailing hammer
- Nails
- Keyhole saw
- Marking pencils
- Plasterboard knife
- with replacement blades
- Wooden T support
- Benches or horses and planks

#### NEW TERMINOLOGY

- VOCABULARY
  - Face
  - Back
  - Score
  - Tack
  - Flush
  - Indent
  - Board knife
  - Outlet

- MATH
  - Area measure
  - Square measure
  - Weight measure
  - Whole numbers
  - Linear Measure

#### TEXT, WORKBOOKS OTHER MATERIALS

- World of Construction Home and Building Maintenance, McKnight
- Modern Carpentry
- Goodhart & Willcox
- Framing, Sheathing and Insulation
- Workbook, Delmar

- FILMS
  - Georgia Pacific Series
I. JOB TITLE: Taper

II. JOB DUTIES:
- Seals joints between plasterboard to prepare surface for painting or wallpapering
- Mixes joint compound by hand or with portable mixer
- Spreads compound over joint, presses tape and covers tape with compound
- Floats cementing material over entire surface
- Spreads compound over nail depressions
- May fill cracks and holes in walls and ceilings

III. WORKING CONDITIONS:
- Work is messy and performed indoors
- May work alone

IV. JOB REQUIREMENTS:
- Physical stamina
- Ability to maintain balance on stilts while working overhead

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Use of trowels, ability to balance on stilts

VII. JOB PRACTICE:
- Lab or shop practice

VIII. ACADEMIC DEMANDS:
- Reading: Must be able to navigate self to job site by reading signs, maps, etc.
- Math: May have to estimate quantity of tape and joint compound required for a job
- Verbal: Must be able to communicate with supervisor
- Written: May have to prepare time sheets, job estimates

ADDITIONAL JOB INFORMATION:
1) Disadvantages: New construction is a seasonal occupation
   - Work is somewhat messy
2) Advantages: High rate of pay
3) Job Training: On the job Vocational Schools

IX. EVALUATION: As determined by teachers
COURSE: Building Trades 2

OCCUPATION: Taper

<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT</th>
<th>NEW TERMINOLOGY</th>
<th>MATH</th>
<th>VOCABULARY</th>
<th>TEXT, WORKBOOKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>... To be able to make a finished surface of gypsum board partitions and ceilings by the use of paper tape and taping cement</td>
<td>... Installation of joint compound or taping cement on nailhead depressions, board joints and corners of walls and ceilings</td>
<td>Hawk</td>
<td>Estimating amounts of compound needed for a given area in gallons</td>
<td>1st coat, 2nd coat, etc.</td>
<td>World of Construction</td>
<td></td>
</tr>
<tr>
<td>... To be able to work and use hand tools efficiently while standing on scaffold planks or wearing metal stilts</td>
<td>... Application of tape to the cement in joints. Smoothing of additional cement coat over tape and final sanding</td>
<td>Plasterer's trowel, Pointing trowel, Nail hammer, Wkle blade taping knife, Sandpaper, Sanding block, Electric sanderoscillating type, Hoises and plaiks, Stilts</td>
<td>Wholes numbers, Linear measure</td>
<td>Feathering, Plumb, Square, &quot;Popping&quot; of nails, Drying time</td>
<td>Home and Building Maintenance, McKnight</td>
<td></td>
</tr>
<tr>
<td>... To be able to identify tools and materials used in dry-wall taping</td>
<td>... Installation of corner bead on exterior corner, smoothing cement and final sanding</td>
<td></td>
<td></td>
<td></td>
<td>Framing-Sheathing and Insulation</td>
<td></td>
</tr>
<tr>
<td>... Adjusting and fitting metal stilts</td>
<td>... Performing all of the foregoing on ceilings while using stilts</td>
<td></td>
<td></td>
<td></td>
<td>Workbook, Delmar</td>
<td></td>
</tr>
</tbody>
</table>

Hawk, Plasterer's trowel, Pointing trowel, Nail hammer, Wkle blade taping knife, Sandpaper, Sanding block, Electric sanderoscillating type, Hoises and plaiks, Stilts

World of Construction, Home and Building Maintenance, McKnight, Framing-Sheathing and Insulation, Workbook, Delmar, Carpentry Math, Delmar

Georgia Pacific Series
11. JOB TITLE: Painter's Helper and Painter's Apprentice

II. JOB DUTIES:
- Smooths surfaces, using sandpaper, steelwool
- Removes old paint from surfaces using paint remover, scraper, wire brush, blowtorch
- Fills nail holes, cracks and joints
- May mix paint
- Paints surfaces with brush, spray gun or roller
- May create special effects by applying paint with cloth, brush, sponge, or fingers
- Stains interior or exterior surfaces of new homes
- May finish floors in older homes

III. WORKING CONDITIONS:
- Work may be done indoors or outdoors in a variety of weather conditions

IV. JOB REQUIREMENTS:
- Must be able to work from scaffolds or high ladders for some work assignments

V. JOB CONDITIONS:
- Field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Use of hand tools, measurement of area and calculation of materials and labor costs necessary for advancement

VII. JOB PRACTICE:
- Lab or shop practice

VIII. ACADEMIC DEMANDS:
- Reading: Must be able to read instructions for preparing paints and mixing colors, trade journals, and work orders
- Math: May be required to compute surface area and calculate materials required to do a job
- Verbal: Must be able to communicate with supervisor and/or customer
- Written: May be required to write job instructions, job estimates, time sheets, etc.

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Painting in the construction trades or outdoor work is seasonal and hampered by weather conditions
2) Advantages: Opportunity for self-employment is good providing one has the necessary academic skills
3) Job Training: On the job Vocational Schools

IX. EVALUATION: As determined by teachers
**OCCUPATION:** Painter's Apprentice

**LEARNING ACTIVITIES**

<table>
<thead>
<tr>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT</th>
<th>NEW TERMINOLOGY</th>
<th>MATH</th>
</tr>
</thead>
<tbody>
<tr>
<td>... Scraping, sanding, filling holes and nicks in old surfaces, using hand scrapers and sandpaper, emery cloth and sanding machines. Smoothing and applying primer coats to new surfaces. ...</td>
<td>Brushes</td>
<td>VOCABULARY</td>
<td>Primer</td>
</tr>
<tr>
<td>... To be able to prepare surfaces for painting and other types of finishes. ...</td>
<td>Nylon</td>
<td>Sizing</td>
<td>Sizing</td>
</tr>
<tr>
<td>... To be able to identify, select and handle safely the tools of the painting trade. ...</td>
<td>Bristle</td>
<td>Spackle</td>
<td>Spackle</td>
</tr>
<tr>
<td>... To be able to clean and maintain tools. ...</td>
<td>Sash</td>
<td>Cutting-in</td>
<td>Cutting-in</td>
</tr>
<tr>
<td>... To know the characteristics of paint, oil and water based, varnishes, stains, shellac, lacquers, and the appropriate solvents for each. ...</td>
<td>Trim</td>
<td>Trimming</td>
<td>Trimming</td>
</tr>
<tr>
<td>... To be able to apply finishes on new and old surfaces, Wood, metal, and masonry. ...</td>
<td>Scrapers</td>
<td>Sash tool</td>
<td>Sash tool</td>
</tr>
<tr>
<td>... To be able to safely handle, erect and adjust ladders and scaffolds. ...</td>
<td>Sand Paper</td>
<td>Covering-hiding</td>
<td>Covering-hiding</td>
</tr>
<tr>
<td>... Application of paints, enamel, varnishes, stains, etc. to floors, walls, ceilings and to furniture and fixtures using brushes, rollers and spray devices. ...</td>
<td>Oscillating sander</td>
<td>Blistering</td>
<td>Blistering</td>
</tr>
<tr>
<td>... Erection of &quot;A&quot; ladders, extension ladders, pole scaffolds, patent scaffolds, horses and planks. ...</td>
<td>Belt Sander</td>
<td>Peeling</td>
<td>Peeling</td>
</tr>
<tr>
<td>... Lectures, films and demonstrations. Student—cleaning of tools with proper solvents, conditioning brushes ...</td>
<td>Disc Sander</td>
<td>Checking</td>
<td>Checking</td>
</tr>
<tr>
<td>... Lectures, films and demonstrations. Student—cleaning of tools with proper solvents, conditioning brushes ...</td>
<td>Pressure Spray Cans</td>
<td>Alligaturing</td>
<td>Alligaturing</td>
</tr>
<tr>
<td>... To be able to prepare surfaces for painting and other types of finishes. ...</td>
<td>Electric Sprayers</td>
<td>Pressure</td>
<td>Pressure</td>
</tr>
<tr>
<td>... To be able to identify, select and handle safely the tools of the painting trade. ...</td>
<td>Dropcloths</td>
<td>Nozzle</td>
<td>Nozzle</td>
</tr>
<tr>
<td>... To be able to clean and maintain tools. ...</td>
<td>Mixing paddles</td>
<td>Orifice</td>
<td>Orifice</td>
</tr>
<tr>
<td>... To know the characteristics of paint, oil and water based, varnishes, stains, shellac, lacquers, and the appropriate solvents for each. ...</td>
<td>Color charts</td>
<td>Spray pattern</td>
<td>Spray pattern</td>
</tr>
<tr>
<td>... To be able to apply finishes on new and old surfaces, Wood, metal, and masonry. ...</td>
<td>Scaffolds</td>
<td>Masking</td>
<td>Masking</td>
</tr>
<tr>
<td>... To be able to safely handle, erect and adjust ladders and scaffolds. ...</td>
<td>Ladders</td>
<td>Flat</td>
<td>Flat</td>
</tr>
<tr>
<td>... Application of paints, enamel, varnishes, stains, etc. to floors, walls, ceilings and to furniture and fixtures using brushes, rollers and spray devices. ...</td>
<td>Planks</td>
<td>Gloss</td>
<td>Gloss</td>
</tr>
<tr>
<td>... Erection of &quot;A&quot; ladders, extension ladders, pole scaffolds, patent scaffolds, horses and planks. ...</td>
<td>Horses</td>
<td>Semi-gloss</td>
<td>Semi-gloss</td>
</tr>
<tr>
<td>... Lectures, films and demonstrations. Student—cleaning of tools with proper solvents, conditioning brushes ...</td>
<td>Masking tape</td>
<td>Texture</td>
<td>Texture</td>
</tr>
<tr>
<td>... To be able to prepare surfaces for painting and other types of finishes. ...</td>
<td>Steel wool</td>
<td>Thinning</td>
<td>Thinning</td>
</tr>
<tr>
<td>... To be able to identify, select and handle safely the tools of the painting trade. ...</td>
<td>Paint-oil or latex</td>
<td>Abrasive</td>
<td>Abrasive</td>
</tr>
<tr>
<td>... To be able to clean and maintain tools. ...</td>
<td>Enamel</td>
<td>Absorb</td>
<td>Absorb</td>
</tr>
<tr>
<td>... To know the characteristics of paint, oil and water based, varnishes, stains, shellac, lacquers, and the appropriate solvents for each. ...</td>
<td>Shellac</td>
<td>Alcohol</td>
<td>Alcohol</td>
</tr>
<tr>
<td>... To be able to apply finishes on new and old surfaces, Wood, metal, and masonry. ...</td>
<td>Varnish and stain</td>
<td>Resisting</td>
<td>Resisting</td>
</tr>
<tr>
<td>... To be able to safely handle, erect and adjust ladders and scaffolds. ...</td>
<td>Lacquers</td>
<td>Alcohol</td>
<td>Alcohol</td>
</tr>
<tr>
<td>... Application of paints, enamel, varnishes, stains, etc. to floors, walls, ceilings and to furniture and fixtures using brushes, rollers and spray devices. ...</td>
<td>Linseed oil</td>
<td>Alkyd</td>
<td>Alkyd</td>
</tr>
<tr>
<td>... Erection of &quot;A&quot; ladders, extension ladders, pole scaffolds, patent scaffolds, horses and planks. ...</td>
<td>Turpentine and thinners</td>
<td>Oxide</td>
<td>Oxide</td>
</tr>
<tr>
<td>... Lectures, films and demonstrations. Student—cleaning of tools with proper solvents, conditioning brushes ...</td>
<td>Paint roller and pans</td>
<td>Finish</td>
<td>Finish</td>
</tr>
<tr>
<td>... To be able to prepare surfaces for painting and other types of finishes. ...</td>
<td>Extension handles</td>
<td>Primer</td>
<td>Primer</td>
</tr>
<tr>
<td>... To be able to identify, select and handle safely the tools of the painting trade. ...</td>
<td>Putty</td>
<td>Benzene</td>
<td>Benzene</td>
</tr>
<tr>
<td>... To be able to clean and maintain tools. ...</td>
<td>Plasticwood</td>
<td>Caulking</td>
<td>Caulking</td>
</tr>
<tr>
<td>... To know the characteristics of paint, oil and water based, varnishes, stains, shellac, lacquers, and the appropriate solvents for each. ...</td>
<td>Pigments-oil and powder</td>
<td>Compound</td>
<td>Compound</td>
</tr>
<tr>
<td>... To be able to apply finishes on new and old surfaces, Wood, metal, and masonry. ...</td>
<td>Sizing</td>
<td>Coating</td>
<td>Coating</td>
</tr>
<tr>
<td>... To be able to safely handle, erect and adjust ladders and scaffolds. ...</td>
<td>Spackling</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TEXT, WORKBOOKS OTHER MATERIALS**

- Painting and Decorating
- Home and Building Maintenance, McKnight
- Painting and Decorating Goodheart & Willcox
- FILMS
- U.S. Navy Department
- Teacher Made Materials
BUILDING TRADES
(Electrical/Plumbing)
COURSE: BUILDING TRADES

UNITS:

First Quarter:
Plumber's Apprentice
Plumber's Helper
Electrician's Apprentice
Electrician's Helper
Maintenance Man, Custodial Maintenance

Second Quarter:
Same as above.

Third Quarter:
Same as above.

Fourth Quarter:
Same as above.
I. JOB TITLE: Plumber's Apprentice and Plumber's Helper

II. JOB DUTIES:
- Plan work from sketch or building plans
- Locate and mark position of pipes, pipe connections and passage holes in walls and floors
- Cut openings in walls and floors for pipe and pipe fittings
- Cut, bend, join and thread pipes according to specifications
- Weld and solder pipe joints
- Assemble and install valves, pipe fittings, pipes and plumbing fixtures according to building codes
- Test system for leaks
- Repair and maintain plumbing and fixtures

III. WORKING CONDITIONS:
- Work inside and outside under various climate conditions
- Be subject to cuts and bruises from tools and materials
- Work with and around others or alone
- Be exposed to dust, dirt and grime from work sites and materials
- Be subject to burns from soldering irons, torches hot pipes or steam
- Be exposed to disagreeable odors

IV. JOB REQUIREMENTS:
- Be able to tolerate noise, dirt and odors
- Be able to lift equipment weighing up to 75 lbs., and carry material weighing up to 50 lbs.
- Be able to handle and finger tools and materials
- Have good vision and hearing (normal or corrected)
- Be able to stand for long periods of time
- Be able to work in cramped, uncomfortable positions
- Be able to bend, stoop, crouch and do heavy work
- Many localities require licensing of plumbers

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Use of hand tools for cutting, bending, threading, soldering, blueprint reading
- Basic mathematics for measuring, estimating, etc.
- Be able to work to prescribed standards consistently and follow procedures and specifications

VII. JOB PRACTICE:
- In shop - Field trips to job sites

VIII. ACADEMIC DEMANDS:
- Reading: Be able to read instructions
- Math: Be proficient in arithmetic - computations, fractions, decimals, how to measure and square materials
- Verbal: Be able to communicate with co-workers and supervisors
- Written: Be able to draw & label simple plans and sketches

ADDITIONAL JOB INFORMATION:
1) Disadvantages: weather may curtail work hours
   - Work is frequently short term and/or seasonal
   - Work is strenuous, dirty
   - Subject to burns from soldering irons, molten solder, hot pipes or steam

2) Advantages: Opportunity for self employment
   - Good pay and fringes benefits
3) Job Training: On the job Vocational Schools Programs

IX. EVALUATION: As determined by team of teachers
LEARNING GOALS

- Discuss general safety and understand safety procedures used in the plumbing trade
  - a) General
  - b) Handling power tools and equipment
  - c) Handling hot materials and torches
  - To be able to identify tools used in the plumbing trade
  - To be able to identify materials and fixtures used in plumbing systems
  - To become familiar with the use and maintenance of tools used in the plumbing trade
  - To become familiar with the use of blueprints and plumbing symbols
  - To become familiar with cutting and joining of cast iron pipe and fittings
  - To become familiar with the State Bldg. Const. Code
  - To become familiar with cutting, threading and joining steel pipe and fittings
  - To be able to cut, clean, and join copper tubing and fittings
  - To be able to cut and join plastic pipe and fittings
  - To become familiar with the maintenance and repair of plumbing systems
  - To become familiar with The Builders Institute and its functions
  - To become familiar with different types of heating systems
- Identify and find on a blueprint:
  - Doors: Windows
  - Water closets
  - Bath tub
  - Sink and vents
  - Shower
  - Trap and waste valve
  - Hot water lines
  - Cold water lines
  - Make up materials list from prints, using architects scale and rule
  - Layout drain line location using prints
  - Determine size and length of drain line
  - Identify types of cast iron pipe and fittings
  - Discuss properties and uses of cast iron pipe
  - Measure and cut cast iron pipe
  - Assemble and yar cast iron pipe and fittings
  - Melsh caulking lead
  - Test lead temperature
  - Discuss and practice using... Join plastic pipe and fittings systems

LEARNING ACTIVITIES

- Safety glasses
  - a) Use of safety glasses and/or goggles
  - b) Wearing of proper clothing and shoes in lab
  - c) Using electric drills, saws, threaders, etc.
  - d) Use of caution in cutting (cast iron pipe)
- Demonstrate and practice safe plumbing methods
- Discuss blueprints
  - What is a print?
  - Why use it?
  - Identify and find on a blueprint:
    - Doors: Windows
    - Water closets
    - Bath tub
    - Sink and vents
    - Shower
    - Trap and waste valve
    - Hot water lines
    - Cold water lines
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TOOLS, EQUIPMENT, SUPPLIES

- Safety goggles
- Electric drills
- Electric saws (Sawzall)
- Extension cords (3 wire)
- Threaders
- Torches
- Tanks
- First-Aid Kit
- Blueprints
- Building plans
- Dirdkars
- Pencils
- Rules
- Architects scales
- Paper
- Graph paper
- 6 ft. folding rule
- 50 ft. and 100 ft. tape measures
- Chalk
- Mason line
- Line level
- Prints
- Various lengths and sizes of cast iron pipe
- Various cast iron fittings
- Hammer
- Chisel
- Pipe cutter (cast iron)
- Ratchet cutter
- Scrap pieces 2'x4" and 2'x6"
- Oakum
- Yarning irons
- Lead wool
- Straight-edge
- Level
- Runner
- Lead pot
- Ladle
- Furnace
- Hood
- Emergency
- Power shut-off
- Red " Panic" button
- Grounding
- Prints specifications
- "Take-off"
- Architects scale
- Symbols
- Isometric drawing
- Orthographic drawing
- Key
- Sketch
- Lot line
- Elevation
- o = center line
- Folding rule
- (Zig-Zag rule)
- Tapes
- "Tape-it-off"
- Mason line
- Building drain
- Single hub
- Double hub
- I.D. (inside diameter)
- Plumb-bob
- Bell and spigot
- Y's
- T-Y's
- Sweep
- 1/8 bends
- 1/4 bends
- Balce-place
- Extra-heavy
- Service weight
- Ratchet cutter
- Supported
- Formula for grade
  - F = L
    - 10d
    - Pitch 1/2" per foot
    - Offset irons
    - 250 F.P.M.

NEW TERMINOLOGY

- MATH
- Formula for grade
- Support
- Extra-heavy
- Service weight
- Ratchet cutter
- Supported
- Formula for grade
  - F = L
    - 10d
    - Pitch 1/2" per foot
    - Offset irons
    - 250 F.P.M.

TEXT, WORKBOOKS

- Measure-Up Workbook
- Fearon

OTHER MATERIALS

- General Safety Rules
- State Building Construction Code applicable to plumbing
- World of Construction: Home and Building Maintenance, McKnight
- Plumbers and Steamfitters, Oukles, Axell
- Mathematics for Plumbers and Steamfitters, Delmar Publishers
- Blueprint Reading and Sketching, Plumbing Trades, Delmar
- Related Information, Plumbing - 1, Delmar
- Related Information, Plumbing - 2, Delmar
- Related Information: Plumbing, BOCES
- Plumbing - Heating - Cooling, General Contractors
- It Didn't Have to Happen, BOCES
- Other Materials, Plumbing - 2, Delmar
- FILMS AND FILMSTRIPS
- General Shop Safety, BOCES
- General Shop Safety, BOCES
- It Didn't Have to happen, BOCES
- Following are all provided by The National Association of Plumbing-Heating-Cooling Contractors
- 1016 20th Street, N.W.

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120
LEARNING GOALS

- oakum, caulking lead, lead wool, cement and plastic fillers
- Pour lead, caulk and dressup joints
- Discuss use and purpose of house trap, vent and cleanouts
- Install clean-outs in cast iron waste line
- Discuss characteristics of various types of steel pipe and fittings
  a) Weight
  b) Wall thickness
  c) I.D. and O.D.
  d) Types of welds
- Measure, cut, and ream galvanized pipe according to job sheet specs.
- Thread and assemble pipe and fittings as detailed on sketch or specs.
- Discuss threading principle
  a) Length of thread
  b) Depth of thread
  c) Pitch of thread
  d) Pipe tight joint
- Discuss pipe and fittings measurements
  a) O.D.
  b) I.D.
  c) End to end
  d) End to center
  e) Center to center
  f) Face to face
  g) Shoulder to shoulder
  h) Fitting allowance
- Measure and cut copper tubing according to job sheets or specs, using proper tools
- Ream and clean tubing and fittings and assemble for soldering according to

LEARNING ACTIVITIES

- Caulking lead
- Lighter
- Paper
- Caulking irons
- Cast iron house traps
- Vent caps
- Fresh air inlet plates
- Cast iron clean-outs - inverted and surface
- Black pipe
- Galvanized pipe
- Wrought fittings
- Cast fittings
- Drainage fittings
- Vises
- Cutters
- Hacksaws
- Reamers
- Pipe threading machine
- Drop-head ratchet threader
- Cutting oil
- Pipe wrenches
- Teflon tape
- Pipe dope
- Tubing cutters
- Copper tubing
- Copper sweat fittings
- Tubing reamers
- Sandcloth
- Steel wool
- Soft tubing
- Hard tubing
- Right-angle drill
- Sawzall
- Brace-bit
- Kdyhole saw
- Nails
- Straps
- Striker
- Solder
- Flux
- Propane torch
- Prest-o-lite torch
- Gos tank

TOOLS, EQUIPMENT SUPPLIES

- Caulking lead
- Lighter
- Paper
- Caulking irons
- Cast iron house traps
- Vent caps
- Fresh air inlet plates
- Cast iron clean-outs - inverted and surface
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- Propane torch
- Prest-o-lite torch
- Gos tank

NEW TERMINOLOGY

- Grade-fall
- Pot
- Furnace
- Lead wool
- Yarning
- Caulking
- Fillers
- Striker
- "Dress-up joints"
- Develop rhythm
- Brittle-chips
- C.I. (cast iron)
- Mushroom cap
- Fresh air inlet
- Clean-outs
- Inverted
- Flange
- Wall covers
- Galvanized
- Wrought
- Drainage
- Standard
- Extra-heavy
- Double extra heavy
- Teflonstand vise
- Yoke vise
- Chain vise
- 4-wheel cutter
- 3-wheel cutter
- "Shoulder" of fitting
- "Throat" of fitting
- Back of fitting
- Fabe of fitting
- 0 of fitting
- 0 to 0
- E. to E. (end to end)
- E. to 0
- Spiral reamer
- Sulphur oil
- Taper thread
- Water tight
- Rigid oiler
- Teflon tape
- Pipe dope

MATH

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- Wrought
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- 3-wheel cutter
- "Shoulder" of fitting
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- Back of fitting
- Fabe of fitting
- 0 of fitting
- 0 to 0
- E. to E. (end to end)
- E. to 0
- Spiral reamer
- Sulphur oil
- Taper thread
- Water tight
- Rigid oiler
- Teflon tape
- Pipe dope

OTHER MATERIALS

- Washington, D.C., 20036
- Sewers-Guardian of Community Health
- Modern pipe for modern living
- Piping safety
- Wrought iron-yesterday, today, tomorrow
- Life lines of your community
- Pipe scheme
- Loop and circuit
- Venting in the plumbing system
- Toward a uniform plumbing code
- A drink for Judy
- Safe water in the home
- Designs for better living
- The fluid of life
- Pipeline to the clouds
- The ominous arms case
- The anatomy of a city
- Modern sewers for modern communities
- Municipal sewage treatment processes

TEXT, WORKBOOKS

- Following films available through Modern Talking Picture Co.
- 23-23 New Hyde Park
- New Hyde Park, N.Y.
- Underground study of natural gas
- These are my people constant search impact
- Search for total comfort
- Energy on the move
- This is steel
- The toughest inch
- Piping pointers
- Choosing the right valve

PAMPHLETS

- American Standard Co.
<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT</th>
<th>NEW TERMINOLOGY</th>
<th>MATH</th>
<th>TEXT, WORKBOOKS</th>
<th>OTHER MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>job sheets and specs.</td>
<td>... Discuss use of different types of tubing and fittings</td>
<td>Caps</td>
<td>Face of die</td>
<td></td>
<td></td>
<td>Crane Co.</td>
</tr>
<tr>
<td></td>
<td>... Layout and cut waterline holes in wooden stud wall work stations</td>
<td>Plugs</td>
<td>Tee's</td>
<td></td>
<td></td>
<td>Slant-fin Corp.</td>
</tr>
<tr>
<td></td>
<td>... Discuss and practice proper soldering techniques</td>
<td>Gauges</td>
<td>Ell's</td>
<td></td>
<td></td>
<td>Universal-Rundle</td>
</tr>
<tr>
<td></td>
<td>... Discuss principles of soldering and various types of solder</td>
<td>Fittings</td>
<td>Unions</td>
<td></td>
<td></td>
<td>Goulds Pump</td>
</tr>
<tr>
<td></td>
<td>... Solder tubing and fittings according to plan</td>
<td>Hoses</td>
<td>Nipples</td>
<td></td>
<td></td>
<td>Deming Pump</td>
</tr>
<tr>
<td></td>
<td>... Discuss uses of plastic pipe and fittings</td>
<td>Test pressure pump</td>
<td>Male Thread</td>
<td></td>
<td></td>
<td>Delta Faucet</td>
</tr>
<tr>
<td></td>
<td>... Measure and cut plastic pipe according to job sheets</td>
<td>Sinks</td>
<td>Female thread</td>
<td></td>
<td></td>
<td>Triangle Copper</td>
</tr>
<tr>
<td></td>
<td>... Discuss and practice proper solvent welding techniques</td>
<td>Basin</td>
<td>Bull</td>
<td></td>
<td></td>
<td>and Brass</td>
</tr>
<tr>
<td></td>
<td>... Ream and pre-fit plastic pipe and fittings according to job sheet</td>
<td>Traps</td>
<td>Plug</td>
<td></td>
<td></td>
<td>Nibco Co.</td>
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<tr>
<td></td>
<td>... Discuss principles of solvent welding</td>
<td>Valves</td>
<td>Cap</td>
<td></td>
<td></td>
<td>Chase</td>
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<tr>
<td></td>
<td>... Solder wild plastic pipe and fitting according to job sheet</td>
<td>Stops</td>
<td>Bushing</td>
<td>T-Y</td>
<td></td>
<td>Lead Industries</td>
</tr>
<tr>
<td></td>
<td>... Pressure test waste and water lines</td>
<td>Supplies</td>
<td>Reducing tee</td>
<td></td>
<td></td>
<td>Builders Institute</td>
</tr>
<tr>
<td></td>
<td>... Set and check-out fixtures for proper operation</td>
<td>Nipples</td>
<td>D-W-V</td>
<td></td>
<td></td>
<td>Papers Made</td>
</tr>
<tr>
<td></td>
<td>... Discuss purpose and use of traps and trap seal</td>
<td>Seals</td>
<td>K</td>
<td></td>
<td></td>
<td>Materials</td>
</tr>
<tr>
<td></td>
<td>... Display and discuss use of maintenance and repair tools</td>
<td>Bolts</td>
<td>L</td>
<td></td>
<td></td>
<td>Plans and Prints</td>
</tr>
<tr>
<td></td>
<td>... Determine location of stoppage and clear using proper cleaning tools</td>
<td>Water closets</td>
<td>M</td>
<td></td>
<td></td>
<td>Job sheets</td>
</tr>
<tr>
<td></td>
<td>... Practice replacing washers in kitchen, sink, basin and bathtub faucets</td>
<td>Spud wrench</td>
<td>Cart</td>
<td></td>
<td></td>
<td>Information</td>
</tr>
<tr>
<td></td>
<td>... Repair and reseat valves and faucets</td>
<td>Screwdrivers</td>
<td>Wrought</td>
<td></td>
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<td>Sheets</td>
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<tr>
<td></td>
<td>... Replace faucets and valves</td>
<td>Plastic pipe</td>
<td>Street fitting</td>
<td></td>
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<td>Transparencies</td>
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<td>(tubing)</td>
<td>Coil-soft</td>
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<td>Operation</td>
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<td>Plastic fittings</td>
<td>Length-rigid</td>
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<td>Sheets</td>
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<td>Plastic pipe</td>
<td>Sawzall</td>
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<td>Builders Institute</td>
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<td>cutter</td>
<td>60/40 solder</td>
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<td>literature and</td>
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<td></td>
<td>Solvent cement</td>
<td>50/50 solder</td>
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<td></td>
<td>Rigid plastic</td>
<td>40/60 solder</td>
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<td>Coil plastic</td>
<td>95/5 solder</td>
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<td></td>
<td></td>
<td>Solvent brushes</td>
<td>Prest-o-lite</td>
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<td></td>
<td></td>
<td>Closet augers</td>
<td>Goss tank</td>
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<td>Snakes</td>
<td>Flux</td>
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<td>Rubber gloves</td>
<td>Propane</td>
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<td>Plungers</td>
<td>Formula-450</td>
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<td>Crescent wrenches</td>
<td>1.41 x length of</td>
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<td>Pliers</td>
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<td>Resetting tool</td>
<td>measurement</td>
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<td></td>
<td>Single lever</td>
<td>Fitting allowance</td>
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<td>faucet</td>
<td>Monel seats</td>
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<td>Washers</td>
<td>Bibb screws</td>
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<td>o-rings</td>
<td>Taps</td>
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<td>Basin and bath</td>
<td>Neoprene</td>
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<td>faucets</td>
<td>Top-hat washers</td>
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<td>Seat wrenches</td>
<td>Cartridge</td>
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<td></td>
<td></td>
<td>Handle puller</td>
<td>Diaphragm</td>
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<td>Flushometers</td>
<td>Mushroom</td>
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<td>Repair kits</td>
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<td>Balcocks</td>
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<td>Float balls</td>
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<td>Rubber balls</td>
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</tbody>
</table>
### LEARNING GOALS

- Repair and/or replace flushometers and balcocks
- Discuss winterizing summer homes (closed building)
- Discuss purpose and activities of Institute
- Make an estimate of the fixtures that should be replaced in your home
  - Sinks
  - Bathtubs
  - Showers
  - Toilets
  - Faucets
- Determine the cost (without labor) to put in new fixtures using teacher made ditto sheet
- Draw a typical septic tank and drainage system for a one family house and label the parts
- Determine the processes of a septic tank using the teacher made ditto
- Make a study of the sewage system in your home including checking all clean out plugs and traps. Complete teacher made ditto sheet
- Visit a hardware store and make a list of equipment available for sale or rent for cleaning stopped-up drains and repairing fixtures
- Using a teacher made ditto sheet make a layout of your home showing the position of the house, garage, shrubbery, sidewalks, and driveway. Lay out a sprinkler system to service the lawn and shrubbery
- Discuss and compare duties

### TOOLS, EQUIPMENT

<table>
<thead>
<tr>
<th>LEARNING ACTIVITIES</th>
<th>SUPPLIES</th>
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</thead>
<tbody>
<tr>
<td>Lift wheel</td>
<td>Guides</td>
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<tr>
<td>Refill tubes</td>
<td>Pamphlets</td>
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<tr>
<td>Pay scale</td>
<td>Union rates</td>
</tr>
<tr>
<td>Baseboard</td>
<td>Radiation</td>
</tr>
<tr>
<td>Oil burner and controls</td>
<td>Coal</td>
</tr>
<tr>
<td>Filters</td>
<td>Fire-o-matic valves</td>
</tr>
<tr>
<td>Thermostats</td>
<td>Cad-cell</td>
</tr>
<tr>
<td>Stack switches</td>
<td>Aquastats</td>
</tr>
</tbody>
</table>

### NEW TERMINOLOGY

- Main seat
- By-pass valve
- Upper and lower chambers
- Draining
- Frost line
- Welfare fund
- Pension
- Vacation fund
- Annuity
- Builders Institute
- Radiation
- Filters
- Fire-o-matic
- Night-day thermostat
- Differential
- Degree-day
- Cad-cell
- Stack switch
- Aquastats
- Pressure trols
- Delay-valves
- Planum
- Return air
- Zoned
- Loop
- Main
- Thread engagement
- Make-up
- Copper coated
- Heel-T
- Roughing-in
- Hydraulics
- Traps
- Stops
- Globe valve
- Gate valve
- Water closet
- Trap seal
- Adjustable wrench
- Monkey wrench
- Strap wrench
- Solvent welding
- Rigid plastic
**LEARNING GOALS**

- and pay of following trade areas:
  - Asbestos worker and Insulator Carpenters
  - (In-shop Carpenters)
  - Electricians
  - Glaziers
  - Laborors
  - Operation Engineers
  - Painters
  - Plumbers
- Discuss and compare advantages and disadvantages of the four basic types of fuels: oil, gas, coal
- Display and discuss heating controls
- Determine the type of heating system you have in your home
  - Hot water
  - Hot air
  - Steam
- Determine the most economical heating system to have using teacher made ditto sheet
- Determine the cost of your monthly heating bill including the size of your house
- Make a visit to a local construction site and complete teacher made questionnaire
- Using the teacher made ditto sheets list as many blue print symbols as you can
  - Carpentry
  - Masonry
  - Electrical
  - Plumbing

**TOOLS, EQUIPMENT SUPPLIES**

<table>
<thead>
<tr>
<th>Coll plastic</th>
<th>Furring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical reaction</td>
<td>D.W.V.</td>
</tr>
<tr>
<td>P.V.C.</td>
<td>A.B.S.</td>
</tr>
<tr>
<td>Pre-fit</td>
<td>Expansion joint</td>
</tr>
<tr>
<td>&quot;Sound pipe&quot;</td>
<td>Stoppage</td>
</tr>
<tr>
<td>Force-cups</td>
<td>&quot;Plumber's friend&quot;</td>
</tr>
<tr>
<td>Resetting tool</td>
<td>O-rings</td>
</tr>
<tr>
<td>Packing</td>
<td>Seats</td>
</tr>
<tr>
<td>2-pipe</td>
<td>Coll</td>
</tr>
<tr>
<td>Tankless</td>
<td>Vac-u-matic</td>
</tr>
<tr>
<td>Convection</td>
<td>Conduction</td>
</tr>
<tr>
<td>Radiation</td>
<td>Radiate heat</td>
</tr>
<tr>
<td>Transference</td>
<td></td>
</tr>
</tbody>
</table>

**NEW TERMINOLOGY**

- Coll plastic
- Furring
- Chemical reaction
- D.W.V.
- P.V.C.
- A.B.S.
- Pre-fit
- Expansion joint
- "Sound pipe"
- Stoppage
- Force-cups
- "Plumber's friend"
- Resetting tool
- O-rings
- Packing
- Seats
- 2-pipe
- Coll
- Tankless
- Vac-u-matic
- Convection
- Conduction
- Radiation
- Radiate heat
- Transference
I. JOB TITLE: Electrician's Helper

II. JOB DUTIES:
- Assists electrician to install and repair electric wiring, fixtures, and equipment
- Measures, cuts, and bends wires and conduit
- Drills holes for wiring
- Assists in lifting, positioning, and fastening wiring, conduits, fixtures, receptacles, outlets, and switches
- Performs minor repairs
- Maintains tools and equipment
- Keeps materials and supplies in order

III. WORKING CONDITIONS:
- Work inside and out under various climate conditions and materials
- Work alone or as part of a team
- Be exposed to dust, dirt, and grime from work site and materials

IV. JOB REQUIREMENTS:
- Must be physically fit, having full use of arms, legs, hands, and fingers
- Be able to stand for long periods
- Be able to climb stairs and ladders
- Be able to lift and carry heavy loads
- Have good vision and be able to distinguish colors
- Be able to manipulate hand tools
- Be able to measure and compute amounts of materials for particular tasks

V. JOB CONDITIONS:
- May involve exposure to extreme weather conditions
- May require extended periods of work in confined spaces
- Working at considerable heights or below ground
- Work with others

VI. BASIC SKILLS AND KNOWLEDGE:
- Basic math for measuring and estimating
- Ability to follow instructions and adhere to procedures
- Must be able to work to prescribed standards
- Manual dexterity for use of hand tools

VII. JOB PRACTICE:
- In shop installations in conjunction with other trades
- Visits to job sites, materials manufacturers

VIII. ACADEMIC DEMANDS:
- Reading: Be able to read and understand instructions
  - Identify kinds of materials by labels
  - Read materials lists, bills, and job orders
- Math: Basic math for use of rulers and tape measures
  - Computing of lengths of wire and pipe
  - Estimating quantities
- Verbal: Be able to communicate with fellow workers and supervisors
  - Describe procedures and specific problems

ADDITIONAL JOB INFORMATION:
- Employment prospects are always good
- Opportunity for self employment
- Construction electrical work is seasonal and dependent upon weather conditions
- Pay scale is one of the highest

IX. EVALUATION: As determined by teachers
LEARNING GOALS

... To become familiar with and understand safety procedures used in the Electrical Trade
  a) General
  b) Working ‘Live’ wires and circuits
  c) Handling power tools and equipment
  d) Handling soldering iron torches, and guns
e) Proper grounding

... To be able to identify tools used in the electrical trade

... To be able to identify materials and fixtures used in constructing electrical wiring systems

... To become familiar with the use and maintenance of tools used in the electrical trade

... To be able to identify the various types of outlet boxes used in the electrical trade

... To become familiar with the principles and properties of electricity
  a) Ohm’s Law
  b) Power Formula
  c) Magnetism
d) Static Electricity

... To become familiar with the use of blueprints and electrical symbols

... To become familiar with the methods of cutting b-x cable

... To become familiar with the methods of preparing and installing b-x cable

... To become familiar with the use and installation of Romex wire

... To be able to construct

LEARNING ACTIVITIES

... Discuss general safety and use of safety glasses and/or safety goggles

... Discuss safety procedures followed when working with ‘Live’ wires

... Discuss and explain the need for proper work clothing and shoes
  a) No loose clothing
  b) Rings, watches, chains, etc.

... Discuss, explain, and demonstrate the hazards of not grounding and/or the misuse of power equipment

... Demonstrate, discuss and practice proper methods of handling and using soldering irons, torches and guns

... Discuss and demonstrate how proper grounding eliminates shock hazard
  a) Ground fault Interrupter

... Using charts and texts identify the various types of outlet boxes; record information on teacher made ditto sheets

... Select proper outlet boxes to fulfill requirements stated on job sheets

... Mark locations and install selected boxes in walls and ceilings of work stations

... Discuss and practice the application of Ohm’s Law and the Power Formula
  a) Given any two (2) factors of Ohm’s Law, calculate and record unknown on job sheet
# LEARNING GOALS

- Electrical circuits (series and parallel)
- To be able to identify types and sizes of wire used in the electrical trade
- To become familiar with the different types and sizes of conduit and fittings
  - (a) Rigid
  - (b) Thinwall
  - (c) Flexible
- To be able to identify types and sizes of wire used in the electrical trade
- To become familiar with the installation of wire in conduit
- To become familiar with the installation of wire in conduit

# LEARNING ACTIVITIES

- Given voltage of a circuit, record on a job sheet the following:
  - a) Measure resistance and calculate amperage
  - b) Measure amperage and calculate resistance
- Using Power Formula, calculate and record on job sheet the following:
  - a) Given wattage load and voltage, find amperage draw and record
  - (b) Given wattage load and amperage find voltage required
- Demonstrate and discuss laws of magnetism
  - a) Magnetic field by use of magnet, paper, and iron filings
  - b) Construct electromagnet using nail and insulated wire
  - c) Compare and record differences observed using electromagnet and permanent magnet
- Using experiments, demonstrate and discuss effects of static electricity
  - a) Van de Graaff generator
  - b) Rug and glass rod
  - c) Pith balls
- Discuss and use blueprints
  - a) Locate and identify electrical symbols
  - b) Find and record number of outlets in each room
  - c) Make up material list from prints, using Architects scale and rules
- Discuss and practice cutting b-x cable to length with hacksaw
- Discuss and practice preparing tools, equipment, and supplies

# TOOLS, EQUIPMENT, SUPPLIES

- Screwdrivers
- Hammers
- Nails
- Pencils
- Rulers
- Staples
- Hand saws
- Paper
- Compass
- Iron-Filings
- Magnets
- Insulated wire
- Solenoids
- Van de Graaff generator
- Glass rods
- Pith balls
- Blueprints
- Building plans
- Sketches
- Dividers

# NEW TERMINOLOGY

- Stud mount
- Connectors
- Staples
- Ohm's Law
- E=IR
- Power Formula
- P=IE
- Voltage-Volt
- Ampere-Amp
- Amperage
- Resistance
- Watt, Wattage
- Power
- Given
- Electric flow
- Magnetism
- Static electricity
- Magnetic field
- Electro-magnet
- Coil
- Windings
- North pole
- South pole
- Charge
- Attract-repel
- Iron-filings
- Solenoids
- Permanent magnet
- Van de Graaff generator
- Glass rods
- Pith balls
- Prints
- Specifications (Spec)
- Architects scale
- Symbols
- Isometric drawing
- Orthographic drawing
- Key
- Sketch
- Lot-line
- Elevation

# TEXT, WORKBOOKS, OTHER MATERIALS

- Delmar
  - FILMS AND FILMSTRIPS
    - Coils and Electric Currents, Encyclopedia Britannica
    - Magnetic Effects of Electricity, Encyclopedia Britannica
    - Saga of Safety Sam, BOCES
    - A Safe Shop, BOCES
    - Split Second to Disaster, BOCES
    - It Didn't Have to Happen, BOCES
    - Safety with Electricity, BOCES
    - General Shop Safety, BOCES
    - People Who Fix Things, BOCES
    - A B C of Hand Tools, BOCES
    - Primitive Pete, BOCES
    - Turn a Handle-Flick a Switch, BOCES
    - Mechanical Drawing 1 Shape and Design, BOCES
    - What is Electricity? Westinghouse
    - Principles of Electricity, General Electric
    - Alternating Current, Castle Films
  - Water Power Encyclopedia Britannica
  - Series and Parallel Circuits, Encyclopedia Britannica
  - Series and Parallel Circuits, Encyclopedia Britannica

# FIELD TRIPS

- Construction Sites (Commercial and Residential)
- Phelps-Dodge Co.,
<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT</th>
<th>NEW TERMINOLOGY</th>
<th>TEXT, WORKBOOKS</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>b-x cable</td>
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<tr>
<td></td>
<td>a) stripping insulation</td>
<td>Reamer</td>
<td>center line</td>
<td>Yonkers, New York</td>
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<td></td>
<td>b) Installing anti-short bushing</td>
<td>Bender</td>
<td>Folding rule</td>
<td>Hudson Wire Works, Ossining, N.Y.</td>
</tr>
<tr>
<td></td>
<td>... install b-x cable in work stations according to sketch</td>
<td>Conduit</td>
<td>(Zig-Zag rule)</td>
<td></td>
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<tr>
<td></td>
<td>a) Locate and drill holes using brace and bit</td>
<td>Fittings</td>
<td>b-x cable</td>
<td></td>
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<tr>
<td></td>
<td>b) Fish cable through holes and install in outlet boxes</td>
<td>Pipe wrenches</td>
<td>Diagonal outlet</td>
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<td></td>
<td>... Assemble materials needed to construct electrical circuits on panels</td>
<td>Adjustable wrenches</td>
<td>Armor</td>
<td></td>
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<td></td>
<td>a) Button and bell</td>
<td>Cutting oil</td>
<td>Anti-short bushing (Redcap)</td>
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<td></td>
<td>b) Bell and two buttons</td>
<td>Fasteners</td>
<td>Linesman</td>
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<td></td>
<td>c) Two bells and one button</td>
<td>T-W wire</td>
<td>Diagonal</td>
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<td>d) Light controlled by single pole switch</td>
<td>Fixture wire</td>
<td>Needle nose</td>
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<td>e) Duplex outlet and switch controlled light</td>
<td>Building wire</td>
<td>Brace</td>
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<td></td>
<td>f) Light controlled duplex outlet</td>
<td>Cocknuts</td>
<td>&quot;Fish&quot;</td>
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<td>g) Switch controlled duplex outlet</td>
<td>Bushings</td>
<td>12/2</td>
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<td></td>
<td>... Discuss and practice cutting and preparing Romex wire</td>
<td>Threadless connectors</td>
<td>12/3</td>
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<tr>
<td></td>
<td>a) Cutting to length</td>
<td>B-X connectors</td>
<td>14/2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Stripping insulation</td>
<td>Duplex connectors</td>
<td>14/3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>... install Romex wire in work stations as job sheet indicates</td>
<td>Angle connectors</td>
<td>Conduits</td>
<td></td>
</tr>
<tr>
<td></td>
<td>... Discuss uses of the types and sizes of electric wire</td>
<td>Conduit</td>
<td>Rigid (pipe)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>... Examine and label different types and sizes of wire and complete teacher made ditto sheets</td>
<td>Cocknuts</td>
<td>Thinwall (E.M.T.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>... Determine the different types of lighting used in students' homes</td>
<td>Bushings</td>
<td>Flexible (Greenfield)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>... List the different fixtures and fuses used in each room</td>
<td>Threadless</td>
<td>Cocknouts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>... Measure the amount of light given off by each light</td>
<td>Connectors</td>
<td>B-X Connectors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>... Use a 12 or 14 wire and make</td>
<td>B-X Connectors</td>
<td>Duplex connectors</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Angle connector</td>
<td>Angle connector</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Seamless</td>
<td>T. &amp; C.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(thread and coupling)</td>
<td>Snakes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tape</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&quot;Pulling&quot; wire</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&quot;Feeding&quot; wire</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>T-W wire</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Building wire</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fixture wire</td>
<td></td>
</tr>
</tbody>
</table>

**NEW TERMINOLOGY**
- center line
- Folding rule
- (Zig-Zag rule)
- b-x cable
- Diagonal outlet
- Armor
- Anti-short bushing (Redcap)
- Linesman
- Diagonal
- Needle nose
- Brace
- "Fish"
- 12/2
- 12/3
- 14/2
- 14/3
- Conduits
- Rigid (pipe)
- Thinwall (E.M.T.)
- Flexible (Greenfield)
- Cocknouts
- Bushings
- Threadless
- Connectors
- B-X Connectors
- Duplex connectors
- Angle connector
- Seamless
- T. & C.
- (thread and coupling)
- Snakes
- Tape
- "Pulling" wire
- "Feeding" wire
- T-W wire
- Building wire
- Fixture wire

**TOOLS, EQUIPMENT**
- Reamer
- Bender
- Conduit
- Fittings
- Pipe wrenches
- Adjustable wrenches
- Cutting oil
- Fasteners
- T-W wire
- Fixture wire
- Building wire
- Cocknuts
- Bushings
- Threadless connectors
- B-X connectors
- Duplex connectors
- Angle connectors
- Conduit
- Conduits
- Rigid (pipe)
- Thinwall (E.M.T.)
- Flexible (Greenfield)
- Cocknouts
- Bushings
- Threadless
- Connectors
- B-X Connectors
- Duplex connectors
- Angle connector
- Seamless
- T. & C.
- (thread and coupling)
- Snakes
- Tape
- "Pulling" wire
- "Feeding" wire
- T-W wire
- Building wire
- Fixture wire
<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT SUPPLIES</th>
<th>NEW TERMINOLOGY MATH</th>
<th>TEXT, WORKBOOKS OTHER MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>a western union splice, branch tap, and a pigtail splice; solder the splices.</td>
<td>... Construct a parallel and series circuit on panel board ... Wire a one-ball circuit so that it is controlled by a one-push button ... Wire a circuit so one push button will control a doorbell and another push button will control a buzzer ... Make a circuit board connecting a single switch to a light ... Make a circuit board connecting a single switch to an outlet.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

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137
I. JOB TITLE: Maintenance Man, Building and Custodial Maintenance

II. JOB DUTIES:

Perform minor plumbing repairs on faucets and toilet mechanisms and clean out clogged pipes and joints.
Perform minor carpentry work such as replacing or building shelves and cupboards; repairing or replacing window sashes and door knobs.
Perform minor electrical work such as replacing light bulbs, florescent lights, fuses and switches.
Perform minor plastering and painting work such as filling in cracks and holes, and repainting repaired areas.
Repair cracks and defects in cement floors, sidewalks and driveways and replacing broken tiles in bathrooms, kitchens, etc.
Perform other tasks such as moving heavy furniture, laying rugs, shoveling snow.
Floor care for both resilient tile and wood including cleaning.
Cleaning such as washing windows and walls.

III. WORKING CONDITIONS:

- Work alone or around others in tenant apartments or in other inside areas of building.
- Work outside in courtyard, driveway or sidewalk in all kinds of weather.
- Be subject to falls from ladders or scaffolding or down shafts.
- Be subject to strains from heavy lifting, cuts from sharp edges and shocks from electrical equipment.

IV. JOB REQUIREMENTS:

- Be able to follow instructions and established procedures.
- Move arms, hands and fingers skillfully in manipulating tools and materials.
- Learn new methods and ideas easily.
- Make decisions and use good judgement in handling emergencies.
- Be able to stand and walk for long periods of time.
- Have full use of arms, hands, and fingers.
- Be able to turn, bend, stoop, kneel, crouch and move about easily to make repairs.
- Be able to lift up to 100 pounds.
- Have good vision and hearing (normal or corrected).
- Be able to distinguish colors.
- May be required to work weekends and holidays.
- Subject to call in emergencies.

V. JOB CONDITIONS:

Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:

- Have ability to use hand tools.
- Interest in basic construction.

VII. JOB PRACTICE:

- Shop and laboratory experience.

VIII. ACADEMIC DEMANDS:

- Reading: Read, write and speak English sufficiently well to communicate with tenants and follow instructions.
- Math: Should be able to measure and do basic arithmetic.
- Verbal: Be able to communicate with tenants.
- Written:

ADDITIONAL JOB INFORMATION:

1) Disadvantages:

2) Advantages:
3) Training opportunities: Start as a porter or general helper and complete on-the-job training of 1 year.

IX. EVALUATION: As determined by teachers.
HEALTH/MEDICAL, PERSONAL SERVICE OCCUPATIONS
COURSE: HEALTH/MEDICAL, PERSONAL SERVICE OCCUPATIONS

UNITS:

First Quarter: Ward Clerk
    Nurse Aide/Orderly
    Orderly
    Hospital Tray Girl
    Hospital Housekeeper-Laundress
    Day Care Center
    L.P.N. (occupation reviewed with selected students)
    Home/Health Attendant
    Personal Service Occupations
    Hotel/Motel Housekeeping Aide
    Institutional Housekeeper Aide

Second Quarter: Same as First Quarter.

Third Quarter: Same as First Quarter.

Fourth Quarter: Same as First Quarter.
I. JOB TITLE: Ward Clerk

II. JOB DUTIES:

Prime - Answering telephones
  Directing non-employee traffic
  Serving as a receptionist

Others - Loading and unloading telelift not handled by S.P.D.
  Returning telelift
  Monitoring activities in solarium
  Processing nursing unit maintenance
  Problems to engineering
  Turning charts for discharges
  Calling transportation within hospital

ADMISSIONS:
  Take admission on phone from the Admitting Office.
  Prepare name band and card for patient's bed
  Make card for cardex
  Prepare the chart
  Keep bed chart up to date
  Notify admitting of any bed changes

DISCHARGES:
  Call in discharges to Admitting Office
  Assemble chart and check for notes needed (after patient leaves)
  Enter discharges on daily census sheet and daily report

REPORTS:
  Enter admissions after patient is received on floor
  Enter transfers to or from floor after transfer is made
  Enter discharges on report after the patient has left the floor
  Enter the name of the patient for Operating Room x-ray lab
  Enter the time that the patient left for O.R. (Operating Room),
  x-ray Lab and the time patient returned.

DAILY CENSUS SHEET:
  Enter admissions, transfers, discharges after they have been executed
  Put name card on chart holder

III. WORKING CONDITIONS:
  Work weekends, holidays, evenings and rotating shifts

IV. JOB REQUIREMENTS:
  Be 17 years of age
  Minimum of 8th grade education
  Undergo medical examination
  Have good vision and hearing (normal or corrected)
  Have good physical and mental health
  Be able to distinguish colors

V. JOB CONDITIONS:
  Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS & KNOWLEDGE
  Pay attention to detail and follow instructions carefully
  Be able to work under pressure
  Be willing to follow prescribed procedures carefully
  Be accurate in record keeping
Title: Health/Medical Occupations

Be willing to work under close supervision and to perform a variety of routine tasks.

VII. JOB PRACTICE:
Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
Reading: Must have good reading skills to record/read charts, etc.
Math: Must be able to compute accurately. Should know four processes of math
Verbal: Must be able to understand instructions and communicate with hospital personnel.
Written: Must have good telephone skills

Written: Must have good clerical skills in order to file, record etc.

ADDITIONAL JOB INFORMATION:
1. Disadvantages: May have to work weekends, holidays, nights, and rotating shifts.
2. Advantages: Good employment outlook
   Good fringe benefits
   Good salary/compensates with training
3. Training Opportunities: On the job/Vocational Schools

IX. EVALUATION:
   As determined by team of teachers
   In hospital determined by supervisor in charge
**COURSE:** Health/Medical Occupations  

**OCCUPATION:** Ward Clerk  

<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT</th>
<th>NEW TERMINOLOGY</th>
<th>TEXT, WORKBOOKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>... To understand the role of the Ward Clerk as part of the Nursing Team ...</td>
<td>... Discuss role of the Ward Clerk ...</td>
<td>Census sheets</td>
<td>VOCABULARY</td>
<td></td>
</tr>
<tr>
<td>... To be aware of hospital terminology and routine ...</td>
<td>... Discuss hospital terminology and routine ...</td>
<td>Telephone</td>
<td>Admitting Office</td>
<td></td>
</tr>
<tr>
<td>... To be aware of hospital policy and procedure ...</td>
<td>... Discuss hospital policy and procedure ...</td>
<td>Hospital charts</td>
<td>Cardex</td>
<td></td>
</tr>
<tr>
<td>... To understand the importance of hospital ethics ...</td>
<td>... Discuss the importance of hospital ethics ...</td>
<td>Teletift</td>
<td>Daily Census Sheet</td>
<td></td>
</tr>
<tr>
<td>... To be able to communicate verbally with hospital personnel and visitors ...</td>
<td>... Communicate by telephone and role playing ...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... To be able to perform clerical and related duties ...</td>
<td>Calling departments within hospital ...</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Locating doctors and nurses ...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Answering telephone and directing calls ...</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Prepare name band, name cards for patient, prepare chart, enter discharges on daily census sheet, enter admissions, distribute mail to patients, copy time slips, daily weekly, prepare passes for patient and keep bed chart up to date ...</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOOLS, EQUIPMENT**  

- Census sheets  
- Telephone  
- Hospital charts  
- Teletift  

**NEW TERMINOLOGY**  

- VOCABULARY  
- Admitting Office  
- Cardex  
- Daily Census Sheet  
- Daily log  
- Confidential  
- Intensive Care Unit - I.C.U.  
- Operating Room  
- Coronary Care Unit - C.C.U.  
- Business Office  
- Medical Floor  
- Surgical  
- Orthopedic  
- Geriatric  
- Psychiatric  
- Laboratory  
- x-ray  
- Admitting Office  
- Emergency Room  
- Recovery Room  
- Morgue  
- Autopsy  
- Diet Kitchen  
- Obstetrics  
- Inhalation  
- Therapy  
- Pediatric  

**TEXT, WORKBOOKS**  

- "Being A Nursing Aide"  
- Hospital Research and Ed. Trust  
- Teacher Made Materials  
- Diagrams  
- Outlines  
- Worksheets
I. JOB TITLE: Nurse's Aide

II. JOB DUTIES:

Answering signal lights to ascertain the patient's needs
Bed making: closed, open, occupied, and post-operative beds
Bathing the patient: Bed bath, tub, shower and sitz bath
Dressing and undressing patients
Assisting with feeding the patient necessary
Being responsible for passing extra nourishment and fresh water
Moving and transporting patients
Positioning the patient properly
Providing comfort devices for the patient as instructed (Lamb's wool, protective pads, air mattress, water bed)
Assisting with oral hygiene
Giving back rubs and change linen as necessary
Recording fluid intake and output
Taking and recording temperature, pulse and respiration
Giving enemas: oil, tap water and Fleet's
Collecting urine and stool specimen
Collecting, testing diabetic urines and recording the results
Giving and removing bedpans and urinals
Assisting patients in and out of bed
Assisting with pre-operative care
Shaving local skin areas pre-operatively
Assisting with post-mortem care

III. WORKING CONDITIONS:

Work in a hospital environment
Be aware of the realities and responsibilities of clinical experience
To be prompt, dependable and have good attendance
Most jobs require some work on Saturdays, Sundays, holidays, evenings and rotating shifts

IV. JOB REQUIREMENTS:

Read, write and speak English
Be 17 years of age or over
Minimum 8th grade education - High school preferred
Pass a medical examination
Have good vision and hearing
Ability to distinguish colors
May be fingerprinted according to the agency
Be able to read thermometers, timing devices and simple gauges

V. JOB CONDITIONS:

Determined by field trips, guest speakers, films and lectures

VI. BASIC SKILLS AND KNOWLEDGE:

Be empathetic and tactful in patient relationships
Be able to follow instructions and perform established procedures
Be prompt and report accurately all observations related to patient care

VII. JOB PRACTICE:

Laboratory experience
VIII. ACADEMIC DEMANDS:

Reading: Must be able to read instructions; simple gauges; and thermometers

Math: Must be able to add, multiply, subtract, divide and work with simple fractions

Verbal: Must be able to communicate with patients, visitors, doctors and understand the instructions of team leader.

Written: Be able to record vital signs such as temperature, pulse and respiration

ADDITIONAL JOB INFORMATION:

1. Disadvantages: Work schedule and hours may vary from week to week
   Shifts may rotate
   Necessity of working nights, weekends and holidays

2. Advantages: Good fringe benefits
   High demand for workers

3. Training Opportunities: On the job; Vocational schools
**LEARNING GOALS**

<table>
<thead>
<tr>
<th>LEARNING ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom discussion, role-playing, viewing of films</td>
</tr>
<tr>
<td>Showing of films, pictures, charts and by teacher lecture</td>
</tr>
<tr>
<td>Listing and describing portals of entry</td>
</tr>
<tr>
<td>Handwashing</td>
</tr>
<tr>
<td>Cleaning of hospital units</td>
</tr>
<tr>
<td>Assembling linens</td>
</tr>
<tr>
<td>Making the bed</td>
</tr>
<tr>
<td>Making the open bed</td>
</tr>
<tr>
<td>(Demonstrate and practice)</td>
</tr>
<tr>
<td>Making the occupied bed</td>
</tr>
<tr>
<td>Make the post operative bed</td>
</tr>
<tr>
<td>Wash patients' face and hands</td>
</tr>
<tr>
<td>Brushing the patients' teeth</td>
</tr>
<tr>
<td>Giving and removing the bed pan</td>
</tr>
<tr>
<td>Give back rub</td>
</tr>
<tr>
<td>Give bed bath, dressing and undressing patient</td>
</tr>
<tr>
<td>Correct posture for lifting. Moving patient up in bed, turning patient from side to side, assisting patient from bed to chair, assisting patient from bed to stretcher. Moving conscious and unconscious patient.</td>
</tr>
<tr>
<td>Transporting patient</td>
</tr>
<tr>
<td>Demonstration and practice of correct procedure of reading and use of clinical thermometers</td>
</tr>
<tr>
<td>Demonstrate and practice charting temperature</td>
</tr>
<tr>
<td>Demonstrate and practice of counting and recording pulse and respiration</td>
</tr>
<tr>
<td>Learn parts of the charts and its significance</td>
</tr>
</tbody>
</table>

**TOOLS, EQUIPMENT SUPPLIES**

| Film Strip |
| Projector |
| Cassette player |
| Charts |
| Mouth, nose, skin, rectum, vagina, ears |
| Soap and warm water, paper towels, waste basket, lye basin, newspaper, cleaning cloths |
| Bedpan |
| 2 large sheets |
| 1 draw sheet |
| Blanket |
| Spread |
| Pillow |
| Pillowcase |
| Towel, washcloth |
| Hospital gown |

**NEW TERMINOLOGY MATH**

| Appearance |
| Ethics |
| Maturity |
| Emotions |
| Self-Understanding |
| Interpersonal relationships |
| Religion |
| Consideration |
| Education |
| Interaction |
| Individuality |
| Responsibility |
| Tact |
| Privacy |
| Legality |
| Adequate responses |

| Skin |
| Skeleton |
| Digestive |
| Muscular |
| Nervous |
| Respiratory |
| Circulatory |
| Endocrine |
| Reproductive |

**TEXT, WORKBOOKS OTHER SUPPLIES**

| Filmstrip/Cassette Program |
| Ethics for the Nursing Assistant |
| Nursing Staff Oral Communications |
| Maintaining A Clean Environment |
| Careers in Health Services |
| Parts 1 and 2 |
| Medical Asepsis |
| Occupied Bed Making |
| Bed Bath |
| Observation and Charting |
| Temperature, Pulse, Respiration |
| Feeding the Patient |
| Blood Pressure |
| Admission & Discharge |
| Lifting & Moving Patients |
| Orientation: Joining The Health Care Team |
| Transfer & Ambulation |
| Pre-operative & Postoperative Care |
| Positioning to Prevent Complications |
| Respiratory System |
| Skeletal & Muscular Systems Use of Patient Lifters |
| Films - NYS Health Dept. |
| Mrs. Reynolds Needs a Nurse |
| Almost A Miracle |
| Handwashing in Patient Care |
| Nursery Sepals |
| View From The Mountain |
| Sterilisation Procedures For The Medical Office |
| Children in the Hospital |
**LEARNING GOALS**

- To understand the importance of nutrition

**LEARNING ACTIVITIES**
- Demonstrate and practice measuring and recording Intake and Output. Adding amounts
- Demonstrate and practice weighing, measuring the patient, recording results on chart
- Demonstrate and practice feeding the helpless patient. Students will work in teams. The student patient will have her eyes covered with eye patches while being fed by student nurse.

**TOOLS, EQUIPMENT SUPPLIES**
- Thermometer holders
- Cotton balls
- Lubricant
- Watch with 2nd hand
- Pad and pencil
- Tissues
- Chart
- Calibrated
- Pitcher or cup
- Intake and output sheet
- Scale
- Menus
- Tray
- Dishes
- Flatware
- Food
- Glasses
- Napkins
- Straws
- Beverages

**NEW TERMINOLOGY**

- Emesis
- Feces, evacuate stool, void, defecate, urine
- Massage
- Rotary motion
- Circulation
- Bed sores
- Decubitus
- Privacy, protection, observe
- Posture
- Alignment
- Balance
- Strain
- Spine
- Assist
- Wheel chair
- Comatose
- Conscious
- Unconscious
- Alert
- Oriented
- Muscles
- Body mechanics
- Thermometer
- Vital signs
- Temperature
- Pulse
- Respiration
- Radial
- Variations
- Rectal
- Oral
- Quidillary

**MATH**

- Fire and Your Hospital
- Cost of Hope
- Role of Nursing in Infection Control
- Bright Future
- Challenge to Serve
- Diary of Connie McGregor
- I Am Joe's Heart

**TEXT, WORKBOOKS OTHER SUPPLIES**

- Films-BOCES Library
- Hemo, the Magnificent
- About Your Body
- Parts I & II
- I Am Joe's Spine
- Digestion in our Bodies
- Heart, Lungs & Circulation
- Infectious Diseases
- Muscles & Bones of the Body
- Understanding Your Body
- The Incredible Voyage

- 8mm Film Loops
- Lifting The Patient From & To Bed
- Bathing The Patient in Bed
- Parts 1 & 2
- Oral Hygiene - Patient Who Can Help
- Oral Hygiene - The Helpless Patient
- Lifting & Moving The Patient in Bed
- Bedmaking with Clean Linen
- Parts I & II
- Pressure Areas

**Teacher Made:**
1. Worksheets
2. Outlines
<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT SUPPLIES</th>
<th>NEW TERMINOLOGY</th>
<th>TEXT, WORKBOOKS OTHER SUPPLIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality</td>
<td>Rate</td>
<td>Inspiration</td>
<td>Expiration</td>
<td>Discharge</td>
</tr>
<tr>
<td>Inspiration</td>
<td>Inspiration</td>
<td>Inspiration</td>
<td>Expiration</td>
<td>Discharge</td>
</tr>
<tr>
<td>Expiration</td>
<td>Variations</td>
<td>Discharge</td>
<td>Admission</td>
<td>Laboratory</td>
</tr>
<tr>
<td>Variations</td>
<td>Discharge</td>
<td>Admission</td>
<td>Physical</td>
<td>Doctor's order sheet</td>
</tr>
<tr>
<td>Discharge</td>
<td>Admission</td>
<td>Physical</td>
<td>Doctor's order sheet</td>
<td>History</td>
</tr>
<tr>
<td>Admission</td>
<td>Laboratory</td>
<td>Doctor's order sheet</td>
<td>History</td>
<td>Information</td>
</tr>
<tr>
<td>Physical</td>
<td>Doctor's order sheet</td>
<td>History</td>
<td>Information</td>
<td>Legality</td>
</tr>
<tr>
<td>Doctor's order sheet</td>
<td>History</td>
<td>Information</td>
<td>Legality</td>
<td>Graphic sheet</td>
</tr>
<tr>
<td>History</td>
<td>Information</td>
<td>Legality</td>
<td>Graphic sheet</td>
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<tr>
<td>Information</td>
<td>Legality</td>
<td>Graphic sheet</td>
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<td>Graphic sheet</td>
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</tr>
<tr>
<td>Accurate</td>
<td>Fluids</td>
<td>Types</td>
<td>Liquids</td>
<td>Intake</td>
</tr>
<tr>
<td>Fluids</td>
<td>Types</td>
<td>Liquids</td>
<td>Intake</td>
<td>Output</td>
</tr>
<tr>
<td>Types</td>
<td>Liquids</td>
<td>Intake</td>
<td>Output</td>
<td>Calibrated</td>
</tr>
<tr>
<td>Liquids</td>
<td>Intake</td>
<td>Output</td>
<td>Calibrated</td>
<td></td>
</tr>
<tr>
<td>Intake</td>
<td>Output</td>
<td>Calibrated</td>
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<tr>
<td>Output</td>
<td>Calibrated</td>
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<td>LEARNING GOALS</td>
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<td>TEXT, WORKBOOKS OTHER SUPPLIES</td>
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</table>
JOB TITLE: Orderly

JOB DUTIES:
Take and record temperature, pulse and respiration
Bathe patient (bed, tub, shower)
Measure patients' fluid intake and output
Collect routine specimens
Apply hot and cold applications, compresses, ice packs, etc.
Give enemas to selected patients
Assist with physical examination, application and change of simple dressing, splints, casts
Set up equipment such as oxygen, traction and portable x-ray
Perform routine urine test for sugar and acetone
Clean and sterilize instruments and equipment
Assist patient to dress and undress and get in and out of bed
Transport patient on invalid chairs or wheeled stretchers
Apply restraints and side rails on bed
Serve, carry and collect food trays, and assist in feeding patients
Make and unmake beds
Dispose of soiled linens
Requisition, distribute, check and put away supplies

WORKING CONDITIONS:
Working hours include Saturdays, Sundays and holidays, evenings and rotating shifts
Work with and around others under usual hospital conditions
Be subject to cuts from sharp instruments and infections from soiled materials
Be exposed to occasional disagreeable odors and sights
Be subject to strains from moving and lifting patients

JOB REQUIREMENTS:
Be 17 years of age
Speak, read, and write English
Minimum of 8th grade education
Have recent, checkable references
Be able to read simple gauges and timing devices
Be fingerprinted
Undergo medical examination (no extremes in weight)
Be able to stand and walk about for long periods of time
Be able to lift, push and pull patients from stretcher to the operating table
Be able to handle instruments and equipment carefully
Have good vision and hearing (normal and corrected)
Be able to distinguish colors
Have good physical and mental health

JOB CONDITIONS:
Determined by field trips, guest speakers, etc.

BASIC SKILLS AND KNOWLEDGE:
Move arms, hands and fingers rapidly and accurately
Learn and apply techniques of patient care
Manipulate small objects
Pay attention to detail and follow instructions carefully
Have a desire to help others
Be able to work under pressure
Be sympathetic and tactful in dealing with patients and staff
Be able to react quickly
Trade: Health/Medical Occupations

Be willing to follow prescribed procedures carefully
Be willing to work under close supervision and to perform a variety of routine tasks

VII. JOB PRACTICE:
Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
Reading: Must be able to read charts, thermometers, etc.
Math: Must be able to tell time, count accurately and know fractions and measurement.
Verbal: Must be able to understand instructions and communicate with patients.
Written: Be able to record vital signs such as temperature, pulse, etc.

ADDITIONAL JOB INFORMATION:
1. Disadvantages: May have to work weekends, holidays, nights and rotation shifts.
   Work involves unpleasant sights
   Subject to strains from lifting patients
   Work schedule and hours may vary from week to week

2. Advantages: Good fringe benefits
   High demand for workers.

3. Training Opportunities: On the Job-Vocational Schools

IX. EVALUATION: As determined by team of teachers
### LEARNING GOALS

- To recognize the importance of desirable qualities in their relation with patients and others
- To understand the role of the nurse's aide in the nursing team
- To be aware of basic human anatomy
- To be aware of diseases, infections, etc.
- To identify items in a patient's unit
- To recognize the importance of learning a patient's unit
- To assemble the different hospital packs
- To understand importance of cleanliness in the health care institution
- To be familiar with the principles of disinfection and sterilization.
- To understand the importance, correct procedure and times for washing hands
- To be able to make a closed and open bed
- To know how to lift, move and transport a patient
- To become familiar with the correct procedure used to move a patient in bed
- To be able to make the occupied bed
- To be able to take and record a patient's temperature, pulse, and respiration
- To be able to assemble the different hospital packs
- To understand the importance, correct procedure and times for washing hands
- To be able to make a closed and open bed
- To know how to lift, move and transport a patient
- To become familiar with the correct procedure used to move a patient in bed
- To be able to make the occupied bed
- To be able to take and record a patient's temperature, pulse, and respiration

### LEARNING ACTIVITIES

- See Ward Clerk
  - Demonstrate and practice:
    - a) Correct posture for lifting
    - b) Moving a patient up in bed
    - c) Moving a patient from bed to stretcher
    - d) Assisting patient from bed to chair
    - e) Turning the patient
  - Practice moving the conscious patient
  - Practice making the bed with patient in it
  - Reading a thermometer
  - Using a second hand on a watch
  - Counting pulse and respiration and recording on patient's chart
  - Taking and recording patient's temperature
  - Demonstration and practice giving a bed bath
  - Volunteer work in a hospital
  - Demonstration and practice giving the bedpan
  - Demonstration and practice under dressing and dressing
  - Demonstration and practice of a backrub
  - Demonstration and practice feeding the helpless patient

### TOOLS, EQUIPMENT

- See Ward Clerk
  - Stretcher
  - Wheel Chair
  - Robe
  - Slippers
  - Foot Stool
  - Hamper
  - Screen
  - Thermometer
  - Watch with Second hand
  - Germicide
  - Oversized thermometer
  - Patient charts
  - Pen
  - Pencil
  - Thermometer holder
  - Basin with Warm Water(110)
  - Soap
  - Rubbing alcohol
  - Lotion
  - Bath powder
  - Bath Blanket
  - Toilet Articles
  - Bedpan
  - Toilet Paper
  - Rolling Cart
  - Pitchers
  - Ice
  - Water
  - Scoops
  - Straws
  - Various measuring
  - Tray
  - Flatware
  - Dishes
  - Napkins
  - Food
  - Menus

### NEW TERMINOLOGY MATH

- See Ward Clerk
  - Alignment
  - Ambulatory
  - Axilla
  - Bed Sore
  - Coma
  - Fracture
  - Strain
  - Posture
  - Leverage
  - Balance
  - Precautions
  - Sterile
  - Mercury
  - Rectal
  - Oral
  - Antiseptic
  - Respiration
  - Fever
  - Temperature
  - Pulse
  - Inhalation
  - Exhalation
  - TPR
  - Vital Signs
  - Pendulous
  - Umbilicus
  - Defecate
  - Feces
  - Urine
  - Incontinent
  - Pubic
  - Spinal Cord
  - Circulation
  - Dentures

### TEXT, WORKBOOKS

- See Ward Clerk
  - Filmstrips & Cassettes
  - Careers In Health Services
  - Film Loops
  - Lifting and Moving the Patient, Encyclopedia Britannica
  - The Helpless Patient, Encyclopedia Britannica
  - The Patient Who Can Help Encyclopedia Britannica
  - The Occupied Bed Encyclopedia Britannica
  - Bed Bath Encyclopedia Britannica
  - Field Trips
  - Westledge Nursing Facility
  - Northern Westchester Hospital
  - Putnam Community Hospital
  - Guest Speakers
  - Nurses
<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
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<tbody>
<tr>
<td>... To understand normal and abnormal temperature, pulse and respiration ...</td>
<td>... Role playing</td>
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<td>... To understand the correct procedure for giving a bath ...</td>
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<td>... To be familiar with giving the bedpan ...</td>
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<td>... To become acquainted with the procedure for dressing/undressing the helpless patient ...</td>
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<td>... To understand how to give a backrub ...</td>
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<td>... To understand the correct procedure for distributing water and its importance ...</td>
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<td>... To learn how to give morning and evening care ...</td>
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<td>... To become familiar with fluid measurement ...</td>
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<td>... To know how to feed the helpless patient ...</td>
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<th>TOOLS, EQUIPMENT SUPPLIES</th>
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<th>TEXT, WORKBOOKS OTHER SUPPLIES</th>
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Trade: Health Medical Occupations

I. JOB TITLE: Hospital Tray Girl

II. JOB DUTIES:
   Sets up trays for patients and may serve them
   Lines trays up in proper order for delivery and pushes carts, to serving areas
   May also help set up service counters in cafeteria's for hospital personnel
   May also do dishwashing
   Preparing beverages
   Clearing of trays
   Cleaning table tops in patients' dining room
   Performs any other duties which the cook or assistant cook may assign

III. WORKING CONDITIONS:
   Work weekends, holidays and rotating shifts
   Must be able to work under pressure if necessary
   Must be able to work under close supervision
   Handles utensils and table ware
   Pushes and pulls food trays and carts
   Stands and walks most of time on duty
   Stoops, reaches for, lifts, and carries relatively light equipment and materials

IV. JOB REQUIREMENTS:
   Must be over 18 years of age to work in city hospitals
   Must pass physical examination
   Must have some high school education
   A neat, clean appearance is required
   Need courtesy and tact in dealing with patients cooperation with other employees
   Ability and willingness to perform repetitive tasks on a continuous basis
   Some initiative and judgment involved in planning own work to meet meal schedules
   Works under close supervision
   Performs duties which are well standardized

V. JOB CONDITIONS:
   Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
   Setting up trays and setting tables

VII. JOB PRACTICE:
   Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
   Reading: Be able to read a menu
   Math: Be able to recognize numbers
   Verbal: Be able to follow instructions
   Written: Job duties do not require written communication

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Early hours
   Different and rotating shifts

2) Advantages: Clean pleasant working conditions
3) Training Opportunities: On the Job

IX. EVALUATION:
As determined by team of teachers
### LEARNING GOALS

- To become acquainted with the procedure used to prepare hospital trays
- Practice preparing various hospital trays
- Study and learn the four basic food groups
- Study and learn the six basic nutrients
- Study and learn what a soft, liquid, dietetic, salt free, and regular diet contain
- Choices of assignments for motivation, evaluation and acquiring additional knowledge and skills of the Tray Girl

### LEARNING ACTIVITIES

- Practice preparing various hospital trays
- Study and learn the four basic food groups
- Study and learn the six basic nutrients
- Study and learn what a soft, liquid, dietetic, salt free, and regular diet contain
- Choices of assignments for motivation, evaluation and acquiring additional knowledge and skills of the Tray Girl

### TOOLS, EQUIPMENT, SUPPLIES

- Menus
- Trays
- Flatware
- China
- Glassware
- Napkins
- Scoops
- Food
- Plasted food
- Cardboard food
- Warming covers
- Tray covers

### NEW TERMINOLOGY MATH

- Table service
- Protein
- Vitamins
- Minerals
- Soft diet
- Liquid diet
- Regular diet
- Salt free diet
- Dietetic diet
- Fats
- Diet
- Calorie
- Carbohydrate

### OTHER SUPPLIES

- How to be a Nurse's Aide in a Nursing Home
  - Dorothy Erickson Reese, H.E.W.
- Being a Nursing Aide
  - Robert J. Brady Co.
- Marie Perrone, Practical Nurse, Lillian Lerner,
- Margaret Moller
- Manual for the Nurse's Aide
- Delmar
- SRA Brief-Tray Girl
- Being a Food Service Worker
- Hospital Research and Educational Trust
- Sample Hospital menus
- Teacher Made Materials
- Guest Speakers
- Nurses

### FIELD TRIPS

- Northern Westchester Hospital
- Mount Kisco
- Putnam Community Hospital
- Carmel
- Westledge Nursing Facility

### OTHER SUPPLIES

- Charts
- 4 Basic Food Groups
- Family Circle
I. JOB TITLE: Hospital Housekeeper

II. JOB DUTIES:
Check room for articles left
Strip and make up beds
Collect soiled towels and put out clean ones
Remove shower curtain
Clean medicine cabinets, shelves and mirror
Shine faucets, scrub bathtub, put up new shower curtain, soap and glass.
Scrub floor
Empty wastebasket and ashtrays
Remove soiled paper linings from drawers and closet shelves; replace with clean paper
Vacuum rug
Dust all furniture and furnishings.

III. WORKING CONDITIONS:
Pleasant, clean, rushed on occasion
Saturday, Sunday and holiday work
Stand, bend or stoop most of the time

IV. JOB REQUIREMENTS:
Good use of English
Neat and efficient appearance
Pleasant personality
No experience necessary
Possible union membership

V. JOB CONDITIONS:
Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
How to use vacuum cleaner
How to wax wood furniture and clean painted baseboards
How to make beds
How to clean bathrooms

VII. JOB PRACTICE:
Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
Reading: Be able to read directions on various disinfectants, abrasives, deodorants, polishes and pesticides.
Math: Be able to compute quantities to determine proportions of various cleaning agents to water.
Verbal: Be able to follow instructions and communicate with fellow employees.
Written: Be able to complete a supply and repair sheet.

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Work weekends and holidays.
   May be exposed to unpleasant sights and odors

2) Advantages: Usually no evening shifts


Trade: Health (Medical Occupations)

May be promoted to head housekeeper or with some sewing background, to linen room repair.

3) Training opportunities: On the Job - Vocational Schools

IX. EVALUATION:

As determined by team of teachers.
**LEARNING GOALS**

... To become familiar with the procedure used to clean the different areas of the hospital.
... To understand the importance of cleanliness to eliminate rodents and other hospital pests.

**LEARNING ACTIVITIES**

... Daily care of patient's room and bathroom.
... Daily care of halls, etc.
... Choice of assignments for motivation, evaluation and acquiring additional knowledge and skills.

**TOOLS, EQUIPMENT SUPPLIES**

- Pail
- Mop
- Duster
- Dust mop
- Cleaning solutions
- Pesticides
- Disinfectant
- Sterilize
- Germicide
- Antiseptic
- Pesticide
- Rodent

**NEW TERMINOLOGY MATH**

**TEXT, WORKBOOKS OTHER SUPPLIES**

- Field Trips
  - Northern Westchester Hospital, Mount Kisco
  - Putnam Community Hospital, Carmel
  - Westledge Nursing Facility
- Teacher Made Materials
  - Worksheets
  - Forms
  - Outlines
  - Transparencies
- Film Strips & Cassettes
- Housekeeping Orientation
- Safety in Housekeeping
- Bacteria Control
- Hospital Floor Care
- Custodial Duties
- Hospital Carpet Care
Trade: Health/Medical Occupations

I. JOB TITLE: Hospital Laundress

II. JOB DUTIES:
- Wash and dry clothes
- Separate white from colored
- Set water temperature, add detergent, disinfectants, bleaches
- Time drying cycle
- Keep accurate count of articles
- Fold or send to ironers
- Sort according to department
- Marking items
- Feeding items into the flat ironer

III. WORKING CONDITIONS:
- On feet most of day
- Work in hot area

IV. JOB REQUIREMENTS:
- Health test required
- Basic qualifications needed are speed, good co-ordination, and manual dexterity
- Some mechanical aptitude and ability
- Physical strength and endurance

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: May be required to read directions and instructions
- Math:
- Verbal: Be able to follow directions
- Written:

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Work in hot area
   - Work a 6 day week
   - Usually start early in the morning

2) Advantages: Part time work available

3) Training opportunities: On the Job-Vocational Schools

IX. EVALUATION:
- As determined by team of teachers
### LEARNING GOALS
- To be able to do hospital laundry

### LEARNING ACTIVITIES
- Operate various machines used in doing laundry
- Practice by doing all laundry used in lab
- Choices of assignments for motivation, evaluation and acquiring additional knowledge and skills for the Laundress

### TOOLS, EQUIPMENT

<table>
<thead>
<tr>
<th>Category</th>
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<tbody>
<tr>
<td>Washing machine</td>
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<td>Detergent</td>
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<td>Mangle</td>
<td>Bleach</td>
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### NEW TERMINOLOGY
- Detergent

### TEXT, WORKBOOKS
- How to be a Nurse's Aide in a Nursing Home
- Dorothy Erickson Reese
- H.E.W.
- Being a Nursing Aide
- Robert J. Brady Co.
- Manual for the Nurse's Aide
- Delmar

### OTHER SUPPLIES
- Field Trips
  - Northern Westchester Hospital, Mount Kisco
  - Putnam Community Hospital
  - Carmel
  - Westledge Nursing Facility

### Teaching Made Materials
I. JOB TITLE: Day Care Center Aide

II. JOB DUTIES:
- Help children remove outer garments
- Participate in games, read to children
- Help with simple painting, drawing, handwork, songs and similar activities
- Assist children in eating, resting and toileting
- Help children develop habits of caring for own clothing and picking up and putting away toys and books
- Maintain discipline
- Serve food and regulate rest periods
- Observe children for signs of illness, fatigue and over-stimulation
- Keep records
- Take children on short trips

III. WORKING CONDITIONS:
- Work with and around children and other adults in well-lighted and ventilated play rooms.
- Outdoors in restricted play areas during pleasant weather

IV. JOB REQUIREMENTS:
- Be able to sit, stand and move around easily
- Be free of any severe disfigurements
- Have a pleasant speaking voice with no speech impediments
- Pass chest x-ray examination given by Health Department
- Have a driver's license

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Have full use of arms, legs, hand and fingers
- Be able to distinguish colors
- Read, write and speak English
- Be able to assist in teaching children play and musical activities which contribute to their development

VII. JOB PRACTICE:
- Shop and laboratory experience
- Volunteers in nursery classes

VIII. ACADEMIC DEMANDS:
- Reading: Able to read children's books
  Able to read records and forms
- Math: Time sheets and hourly rates
- Verbal: Able to communicate well with children and parents
  Able to communicate with other workers
- Written: Able to keep records and fill out forms

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Some children's behavior problems disrupt classwork and parents often fail to cooperate in remedying. Physical work involved in lifting, etc. is often very tiring
2) Advantages: May receive good fringe benefits
Trade: Health/Medical Occupations

Working mothers may be able to work split shifts. Employment outlook is good.

3) Training Opportunities: On the Job-Vocational Schools

IX. EVALUATION:
As determined by team of teachers.
**COURSE:** Health Medical Occupations  
**OCCUPATION:** Day Care Center Aide

<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT</th>
<th>NEW TERMINOLOGY</th>
<th>TEXT, WORKBOOKS</th>
<th>OTHER SUPPLIES</th>
</tr>
</thead>
</table>
| ... To understand the value of nursery school  
... To be aware of the needs and interests of the one to five year old  
... To understand the importance of the different activities in a Day Care Center  
... To become adept at being aware of safety in the Day Care Center | ... Plan the day by day activities of a Day Care Center and list them  
... Work in a Day Care Center program  
... Evaluate and improve the program  
... Selected students to act as volunteers in head start and kindergarten programs  
... Observe films, discuss and write an evaluation of them  
... Choices of assignments for motivation, evaluation, and acquiring of additional knowledge and skills of the Day Care Center Aide  
... Observe filmstrips and complete teacher made dittos for each | Children's toys  
Arts and crafts supplies  
a) paint  
b) paint brushes  
c) paper  
Outdoor play equipment  
Record player  
Records  
Film projector  
Children's films  
Pre-school children | Constructive discipline  
Introvert  
Extrovert  
Peers  
Sibling  
Competition  
Motivation  
Incentive  
Flannel graph  
Jealous  
Development | The Developing Child  
Chas. A. Bennett Co.  
Living and Learning With Children, Houghton Mifflin Co. |
| FILMS  
All of the following films are obtained from New York State Health Department:  
Safety on the Play Ground  
A.B.C. of Babysitting  
To a Babysitter You're in Charge  
The Toddlers Hours of Hazard  
Answering the Child's Why  
Children Growing Up With Other People  
Children Learning by Experience  
Children's Emotions  
Children's Play  
Tears of Children  
The Frustrating Fours and Fascinating Fives  
He Acts His Age  
Helping the Child Accept The Do's  
Shyness  
Helping the Child Accept The Don'ts  
Meal Time Can Be a Happy Time  
Principles of Development  
The Terrible Two's and Trusting Three's  
Understanding Children's Play | FILMSTRIPS  
All of the following are from |
<table>
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<tr>
<th>LEARNING GOALS</th>
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<td>McGraw-Hill Book Co.:</td>
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<td>Special Daytime Problems</td>
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<td>Selecting Children's Clothing</td>
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<td>Selecting Children's Toys</td>
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<td>Teaching Desirable Habits</td>
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<td>FILMSTRIPS/CASSETTES</td>
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<td>The Child Care Worker</td>
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<td>Encyclopedia Britannica</td>
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<td>Understanding Your Child Ages</td>
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<td>Special Daytime Problems</td>
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<td>Teaching Desirable Habits</td>
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<td>FIELD TRIPS</td>
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<td>Nursery Schools</td>
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<td>B.O.C.E.S. Professional Library-</td>
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<td>Arts and Crafts Books</td>
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<td>Teacher Made Materials</td>
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<td>Arts &amp; Craft Projects</td>
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<td>Evaluation Materials</td>
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</tr>
</tbody>
</table>
I. JOB TITLE: L.P.N.

II. JOB DUTIES:
Take and record temperature, pulse, respiration and blood pressure of patients
Assist in bathing, walking and feeding patients
Preparation and care of patients receiving specialized treatment by physician or registered nurse
Preparation and care of equipment
Give selected medications such as cathartics, aspirin, vitamins, insulin, and sedatives
Give injections as prescribed
Observe, record, and report patient's condition
Application of simple dressings, hot and cold packs, ice bags
Under supervision, keep patients recovering from anesthesia or receiving infusions under constant observation
Notify physician or registered nurse of any changes or unusual reactions in patients
Administer first aid measures in emergency situations

III. WORKING CONDITIONS:
Work with and around others under usual hospital conditions
Have to travel and work in homes under a variety of conditions in performing private duty care
Be exposed to communicable diseases
Be subject to possibility of cuts from instruments, burns from sterilizers and infections from soiled materials
Be exposed to disagreeable odors and unpleasant sights
Be subject to possible strains from moving and lifting patients or equipment

IV. JOB REQUIREMENTS:
Meet the requirements for a New York State License as follows:
Be able to pass aptitude test
Be at least 18 years of age
Be of good moral character
Be a U.S. citizen or have entered the country legally as a permanent resident
Have completed a course of study and hold a certificate of a school approved for licensing giving a course in this occupation of not less than 9 months
Pass the New York State licensing examination
Speak, read, and write English sufficiently well to absorb training, communicate with patients and staff
Undergo medical examination and be fingerprinted prior to employment
Have non-allergic skin
Have good vision hearing (normal or corrected)
Be able to stand and walk for long periods of time
Be able to lift and move patients to and from bed, with assistance
Be able to handle delicate instruments and equipment
Be able to distinguish colors
Have good physical and mental health
Be able to handle emergency situations
Be able to work under supervision and perform a variety of routine tasks
Be willing to follow prescribed procedures carefully and completely with realization that errors may have serious consequences for patients
Be sympathetic and tactful in dealing with patients
V. JOB CONDITIONS:

   Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:

   Learn and apply technical training
   Move hands and fingers rapidly and accurately to manipulate small objects
   Follow instructions and established procedures carefully

VII. JOB PRACTICE:

   Shop and laboratory experience

VIII. ACADEMIC DEMANDS:

   Reading: Be able to read and understand scientific information
   Math: Knowledge of measurement, time, temperature
   Verbal: Be able to understand and communicate with staff and patients
   Written: Be able to record and report on all aspects of the patient’s condition

ADDITIONAL JOB INFORMATION:

1) Disadvantages: Work on weekends, holidays and rotating shifts is often required. Exposure to communicable diseases Possible strains from moving and lifting patients and equipment

2) Advantages: Part time work is available May be employed in a variety of places such as hospitals, nursing homes, old age homes, private homes, etc. Good fringe benefits Uniform allowances, lodging and meals

3) Training Opportunities: Schools approved by the state to issue licenses

IX. EVALUATION:

   As determined by team of teachers
<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT</th>
<th>NEW TERMINOLOGY</th>
<th>TEXT, WORKBOOKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>... See Nurse Aide</td>
<td>... See Nurse Aide</td>
<td>See Nurse Aide</td>
<td>See Nurse Aide</td>
<td>See Nurse Aide</td>
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<tr>
<td>182</td>
<td>183</td>
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<td></td>
</tr>
</tbody>
</table>
I. JOB TITLE: Health Attendant

II. JOB DUTIES:
- Change bed pans, wash and iron patient's laundry and clean the room
- Buy food and prepare and serve meals for patients and other family members following diets
- Assist patient into and out of bed or wheelchair
- Assist patient up and down stairs
- Assist patient and/or children in bathing and dressing
- Massage patient and apply non-medical preparations and treatments such as liniment or alcohol rubs
- Take and record temperature, pulse, and respiration rate under professional direction
- Keep record of food intake and output
- Accompany ambulatory patient outside home, serving as companion and aid
- Entertain patient in such ways as reading aloud, playing cards, or other games

III. WORKING CONDITIONS:
- Travel to patient's homes in all kinds of weather
- Be exposed to communicable diseases and infections from soiled materials
- Be exposed to disagreeable odors and unpleasant sights
- Be subjected to possible strains from lifting and moving

IV. JOB REQUIREMENTS:
- 18 years of age or over
- Speak, read and write English sufficiently well to communicate with patient and family members, take phone messages and keep simple records
- Be able to cook plain meals
- Provide own uniform
- Be in good physical health

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Follow instructions in doing assigned work
- Pay attention to details in planning daily schedule
- Handle and manipulate household equipment
- Be able to stand and walk for long periods of time
- Be able to lift

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: Be able to read instructions
- Math: Must be able to tell time, count accurately, and know fractions and measurement
- Verbal: Be able to communicate with patients
- Written: Be able to keep records and write reports

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Many jobs are short-term and income is subject to wide fluctuations
Work hours include weekends, evenings and holidays
Work environment is often unpleasant
Trade: Health Medical Occupations

2) Advantages: Part time work available
   May receive travel expenses, meals, lodging

3) Training Opportunities: Vocational Schools

IX. EVALUATION:
   As determined by team of teachers
<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT SUPPLIES</th>
<th>NEW TERMINOLOGY MATH</th>
<th>TEXT, WORKBOOKS OTHER SUPPLIES</th>
</tr>
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<tbody>
<tr>
<td>... See Nurse Aide</td>
<td>... See Nurse Aide</td>
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<td>... See Tray Girl</td>
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<td>... See Hospital Housekeeper</td>
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</tbody>
</table>

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PERSONAL SERVICE OCCUPATIONS
Trade: Personal Service Occupations

I. JOB TITLE: Hotel/Motel Housekeeping Aide

II. JOB DUTIES:

- Remove trash and clean trash containers
- Remove used bed linens and towels and replace with clean ones
- Make bed using fresh linen
- Clean windows, mirrors, electrical cords, television screens, telephones, surfaces of furniture, walls, doors, ceiling, chairs, draperies
- Clean and disinfect bathroom vanities, basins, toilets, tubs and shower curtain
- Clean and disinfect bathroom surfaces and floors
- Vacuum and spot clean carpets
- Supply tissues, soap, glasses; matches, ashtrays
- Check Bibles, telephone books, writing materials and replace as needed
- Report items found which are left by guests
- Report repairs which may be needed in area
- Keep written reports on rooms as required by housekeeper
- Keep supply cart stocked

III. WORKING CONDITIONS:

May require Saturdays, Sundays, holidays, split shifts

Necessary to be tactful with guests

IV. JOB REQUIREMENTS:

- Be able to get along well with others
- Be healthy-physically strong
- Have basic reading and writing
- Be responsible, honest and dependable
- Be neat and clean in appearance
- Be mentally able to comprehend
- No experience necessary

V. JOB CONDITIONS:

Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:

- Be able to follow written directions in sequence
- Be able to communicate effectively with housekeeping personnel and guests
- Be aware of principals of hygiene and public health

VII. JOB PRACTICE:

Laboratory/Simulated environment

VIII. ACADEMIC DEMANDS:

- Reading: Be able to read and follow simple directions
- Math: Be able to count
- Verbal: Report items found which are left by guests
  Communicate with guests and co-workers
- Written: Keep reports on rooms as required by the housekeeper
I. JOB TITLE: Institutional Housekeeping Aide
   (Nursing Home/Hospital/Commercial Buildings)

II. JOB DUTIES:
   - Empty ashtrays and waste paper baskets and relime the containers
   - Dust surfaces of furniture in the room
   - Dust and damp mop floors, in rooms and halls
   - Vacuum rugs in rooms and halls
   - Clean and disinfect bathroom
   - Change linens and make beds as necessary
   - Replenish toilet tissues, paper towels and soap

III. WORKING CONDITIONS:
   - May be required to rotate and work on weekends, holidays and shifts
   - Subject to infection
   - Stand, bend or stoop most of the time

IV. JOB REQUIREMENTS:
   - No experience necessary
   - Be able to read and write
   - Be healthy-physically strong
   - Be neat and clean in physical appearance
   - Be able to work under supervision

V. JOB CONDITIONS:
   - Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
   - Be able to follow written directions in sequence
   - Be able to communicate effectively with fellow workers, personnel, patients and customers
   - Be aware of the principles of hygiene and public health

VII. JOB PRACTICE:
   - Laboratory experience

VIII. ACADEMIC DEMANDS:
   - Reading: Be able to read simple signs and directions
   - Math: Be able to count
   - Verbal: Be able to communicate effectively
   - Written: Keep reports as requested by the housekeeper
### COURSE: Personal Services

### OCCUPATION: Hotel - Motel Housekeeping Aide

<table>
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<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT</th>
<th>NEW TERMINOLOGY</th>
<th>TEXT, WORKBOOKS</th>
<th>OTHER MATERIALS</th>
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<tbody>
<tr>
<td>... To be aware of factors affecting availability of employment.</td>
<td>... Collect pictures, statistics and other information for bulletin board showing prosperous and destitute times in our history.</td>
<td>Teacher made charts</td>
<td>VOCABULARY</td>
<td>Newspapers</td>
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<tr>
<td>... To understand the importance of preparation for work.</td>
<td>... Discuss history of changes in employee income level.</td>
<td>Scissors</td>
<td>Employment</td>
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<tr>
<td>... To know where to seek information regarding work.</td>
<td>... Discuss job market demand for skilled workers and decrease in unskilled jobs.</td>
<td>Paste</td>
<td>Skilled worker</td>
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<tr>
<td>... To be aware of the changing roles of men and women in the world of work.</td>
<td>... Discuss increase in part time and service-type jobs.</td>
<td>Oak Tag</td>
<td>Unskilled worker</td>
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<tr>
<td>... To be aware of the benefits of regular employment to the individual.</td>
<td>... Discuss shorter work week.</td>
<td>Teacher made vocabulary lists</td>
<td>Income</td>
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<tr>
<td>... To develop a wholesome attitude toward work.</td>
<td>... Discuss increase of women in labor force.</td>
<td>Filmstrip projector</td>
<td>Job Market</td>
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<td>... To develop personal values</td>
<td>... Discuss wider opportunity for trained workers.</td>
<td>Screen</td>
<td>Part-time</td>
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<tr>
<td>... To be aware of one's personal skills, competencies and talents as well as limitations.</td>
<td>... Discuss the change in society's attitude toward &quot;men's jobs&quot; and &quot;women's jobs&quot;.</td>
<td>Teacher made math work sheets</td>
<td>Service Type Jobs</td>
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</table>

- **To develop a wholesome attitude toward work.**
- **To develop personal values.**
- **To be aware of one's personal skills, competencies and talents as well as limitations.**
- **To know where to seek information regarding work.**
- **To understand the importance of preparation for work.**
- **To be aware of factors affecting availability of employment.**

### TOOLS, EQUIPMENT

- Chalkboard
- Bulletin Board

### MATH

- **Teacher made charts**
- **Scissors**
- **Paste**
- **Oak Tag**
- **Teacher made vocabulary lists**
- **Filmstrip projector**
- **Screen**
- **Teacher made math work sheets**
- **Time**
- **Money**
- **Pay**
- **Fractions**
- **Budgeting**
- **Film Projector**
- **Messy motel room**
- **Suitcase**
- **Job application forms**
- **Personality rating form**
- **Personal habit rating form**
- **Clean fresh uniform**
- **Clean, well fitting shoes**
- **Room pass key**
- **"Do Not Disturb" sign**
- **Hot water**
- **Soap**
- **Water**
- **Paper Towels**
- **Wastepaper basket**
- **Chemical disinfectants**
- **Warm water**
- **Mops**
- **Brushes**
- **Cleaning cloths**
- **Maid's cart**
- **Detergent**
- **Cleaning solvent**
- **Waxes**

### VOCABULARY

- Employment
- Skilled worker
- Unskilled worker
- Income
- Job Market
- Part-time
- Service Type Jobs
- Work Week
- Labor Force
- Living Standard
- Automation
- Personal Satisfaction
- Financial Security
- Independence
- Self Respect
- Employment Agency
- N.Y.S. Employment Service
- School Guidance Office
- Chamber of Commerce
- Want Ads
- Social Security
- Dependents
- Previous Employment
- Maintenance
- Standards
- Sanitation
- Cleanliness
- Facility
- Motel Chain
- Nursing Home
- Retirement Community
- Dormitories
- Comfort
- Service

### TEXT, WORKBOOKS

- Your Family Budget, Coronet Films

### FILMS


### WORKBOOK

- Application Form

### OTHER MATERIALS

- Newspapers
- Magazines
- Social Security Application Forms
- Chalkboard
- Bulletin Board

- FILMSTRIPS (On Hand)
  1. Paying Your Bills
  2. Spending Your Money
  3. Buying Insurance
  4. Making Money Work For You
  5. Borrowing Money

- TEXT
  Mathematics for Living, Book 2, Pruitt Press, Inc.

- FILMS
  - Your Family Budget, Coronet Films

- WORKBOOK
  - Application Form
  - F.E. Richard Pub. Company
<table>
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<tr>
<th>LEARNING GOALS</th>
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<th>MATH</th>
<th>TEXT, WORKBOOKS</th>
<th>OTHER MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>To be able to prepare a budget.</td>
<td>Are all equally important?</td>
<td>Insect sprays</td>
<td>Complaint</td>
<td>Dismiss</td>
<td>Hotel &amp; Motel</td>
<td>Hotel &amp; Motel</td>
</tr>
<tr>
<td>To be aware of the scope of this occupational field.</td>
<td>Can we do without some?</td>
<td>Abrasives</td>
<td>Manager</td>
<td>Manager</td>
<td>Housekeeping Aide</td>
<td>Housekeeping Aide</td>
</tr>
<tr>
<td>To be aware of the places that employ people for this type of work.</td>
<td>How can we attain the most important?</td>
<td>Polishes</td>
<td>Attitude</td>
<td>Personnel</td>
<td>U.S. Department</td>
<td>U.S. Department</td>
</tr>
<tr>
<td>To understand the value of this work to guest, employer, and self.</td>
<td>Give oral reports on some aspect of having vs. not having (ex):</td>
<td>Bleaches</td>
<td>Raise</td>
<td>Raise</td>
<td>of H.E.W., Office</td>
<td>of H.E.W., Office</td>
</tr>
<tr>
<td>To understand the personal benefits of employment as a Hotel/Motel aide.</td>
<td>Personal knowledge of having or not having.</td>
<td>Softeners</td>
<td>Self-respect</td>
<td>Self-respect</td>
<td>of Education</td>
<td>of Education</td>
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<tr>
<td>To be aware of the importance of hours-keeping as a major function in hotels, motels, and hospitals.</td>
<td>Newspaper article.</td>
<td>Brooms</td>
<td>Security</td>
<td>Security</td>
<td>REFERENCES</td>
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<tr>
<td>To be familiar with the duties assigned to the housekeeping department.</td>
<td>Ghetto crime.</td>
<td>Sponges</td>
<td>Independence</td>
<td>Independence</td>
<td>Hotel &amp; Motel</td>
<td>Hotel &amp; Motel</td>
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<tr>
<td>To understand the principles involved in the housekeeping duties.</td>
<td>Welfare.</td>
<td>Vacuum</td>
<td>Self-support</td>
<td>Self-support</td>
<td>Housekeeping Aide</td>
<td>Housekeeping Aide</td>
</tr>
<tr>
<td>To be aware of the qualification for employment as a hotel/motel aide.</td>
<td>Discuss future:</td>
<td>Dust mop</td>
<td>Fringe benefits</td>
<td>Fringe benefits</td>
<td>U.S. Department</td>
<td>U.S. Department</td>
</tr>
<tr>
<td>To be aware of one's personality strengths and weaknesses.</td>
<td>&quot;Dreams&quot; vs. reasonable expectations</td>
<td>Wet mop</td>
<td>Deductions</td>
<td>Deductions</td>
<td>of H.E.W., Office</td>
<td>of H.E.W., Office</td>
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<tr>
<td>To develop a plan to improve on personality weaknesses.</td>
<td>Fiction vs. Non-fiction</td>
<td>Dust cloths</td>
<td>Gross Pay</td>
<td>Gross Pay</td>
<td>of Education</td>
<td>of Education</td>
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<tr>
<td>To develop good grooming habits.</td>
<td>TV vs. the real world</td>
<td>Brushes</td>
<td>Net Pay</td>
<td>Net Pay</td>
<td>TEXT</td>
<td>TEXT</td>
</tr>
<tr>
<td>To understand the principles of safety.</td>
<td>Speakers present information on employment and services offered by their organizations:</td>
<td>Scrub</td>
<td>Hourly Rate</td>
<td>Hourly Rate</td>
<td>Being A Housekeeping Aide</td>
<td>Being A Housekeeping Aide</td>
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<tr>
<td>N.Y.S. Employment Service</td>
<td>N.Y.S. Employment Service Office</td>
<td>Radiator</td>
<td>Salary</td>
<td>Salary</td>
<td>Hospital Research and Educational Trust</td>
<td>Hospital Research and Educational Trust</td>
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<td>Private Employment Agency</td>
<td>Local newspaper</td>
<td>Toilet</td>
<td>Reference</td>
<td>Reference</td>
<td>FILM STRIPS</td>
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<td>Chamber of Commerce</td>
<td>Social Security Office</td>
<td>Stationery</td>
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<td>Social Security</td>
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<td>Social Security Office</td>
<td>Fill out applications for Social Security cards.</td>
<td>Sanit-bags</td>
<td>Number</td>
<td>Number</td>
<td>Safety</td>
<td>Safety</td>
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<td>Field trips to:</td>
<td>N.Y.S. Employment Service Office</td>
<td>Menu</td>
<td>Marital Status</td>
<td>Marital Status</td>
<td>Trained Corp.</td>
<td>Trained Corp.</td>
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<td>Employment agency.</td>
<td>Services directory</td>
<td>Siblings</td>
<td>Siblings</td>
<td>FILMS</td>
<td>FILMS</td>
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</table>
COURSE: Personal Services

OCCUPATION: Motel Housekeeping Aide

LEARNING GOALS

... To be able to identify safety hazards.
... To be aware of possible consequences of not rectifying hazardous conditions.
... To be aware of practices that help prevent accidents.
... To use safe techniques in the use of cleaning supplies and equipment.
... To understand that proper dress and grooming contribute to safety.
... To be aware of the practices and habits that lessen the probability of accidents.
... To be familiar with emergency procedures.
... To understand the importance of starting the work day effectively.
... To understand the importance of good grooming.
... To be able to follow the check-in procedure for work.
... To understand the importance of extending friendly and courteous service to all guests.
... To maintain a cooperative relationship with team members.
... To understand the correct procedure for entering a room.
... To understand the principles of sanitation and disinfection control.

LEARNING ACTIVITIES

... Practice telling time
... Practice keeping weekly time cards.
... Practice:
  - Figuring time-hrs./mins.
  - Adding hours
  - Subtracting hours
  - Adding money
  - Subtracting money
  - Figuring gross pay
  - Figuring deductions
  - Figuring net pay
  - Working with fractions
  - 1/2's and 1/4's
  - Discuss the why's and how's of budgeting.
  - Practice preparing budgets.
  - Discuss contribution of this work to the American way of life.
  - Discuss people who travel frequently as part of their job.
  - Discuss the similarity of employment in the following:
    - Hotels
    - Motels
    - Nursing Homes
    - Children's Homes
    - Retirement Communities
    - Individual Homes
    - Business establishments
    - Dormitories

TOOLS, EQUIPMENT

Cleaner
Spray disinfectant
Bowl mop
Air freshener
Glass cleaner
Printed supplies
Envelopes
Postcards
Room service
Telephone book
Credit card applications
Comment slips
Bible
Matches
Ash trays
Wrapped soap
Sterilized
Disposable
Container for ice cubes
Cleaning and dusting cloths
Disposable bags
Room inspection sheet
Air conditioner
Waste can
Assignment sheet
Beds
Mattresses
Fitted sheets
Large sheets
Bed pads
Blankets
Spreads
Pillows
Pillow cases
Laundry bag
Spring
Soft cloths
Cardboard

NEW TERMINOLOGY

Experience
Hazard
Electrical outlet
Plug
Unattended accident
Prevention
Frayed
Haste
Cords
Break
Connection
Work habits
Punctual
Delay
Television
daily
Shower
Bath
Deodorant
Personal hygiene
Uniform
Routine
Checking in
Housekeeping
House rules
Pass key
Linen room
Pleasant appearance
Courteous
Cooperative
Dependable
Honest
Lock
Indicator

MATH

TEXT, WORKBOOKS

The Correct Maid
Hayden Pub. Co.

REFERENCES

Housekeeping Manual
Holiday Inn
LEARNING GOALS
... To be able to recognize area in need of cleaning.
... To be able to select and use supplies, tools, equipment and techniques appropriate to the cleaning task at hand.
... To be able to properly clean a variety of surface areas and finishes.
... To be able to improvise equipment for cleaning tasks as necessary.
... To be able to change and make beds.
... To know how to properly dispose of different types of rubbish.
... To be aware of the frequency with which different housekeeping chores are to be done.
... To be able to clean a guest room properly in a reasonable amount of time.
... To be able to complete and/or read necessary forms and schedules.
... To be aware of the need to control pests and rodents.
... To understand the proper procedure for stocking the supply cart.
... To be able to inspect a room for "checkout" and "stay over".

LEARNING ACTIVITIES
... Question friend, relatives, teachers, etc. about stays in motels or hotels and give oral reports covering:
  - Comfort
  - Cleanliness
  - Attitude of hotel personnel
  - Things that please
  - Things that displeased
... Role play guest being shown into a messy or poorly cleaned motel room.
... Role play meeting between manager and maid discussing:
  - Poor work
  - Good work
... Discuss repeat business.
... Discuss how a good or bad experience could affect other motels in a chain.
... Role play satisfied salesmen leaving for another city after night's stay.
... Role play dissatisfied salesmen leaving for another city after night's stay.
... Discuss:
  - Security of employment
  - Self-respect
  - Independence of self
  - Support
  - Job availability
  - Salary

TOOLS, EQUIPMENT AND SUPPLIES
- Polish
- Spray air freshener
- Abrasive cleanser
- Detergent solution
- Window cleaner
- Clean cloths
- Special tile cleaner
- Pail with sponge
- Clean water
- Stiff brush
- Rubber gloves
- Disinfectant
- Bowl brush
- Germicidal detergent and brush
- Sponge mop
- Bucket
- Spotting kit
- Club soda
- Clorox
- Shampoo solution.
- Shallow inside pan
- Lamb's wool applicator
- Warm water towel
- Solvent-dry cleaning fluid
- Cold water, follow with ammonia
- Allow to dry, brush off with vacuum
- Scrap off, apply cloroxene
- Vacuum cleaner attachments
- Dust pan
- Waste receptacle
- Newspapers
- Cleaning agent
- Wet mop bucket
- Two bucket dolly on casters

NEW TERMINOLOGY
- "Do Not Disturb"
- Sign
- Occupied
- Vacant
- Maid Occupant
- Habit
- Frequent
- Hand Washing
- Bacteria
- Germs
- Hygiene
- Clean
- Surface
- Sanitary
- Boiling
- Chemical Disinfectant
- Detergent
- Solvent
- Abrasives
- Bleach
- Softeners
- Stationery
- Semi-bags
- Disinfect
- Kitchenette
- Lavatory
- Patio
- Damp Mop
- Corridor
- Stripping
- Airing
- Vertical
- Horizontal
- Recommendations
- Occasionally
- Room Report

TEXT, WORKBOOKS
- Let's Clean House
- Proctor & Gamble
- Helpful Hints for
- Shareton Maids
- Shareton Corp.
- Housekeeping for
- Hotels, Motels,
- Hospitals, Clubs,
- Schools
- Hayden Book Co.
- Motel Planning
- and Business
- Management
- W.C. Brown Co.
- Household Equipment Principles
- Prentice-Hall, Inc.

OTHER MATERIALS
- FILM STRIPS
- By Tranex

- HOUSEKEEPING
- Orientation
- Custodial Duties
- Hospital Floor
- Care
- Hospital Carpet
- Care
- Equipment Cleanliness

- HOUSEKEEPING
- Manual
- Holiday Inn
### LEARNING GOALS

- To understand how to check a room for valuable items which may be left behind.
- To be able to air a room properly.
- To be able to remove trash and extra items and deposit them in their proper places.
- To be able to fill out room report indicating condition of room.
- To be able to prepare vacated rooms for new guests.
- To be able to strip the bed of soiled linen.
- To understand how to handle soiled linen.
- To be able to make a bed using the "Once Around Method".
- To be able to clean brass fixtures properly.
- To understand the correct procedure for cleaning a bathroom.
- To be able to properly clean the medicine cabinet, mirrors, light fixtures, wall tile.
- To be able to clean and polish the tub and wash bowl.
- To understand how to wipe the sliding glass doors.

### LEARNING ACTIVITIES

- Fringe benefits
- Take field trips to hotels, motels, nursing homes, hospitals, etc.
- Discuss personal traits:
  - Honest-dishonest
  - Responsible-irresponsible
  - Courteous-rude
  - Orderliness-untidiness
  - Efficient-incompetent
  - Good attitude-poor attitude
  - Cooperative-uncooperative
  - Tactful-tactless
  - Willingness-obstinace
  - Dependable-undeependable
  - Promptness-tardiness
  - Good appearance-disheveled
  - Good health-poor health
  - Complete personality rating sheet and personal habit rating sheet.
- Construct bulletin board of people groomed appropriately and inappropriately for different activities such as:
  - Applying for a job
  - Work as a hotel/motel aide.
  - Set up criteria for proper grooming for different situations.

### TOOLS, EQUIPMENT SUPPLIES

- Liquid soap
- Vacuum for dry cleaning
- Cleaning pails
- Soluble alkalis
- Water emulsion
- Damp cloth
- Step ladder
- Pronged brush
- Magazines
- Room Service
- Bag
- Hangers

### NEW TERMINOLOGY

- Double
- Single
- Vacancy
- Occupied
- Bible
- Menu
- Material
- Tissues
- Directory
- Wrapped
- Inspection
- Check Out
- Stay Over
- Found
- Valuable Items
- Jewelry
- Wallets
- Night Gown
- Bathrobe
- Slippers
- Windows
- Air Conditioner
- Filter
- Odors
- Stale
- Fresh Air
- Articles
- Trays
- Trash
- Bottles
- Disposable
- Room Report
- Light Bulbs
- Damage
- Missing Items
- Personal Articles

### TEXT, WORKBOOKS OTHER MATERIALS

- FILM STRIPS
  - Bed Making Once Around Holiday Inn
  - FILM STRIPS By Trainex
  - Hospital Floor Care Custodial Duties
## LEARNING GOALS
- or shower curtain properly.
- To know how to clean inside of toilet bowl with a brush.
- To know how to clean a toilet seat.
- To know how to apply paper band on toilet seat indicating sanitary cleaning.
- To know how to wash bathroom floor.
- To understand care for carpets.
- To know how to vacuum
- To know how to spot clean carpets.
- To understand, operate and care for a vacuum cleaner.
- To understand how to dry mop a floor.
- To understand how to wet mop a floor.
- To understand the importance of caring for cleaning equipment.
- To understand the importance of caring for and maintaining different types of floors.
- To know how to apply liquid wax.
- To understand how to dust.
- To know how to dust venetian blinds.
- To know how to replace missing room supplies.

## LEARNING ACTIVITIES
- Evaluate one's own grooming habits and discuss them orally or in writing.
- Select one or two grooming habits to work on at home for one week. Report on progress.
- In room:
  - Turn on lights before entering darkened room.
  - Empty waste paper baskets by turning upside down over old newspapers.
  - Use good body mechanics to avoid back strain.
  - Use care in handling furniture to avoid splinters or cuts.
  - Discuss possible safety hazards in hotel or motel housekeeping situations.
  - Construct bulletin board of sketches, drawings and pictures of hazardous situations and accidents caused by same.
  - Give oral and written reports on newspaper articles about accidents caused by allowing hazardous situations to persist.
  - Discuss and illustrate:
    - Inadequate lighting
    - Hazardous furniture arrangement.
    - Unmarked glass doors
    - Dangerous doors or rugs

## TOOLS, EQUIPMENT SUPPLIES

## NEW TERMINOLOGY
- Soiled Linen
- Dangerous
- Handle
- Hazard
- Parasites
- Germs
- Smooth
- Straighten
- Miter
- Corner
- Bed Spread
- Mattress
- Tucking
- Complete
- Edge
- Place
- Sheets
- Stack
- Cardboard
- Wipe
- Metal
- Apply
- Shine
- Uniformly
- Bathrooms
- Medicine Cabinet
- Mirrors
- Tile
- Bowl
- Abrasive
- Stiff
- Light Fixtures
- Sanitary
- Agent
- Bucket
- Ammonia
- Chlorathene
- Club Soda
### LEARNING GOALS

- Unsafe stairs
- Slippery floors
- Tripping and climbing hazards
- Clutter
- Faulty labeling
- Frayed wires
- Loose connections
- Broken glass
- Haste
- Poor work habits
- Carelessness

#### Discuss ways of preventing accidents:
- Practice self control
- Safe working practices concerning electricity, glass, mobile units and cleaning supplies and equipment.
- Use of good body mechanics
- Use of step stools or ladders when needed.
- Wiping up spills immediately.
- Use of handles and knobs when opening and closing doors.
- Emptying ash trays and waste baskets properly.

#### Discuss, demonstrate and practice emergency procedures:
- Survey situation.
- Notify manager or supervisor.

### TOOLS, EQUIPMENT, SUPPILIES

- Vacuum Cleaner
- Performance
- Light Weight
- Heavy Duty
- Electric Appliance
- Plug
- Bag
- Removal
- Brush
- Clear
- Floor
- Bucket
- Dolly
- Caster
- Synthetic
- Detergent
- Surface Soil
- Detrimental Agents
- Abrasives
- Grease
- Oil
- Acids
- Strong
- Alkaline
- Dust
- Proper
- Protect
- Finish
- Remove
- Improve
- Appearance
- Damp
- Varnished
- Surfaces
- Polish
- Frequently
### Learning Goals

- Contact appropriate specialized personnel
- Present case problems involving accidents due to poor work habits. Have students discuss causes and prevention.
- Through brainstorming session compile a list of safety hazards from within building and students suggest measures for eliminating them.
- Discuss dress and grooming practices as related to safety.
  - Unsafe shoes
  - Restrictive garments
  - Gaping pockets
  - Flowing sleeves
  - Loose, flying hair
- Construct bulletin board featuring unsafe situations due to improper clothing or grooming. Use drawings, magazine pictures, etc.
- Discussion
- Role playing
- Film strips
- Proper dress for work
- Demonstration and practice.
- Methods of checking in
- Role play various situations between team members and between the aide and the guest.

### Tools, Equipment, Supplies

- Grain
- Wood
- Fold
- Expose
- Underside
- Step Ladder
- Insert
- Lower
- Full Length Slats
- Fly Swatter
- Hangers

### New Terminology

- Math
- Text, Workbooks
- Other Materials
### LEARNING GOALS

- Demonstrate and practice the correct procedure for entering the room.
- Role play
- Discuss, demonstrate and practice
- Proper hand washing
- Discuss, demonstrate and practice the care and cleaning of the following materials:
  - Fabrics
  - Plastic
  - Paper
  - Rubber
  - Linoleum
  - Vinyl
  - Metals
  - Glass
  - Leather
  - Wood
- Include products, tools and equipment to be used and the methods for using them.
- Discuss, demonstrate and practice the care and cleaning of the following finishes
  - Porcelain
  - Varnish
  - Shellac
  - Paint
  - Stain
  - Wax
- Exhibit products used in cleaning.
- Have individuals select...
### LEARNING GOALS

- a product, read the label and tell class what the product is used for, what materials to use it on, how to use it, what precautions to use, etc.
- Exhibit tools used in cleaning and discuss their use.
- Take a field trip to store and make survey of cleaning products. Make notes of weight, cost and manufacturer's recommendations for using.
- Discuss different areas of institutions which are to be cleaned.
  - Sleeping rooms
  - Meeting rooms
  - Kitchenette
  - Offices
  - Laboratories and baths
  - Corridors
  - Stairways
  - Porches
  - Patios
- Compile lists of chores which are to be done daily, weekly and occasionally.
- Make a list of items on a properly loaded maid's cart.
- Discuss, demonstrate and practice the proper sequence of procedures and methods of cleaning.

### LEARNING ACTIVITIES

<table>
<thead>
<tr>
<th>TOOLS, EQUIPMENT SUPPLIES</th>
<th>NEW TERMINOLOGY MATH</th>
<th>TEXT, WORKBOOKS OTHER MATERIALS</th>
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**COURSE:** Personal Services  
**OCCUPATION:** Hotel - Motel Housekeeping Aide
### LEARNING GOALS

<table>
<thead>
<tr>
<th>LEARNING ACTIVITIES</th>
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<tbody>
<tr>
<td>Guest room</td>
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<tr>
<td>Bathroom</td>
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<tr>
<td>Kitchenette</td>
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<tr>
<td>Meeting rooms</td>
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</tbody>
</table>

... List these procedures and methods and use as a study chart.
... From memory list steps in cleaning a guest room, sanitizing a bathroom, and cleaning kitchenette.
... Discuss, demonstrate and practice the use of "Do Not Disturb" sign.
... Teacher made job assignment sheets to be checked off by student at completion of job.
... Demonstrate and practice
... Discuss, demonstrate and practice inspecting a room for "checkout" and "stay over".
... Discuss and role play finding a valuable item left by guest.
... Discuss, demonstrate and practice airing a room.
... Practice proper method of handling waste:
- Small waste cans
- Bags
- Large trash containers
... Discuss, demonstrate and practice filling out room report.
... Discuss; demonstrate and
### LEARNING GOALS
- Practice preparing vacated room for new guest.
- Discuss, demonstrate and practice stripping bed and disposing of soiled linen.
- Discuss, demonstrate and practice:
  - Returning lost items
  - Airing the room
  - Discarding magazines, newspapers, etc.
  - Reporting evidence of pests
  - Polishing wood
  - Cleaning lights
  - Removing spots and stains
  - Airing the bedding
  - Turning the mattress
  - Checking the drawers
  - Cleaning the closet
  - Catherine and replacing bath linen
  - Cleaning and disinfecting toilet, wash basin, tub, shower, soap dish and toothbrush holder.
  - Reporting damage or missing articles.
  - Checking the operation of windows, blinds, lights, TV, air conditioners, etc.
  - Emptying waste baskets
  - Show film strip "Bed Making Once Around."
  - Demonstrate and practice

### LEARNING ACTIVITIES

### TOOLS, EQUIPMENT

### SUPPLIES

### NEW TERMINOLOGY

### MATH

### TEXT, WORKBOOKS

### OTHER MATERIALS
**LEARNING GOALS**

Correct procedure for making a bed "Once Around".

- Discuss, demonstrate and practice cleaning brass fixtures.
- Discuss, demonstrate and practice the proper care of bathroom including walls, floors and fixtures.
- Demonstrate and practice cleaning sliding glass doors, shower curtain, toilet bowl and seat, and bathroom floor.
- Demonstrate and practice applying paper band to toilet seat.
- Demonstrate and practice on different types of fibers.
  - Long or loop nylon
  - Brush nylon
  - Acrylic loop plush
  - Wool loop plush
  - Level twist
  - Axminster wool
- Have students spot clean some common stains:
  - Sugar drinks
  - Oil-grease-tar
  - Milk, blood
  - Pet stains
  - Mud
  - Candy and gum
- Demonstrate and practice removing and replacing bags in the cleaner.

**LEARNING ACTIVITIES**

- TOOLS, EQUIPMENT SUPPLIES
- NEW TERMINOLOGY MATH
- TEXT, WORKBOOKS OTHER MATERIALS
**LEARNING GOALS**

- Discuss, demonstrate and practice dust mopping a floor surface.
- Discuss, demonstrate and practice wet mopping a floor.
- Demonstrate and practice how to care for:
  - Wax applicators
  - Soft brushes
- Demonstrate and practice.
- Student will dust the following areas with treated cloth. Dust high places first.
  - Door
  - Closet
  - Head boards
  - Night stand
  - Telephone
  - Pictures
  - Air-conditioner
  - Patio rails
  - Window frame
  - Lamps
  - Television
  - Chairs
  - Desk
- Demonstrate and practice cleaning venetian blinds.
- Discuss, demonstrate and practice proper dusting methods.

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**LEARNING ACTIVITIES**

<table>
<thead>
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<tbody>
<tr>
<td>how to use the attachments.</td>
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<tr>
<td>Discuss, demonstrate and practice dust mopping a floor surface.</td>
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**NEW TERMINOLOGY**

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**TEXT, WORKBOOKS, OTHER MATERIALS**

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**NO. 1 4**
### Learning Goals

- High
- Low
- Vertical
- Horizontal

### Learning Activities

- Discuss, demonstrate and practice proper floor care:
  - Vacuuming
  - Dust-mopping
  - Damp mopping
  - Wet mopping
  - Stripping
  - Waxing

- Discuss, demonstrate and practice proper methods of cleaning windows and mirrors.

- Discuss, demonstrate and practice role playing the proper way to enter guests' rooms.

- Define vocabulary words on teacher-made sheets.

- Review vocabulary words orally.

- Use Language Master to review vocabulary words.

- Take field trips to:
  - Motel
  - Hotel
  - Nursing Children's Home
  - Hospital

- Introduce, show and discuss appropriate films.
LEARNING GOALS | LEARNING ACTIVITIES | TOOLS, EQUIPMENT | NEW TERMINOLOGY | TEXT, WORKBOOKS

and film strips.
... Practice completing room and job assignment forms.
... Practice reading work schedules, occupancy forecast sheets, staff assignment sheets, room inspection form.
... Demonstrate and practice.
... Replace room supplies in the following places.
A. Night stand
   Ash tray & matches
   Telephone directory
B. Table
   Bible
   Current Inn Magazine
   Current Inn Directory
C. Desk - on top
   Credit Card
   Applications
   Comment slip
   Ash Tray & Matches
D. Desk - in drawers
   Fly swatter
   Sanit-bags
   Room service menu
   Directory of services
   1 "Do Not Disturb" sign
   Stationery bag containing 4 pieces stationery, 2 envelopes.
COURSE: Personal Services

OCCUPATION: Hotel - Motel Housekeeping Aide

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</tr>
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<tbody>
<tr>
<td>2 post cards, E. Closet, Laundry bag with lists, Correct number of hangers</td>
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</table>

223

224
FOOD TRADES
COURSE: FOOD TRADES

UNITS:

First Quarter: Sandwich Maker
              Salad Maker
              Beverage Maker
              Dishwasher (See Potwasher)
              Counterperson, Short Order Cook
              Cashier
              Cook/Chef
              Cafeteria Worker-Steamtable Worker
              Waiter - Waitress
              Baker and Baker's Helper
              Kitchen Helper

Second Quarter: Same as First Quarter.

Third Quarter: Same as First Quarter.

Fourth Quarter: Same as First Quarter.
Trade: Food

I. JOB TITLE: Sandwich Maker/Salad Maker

II. JOB DUTIES:

Makes all fillings, spreads and sandwiches;
Prepares all ingredients for sandwich fillings and spreads
Prepares and packages all sandwiches
May prepare garnishes, such as cole slaw, for sandwiches
Cleans work area and utensils used
Keeps records of sandwiches prepared and served

III. WORKING CONDITIONS:

Well lighted, ventilated work area
Cooler area of kitchen to work in as minimum cooking area
Standing, bending, lifting
Work in relatively confined area
Subject to cuts
Rotating shifts, days off; holiday work

IV. JOB REQUIREMENTS:

18 years of age
Some experience in food work helpful

V. JOB CONDITIONS:

Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:

Quick efficient; hand/finger dexterity
Hand-eye coordination
Good memory
Able to follow instructions

VII. JOB PRACTICE:

Shop and laboratory experience

VIII. ACADEMIC DEMANDS:

Reading: Able to read printed menu, food lists, can and package labels.
Math: Simple math computations; number of slices of bread, number of sandwiches sold
Verbal: Able to be adequately understood by co-workers
Working knowledge of English so instructions may be understood

Written:

ADDITIONAL JOB INFORMATION:

1) Disadvantages: Weekend/holiday work
Rotating shifts and days off
Standing, walking, lifting during shift
Generally warm and noisy

2) Advantages: Steady, constant employment opportunities
Good chance of advancement, with additional training
Good employee benefits
5) Training opportunities: On the job Vocational/Trade Schools
Restaurant/hotel training schools
Armed forces

IX. EVALUATION: As determined by team of teachers
### Learning Goals

- To become familiar with various types of breads and rolls
- To become acquainted with different types of sandwiches
- To understand the importance of sanitation and safety
- To make and serve sandwiches attractively
- To understand the need to wrap properly

### Learning Activities

- Make a simple sandwich
  - a) White bread
  - b) Rye bread
  - c) Pumpernickel
  - d) Whole wheat
  - e) French, Italian
  - f) Hamburger and hot dog rolls
  - g) Hard rolls
  - h) Sandwich buns
- Sandwich variations
  - a) Salad type
  - b) Triple decker
  - c) Open
  - d) Grilled
  - e) Hot
  - f) Party type
- Wrapping of sandwiches
- Use and preparation of garnishes
- Working sandwich station during operation of restaurant/cafeteria
- Bulk sandwich making
- Choices of assignments for motivation, evaluation, and acquiring of additional knowledge and skills in sandwich making

### Tools, Equipment, Supplies

- Cutting board
- Knives
- Bowls
- Saran wrap or baggies
- Measuring utensils
- Mixing spoons
- Slicer
- Scale
- Sandwich fillings

### New Terminology

- **Vocabulary**
  - Mince
  - Dice
  - Chop
  - Cream
  - Slice
  - Grill
  - Garnish
  - Diagonal
  - Drug Store wrap
  - Whole wheat
  - Pumpernickel
  - Triple decker
  - Condiment
  - Contaminate

- **Math**
  - Fractions
  - Measuring-weight
  - Scoop size, etc.
  - Quantity

### Text, Workbooks, Other Materials

- Food Preparation
- Our First Foods Book
- McCall's Cook Book
- Commercial Foods
- Mathematics
- **Filmstrips**
  - Sandwiches, Pepperidge Farms
- **Films**
  - It Happens Every Day
  - Skill Counts at the Sandwich Counter
- **Field Trips**
  - I.B.M.
  - Reader's Digest
  - McDonald's
  - Grandma's Pies
  - Teacher Made Materials
COURSE: Exploring Food Trades

OCCUPATION: Salad Maker

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<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT</th>
<th>NEW TERMINOLOGY</th>
<th>TEXT, WORKBOOKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>... To understand the importance of safety and sanitation</td>
<td>... Wash, section and store salad greens</td>
<td>Bowl</td>
<td>V ocABULARY</td>
<td>Food Preparation</td>
</tr>
<tr>
<td>... Identify the various types of salad greens</td>
<td>... Make a tossed salad</td>
<td>Calendar</td>
<td>Chop</td>
<td></td>
</tr>
<tr>
<td>... Know how to handle salad ingredients</td>
<td>... Prepare other salads using greens</td>
<td>Cutting board</td>
<td>Dice</td>
<td></td>
</tr>
<tr>
<td>... Become acquainted with different types of salad dressings. Be able to identify and know when to use them</td>
<td>... Prepare salad bowls</td>
<td>Knife</td>
<td>M ince</td>
<td></td>
</tr>
<tr>
<td>... Be able to make all types of salads and know when to use them</td>
<td>... Prepare salad plates</td>
<td>Oil</td>
<td>Garnish</td>
<td></td>
</tr>
<tr>
<td>... To make and serve salads attractively</td>
<td>... Prepare other types of salads</td>
<td>Vinegar</td>
<td>Contaminate</td>
<td></td>
</tr>
<tr>
<td>... Know how to use garnishes</td>
<td>a) Meat and egg salads</td>
<td>Seasonings</td>
<td>Shred</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Chef salad</td>
<td>Measuring spoons</td>
<td>Gelatin</td>
<td></td>
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<tr>
<td></td>
<td>c) Vegetable salads</td>
<td>Measuring cups</td>
<td>Colander</td>
<td></td>
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<td></td>
<td>d) Mokled</td>
<td>Wooden spoon</td>
<td>Strainer</td>
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<td></td>
<td>e) Fruit</td>
<td>Scoops</td>
<td>Boil</td>
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<td></td>
<td>f) Frozen e</td>
<td></td>
<td>Peel</td>
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<td></td>
<td>g) Salad fillings for sandwiches</td>
<td></td>
<td>Pare</td>
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<td></td>
<td>h) Fish salads</td>
<td></td>
<td>Core</td>
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<td></td>
<td>... Prepare various salad dressings</td>
<td></td>
<td>Appetizer</td>
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<td></td>
<td>a) French</td>
<td></td>
<td>Chef salad</td>
<td></td>
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<td></td>
<td>b) Boiled</td>
<td></td>
<td>Combination salad</td>
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<td></td>
<td>c) Mayonnaise</td>
<td></td>
<td>Cole slaw</td>
<td></td>
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<tr>
<td></td>
<td>... Using salads as appetizer, main course, dessert, accompaniment</td>
<td></td>
<td>Waldorf salad</td>
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</tr>
<tr>
<td></td>
<td>... Choices of assignments for motivation, evaluation and acquiring of additional knowledge and skills as a salad maker</td>
<td></td>
<td>Tossed salad</td>
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<td></td>
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<td>Potato salad</td>
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<td></td>
<td>Macaroni salad</td>
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<td></td>
<td>Caesar salad</td>
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<td></td>
<td></td>
<td></td>
<td>Kinds of lettuce (bibi, romaine, etc.)</td>
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<td></td>
<td></td>
<td></td>
<td>Julienne</td>
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<td></td>
<td>Entree</td>
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<td></td>
<td>MATH</td>
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<td></td>
<td>Measuring</td>
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<td>Fractions</td>
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</tr>
</tbody>
</table>

FIELD TRIPS
L.B.M. Kitchen
Northern Westchester Hospital
Charlie's K-Ranch
Teacher Made Materials
I. JOB TITLE: Beverage Maker

II. JOB DUTIES:
Prepare all hot beverages, supply the cold beverages and maintain beverage service area
Prepare coffee, tea, hot chocolate, iced tea
Fill beverage dispensers if used
Pour juices and other liquids as instructed
Insure sugar, cream, lemon containers filled
Clean beverage area and equipment
May help in other areas as needed
May help in pantry area as needed

III. WORKING CONDITIONS:
Well lighted, ventilated work area
Cooler area of kitchen to work in as minimum cooking area
Standing, bending, lifting
Work in relatively confined area
Subject to cuts
Rotating shifts, days off; holiday work

IV. JOB REQUIREMENTS:
Age: 18
Uniform required and provided by employer

V. JOB CONDITIONS:
Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
Quick, efficient; hand/finger dexterity
Good hand-eye coordination
Good memory
Able to follow instructions

VII. JOB PRACTICE:
Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
Reading: Able to read printed menu, food lists, can and package labels
Math: Simple math computations; number of ounces, etc.
Verbal: Able to be adequately understood by co-workers
Written:

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Weekend/holiday work
   Rotating shifts and days off
   Standing, walking, lifting during shift
   Generally warm and noisy

2) Advantages: Steady, constant employment opportunities
   Good chance of advancement, with additional training
   Good employee benefits as a full-time employee
3) Training opportunities: On the job Vocational/trade schools
    Restaurant hotel training schools
    Armed Forces

IX. EVALUATION: As determined by team of teachers
### LEARNING GOALS

- To be aware of safety
- To make a good cup of coffee
- To make iced coffee
- To serve a cup of coffee
- To make a good cup of tea
- To make hot chocolate and cocoa
- To know proper procedure for making chocolate milk
- To make punch
- To garnish punch bowl
- To make juices and cut fruits

### LEARNING ACTIVITIES

<table>
<thead>
<tr>
<th>LEARNING ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>... Make a pot of coffee</td>
</tr>
<tr>
<td>a) Percolate</td>
</tr>
<tr>
<td>b) Electric percolator</td>
</tr>
<tr>
<td>c) Burns-o-matic</td>
</tr>
<tr>
<td>d) Drip</td>
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<tr>
<td>e) Urn</td>
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<tr>
<td>... Make iced coffee and tea</td>
</tr>
<tr>
<td>a) Loose tea</td>
</tr>
<tr>
<td>b) Tea bags</td>
</tr>
<tr>
<td>... Garnish punch bowl</td>
</tr>
<tr>
<td>... Make juices and cut fruits</td>
</tr>
<tr>
<td>... Reconstitute frozen juices</td>
</tr>
<tr>
<td>... Choices of assignments for motivation, evaluation, and for acquiring additional knowledge and skills required of a beverage maker</td>
</tr>
</tbody>
</table>

### TOOLS, EQUIPMENT

- Coffee pot
- Measuring cup
- Measuring spoon
- Coffee Cup
- Saucer
- Spoon
- Ice Cubes
- Sugar
- Cream
- Tea pot
- Pot to boil water
- Large glass
- Lemon
- Mixer
- Cocoa (sweetened and unsweetened)
- Syrup-chocolate
- Milk
- Cream

### NEW TERMINOLOGY

- Percolator
- Drip
- Silex
- Grinds
- Filter
- Ground
- Slve
- Stem (tube)
- Basket
- Lid-dome
- Steep
- Brew
- Scorch
- Skim milk
- Evaporated milk
- Condensed milk
- Powdered milk
- Sour milk
- Half and Half
- Non dairy

### TEXT, WORKBOOKS

- McCall's Cook Book
- First Foods Book
- Teacher Made Materials
Trade: Food

I. JOB TITLE: Dishwasher/Potwasher

II. JOB DUTIES:
Responsible for washing and storing of all eating and serving dishes, silverware, glasses; washing and storing of all kitchen utensils and equipment
Scrapes, washes, rinses, dries, sorts and stacks dishes, glassware, silverware, trays, pots, pans and kitchen utensils
Uses soaps and detergents
May be required to operate dishwashing machine
May get and distribute supplies
Polish copper pots, pans and utensils and hang them on racks
May sweep and mop floors
May wash kitchen windows
Bus dishes
Remove garbage cans
Actual duties depend on the size of the operation
In large institutions dishwasher may only be required to do one job

III. WORKING CONDITIONS:
Work area hot and damp
Cannot be allergic to soap or detergents
Hands always wet, subject to cuts and scratches
Work weekends/holidays, split shifts, evenings
Rotating days off

IV. JOB REQUIREMENTS:
16 years of age with work permit
Must be able to lift heavy baskets of dishes
Must be able to stand for long periods of time

V. JOB CONDITIONS:
Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
None other than ability to be able to get to work on time each day

VII. JOB PRACTICES:
Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
Reading: None
Math: None
Verbal: Be able to speak and comprehend the English language
Written: None

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Unpleasant working conditions

2) Advantages: Fair opportunity for part-time jobs
Employee benefits for full time employees
Meal allowance
Opportunity to be trained for more skilled job
3) Training opportunities: On the job

IX. EVALUATION: As determined by a team of teachers.
# COURSE: Exploring Food Trades

**OCCUPATION:** Dishwasher/Potwasher

## LEARNING GOALS
- To be able to perform the duties of potwasher/dishwasher
- To be aware of the need for strict sanitary controls in the dish area

## LEARNING ACTIVITIES
- Separate dishes, silver, glasses
- Wash dishes and pots in dishwashing area of kitchen
- Return dishes, silver trays utensils, etc. to proper area
- Wash pots and pans
  - Soak
  - Scour
- Choices of assignments for motivation, evaluation and acquiring of additional knowledge and skills as a dishwasher

## TOOLS, EQUIPMENT SUPPLIES
- Dishes
- Pots
- Glasses
- Trays
- Silver
- Cups
- Saucers
- Dishes
- Soda glasses
- Detergent
- Brillo
- Dish racks
- Silver containers
- Measuring spoon

## NEW TERMINOLOGY
- Detergent
- Rinse
- Soak
- Scour
- Sterilize
- Measuring-liquid, dry

## MATH
- Measuring-liquid, dry

## FILMSTRIPS
- Dishwashing in a Hospital, Trainex Corp.

## FIELD TRIPS
- I.B.M. Kitchen
- Reader's Digest
I. JOB TITLE: Counterperson

II. JOB DUTIES:
- Serves customers at a food counter
- Supplies customers with place settings
- Takes customers' orders and repeats them to cook, orally or in writing
- Serves orders
- May prepare short orders on grill, make coffee, salads, sandwiches
- May prepare soft drinks, make milk shakes, ice cream sodas, etc.
- May cut cakes and pies
- May write checks, accept payment, issue change, use cash register
- Removes soiled dishes
- Keeps counter clean; work area and equipment as well
- May sweep floors
- May wash or bus dishes
- May also sell candy, cigarettes, cigars, newspapers, magazines

III. WORKING CONDITIONS:
- Stand in warm, humid conditions in spite of ventilation
- Work under heavy pressure during meal hours
- Must move rapidly most of the time
- Work weekends/holidays/evenings/irregular hours
- Rotating days off

IV. JOB REQUIREMENTS:
- 16 years of age with work permit

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Interest in food preparation
- Desire to serve others
- Change making ability
- Quick and efficient; good manual dexterity
- Basic food preparation skills

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: Able to read and comprehend menus, recipes, instructions, package labels
- Math: Able to perform basic math computations
- Able to make change
- Able to write saleschecks so that customers and co-workers can read them
- Able to understand co-workers and customers and be understood by them
- Communication between counterperson and cook essential

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Rotating shifts, working holidays/evenings/etc.
   - Rotating shifts
   - Working under heavy pressure during meal hours
   - Rotating days off

   - Hot, smelly working conditions
   - On feet most of working hours
ADDITIONAL JOB INFORMATION (cont.)

2) Advantages: Chance for advancement
   For parent split shifts provide work when child care is available
   Constant demand for workers
   Employee benefits for full time employees
   Meals provided

3) Training opportunities: On the job Vocational Schools

IX. EVALUATION: As determined by team of teachers
I. JOB TITLE: Short Order Cook

II. JOB DUTIES:
- Grill, fry, broil or steam foods
- Carve meats
- Prepare salads
- Prepare sandwiches
- Fill orders from steam table
- Prepare beverages
- Prepare foods to be served throughout the day
- Serve meals to patrons at counter
- Take cash
- Order food...
- Keep working area neat and orderly

III. WORKING CONDITIONS:
- Work alone or with others in kitchen or small area
- Be subject to possibility of burns and cuts
- Work area is often hot and smoky

IV. JOB REQUIREMENTS:
- Be free of apparent skin disease
- Be able to stand all day
- Have full use of arms, hands and fingers
- Have good vision and hearing (normal or corrected)
- Be able to move about quickly in a small area
- Have a keen sense of taste and smell
- Speak, read and write English
- Have had 1 to 3 months of on-the-job training or some cooking experience
- Be at least 18 years of age
- Obtain specific experience

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Be fast and accurate in taking and completing orders
- Be able to work under pressure
- Be able to pay attention to details
- Be willing to work with and around others
- Be willing to work in view of customers
- Be able to organize work rapidly
- Move fingers and hands rapidly and accurately
- Remember a large number of orders during lunch hours and other busy periods
- Learn theory and techniques of food preparation
- Work to prescribed standards

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: Able to read recipes, labels, etc.
- Math: Able to make change, write saleschecks
Verbal: Able to communicate with customers and co-workers
Written: Able to write sales checks

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Limited advancement opportunities.
   Weekend and holiday work often required
   Subject to burns and cuts
2) Advantages: Meals, uniforms, laundry provided
   Paid holidays and sick leave
3) Training opportunities: On the job Vocational Schools

IX. EVALUATION: As determined by team of teachers
# LEARNING GOALS
- To become familiar with working conditions, skills and physical requirements of a counter worker.
- To know how to set a table.
- To be able to prepare all menu items.
- To learn how to take an order, tally check and make change.

# LEARNING ACTIVITIES
- Make and serve sandwiches, salads, beverages.
- Cut cakes and pies.
- Cook hamburgers, hot dogs, eggs, pancakes, and french fries, grilled cheese, bacon.
- Place place mat, silverware, cup, plate in front of customer.
- Take orders from customer.
- Add check and make change.
- Total orders on cash register.
- Make change using "counting back" method.
- Write up orders.
- Make malted milk and milk shakes.
- Serve food across counter.
- Prepare Breakfast meats:
  - Sausage
  - Bacon
  - Ham
- Prepare potatoes:
  - Hash brown
  - Home fries
- Prepare eggs:
  - Fried
  - Poached
  - Scrambled
  - Omelets
- Prepare Breads:
  - Pancakes
  - Waffles
  - French Toast
  - Toast
  - Muffins
  - English Muffins
- Prepare Cereals:
  - Hot
  - Cold
- Prepare Juices:
  - Orange, grape, grapefruit, etc.

# TOOLS, EQUIPMENT, SUPPLIES
- Bread
- Sandwich fillings
- Salad ingredients
- Coffee
- Cake
- Pies
- Eggs
- Pancake batter
- Hot dogs
- Hamburgers
- Place mats
- Knives
- Forks
- Spoons
- Plates
- Bowls
- Cups
- Sauces
- Cash register
- Sales slips
- Manus
- Spatula

# NEW TERMINOLOGY
- MATH:
  - Addition
  - Multiplication
  - "Counting back" method
- VOCABULARY:
  - a la mode
  - souffle

# TEXT, WORKBOOKS, OTHER MATERIALS
- Food Preparation, McGraw Hill
- Mathematics In Living, Pruett Press
- Professional Restaurant Service, McGraw Hill
- Mathematics for Employment, Mafex
- Commercial Foods, Mathematics, Rutgers University
- McDonalds
- Friendly's
- Jack-In-The-Box
- Teacher, and student made materials
**COURSE:** Exploring Food Trades  

**OCCUPATION:** Counter Person/Short Order cook

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<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT</th>
<th>NEW TERMINOLOGY</th>
<th>TEXT, WORKBOOKS</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>... Choices of assignments for motivation, evaluation, and acquiring of additional knowledge and skills of the Counter person/short order cook</td>
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NO. 5 (Continued)
Trade: Food

I. JOB TITLE: Cashier

II. JOB DUTIES:
- Complete bills, itemized lists, tickets indicating amount due
- Make change, cash checks and issue receipts to customers
- Record amounts received and spent and prepare reports of transactions
- Read and record totals on cash register and verify against cash on hand
- Give cash refunds and issue credit slips
- Operate ticket dispensing machine
- Sell candy, gum and cigarettes
- Issue trading stamps and wrap packages
- Prepare cash and checks for bank deposits
- Prepare sales tax reports, pay envelopes and charge slips

III. WORKING CONDITIONS:
- Work indoors and around others
- Work may be performed in small booths or enclosure or behind a counter
- Be exposed to variations in temperature if work station is near entrance of establishment

IV. JOB REQUIREMENTS:
- Move arms, hands and fingers quickly and accurately
- Follow instructions and established procedure
- Pay attention to details and avoid clerical errors
- Pass pre-employment examination in arithmetic and clerical skills
- Complete on-the-job training of 1 to 2 weeks
- Tactful and courteous to customers
- Able to work under pressure
- Accuracy
- Follow routine practices and do repetitious work
- Be bondable

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Knowledge of cash register operation, knowledge of other machines desirable
- Legible handwriting
- Dexterity in setting up menu board

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: Be able to read sales slips and menus
- Math: Proficient in basic arithmetic
- Operate cash register, make change
- Verbal: Be able to communicate with customers and other employees
- Written: Write charge slips and tally daily receipts
ADDITIONAL JOB INFORMATION:

1) Disadvantages: May have to work weekends, holidays and evenings.
   Working quarters may be cramped
   May have to work up cash shortages

2) Advantages: Employment is year-round
   Part-time work may be available

3) Training opportunities: On the job

IX. EVALUATION: As determined by team of teachers
**LEARNING GOALS**

- To be aware of working conditions, skills and requirements of job
- To become familiar with the cash register
- To be able to make change and issue receipts

**LEARNING ACTIVITIES**

- Use cash register to tally sales checks and add tax
- Make change using "counting back" method
- "Open up" cash register with change fund
- "Close out" cash register with proof of cash
- Prepare menu board
- Choices of assignments for motivation, evaluation and acquiring additional knowledge and skills as a cashier

**TOOLS, EQUIPMENT SUPPLIES**

- Cash register
- Sales slips, receipt
- Money
- Register tape
- Detail tape
- Money box
- Credit card machine
- Tax rate table

**NEW TERMINOLOGY MATH**

- "Counting back"
- Checks
- Sales tax
- Credit card
- Starting Bank
- Clearing
- Money denominations
- Basic math

**TEXT, WORKBOOKS OTHER MATERIALS**

- Commercial Foods
- Mathematics, Rutgers University
- Mathematics in Living
- Pruell Press
- Target Series, Mafex

**TRANSPARENCIES**

- Credit card and sales slips, Teacher Made

**FIELD TRIPS**

- Charlie's K-Ranch
- Grandma's Pies

- Teacher Made Materials
Trade: Food

I. JOB TITLE: Chef/Cook

II. JOB DUTIES:

- Responsible for preparation and service of all food
- Responsible to restaurant manager
- Responsible for supervision of all kitchen staff
- May plan menus and consumption estimates; order necessary supplies
- May train cooks
- Create new recipes
- Know each job in the kitchen

III. WORKING CONDITIONS:

- Usually in well-lighted, well-equipped, ventilated kitchens
- Usually has office or desk of his own
- During cooking and serving time kitchen may be hot and noisy
- Prone to burns and cuts
- Under pressure at peak serving times; must be able to cope with emergencies
- May work holidays/rotating shifts and days off
- Must stand for long periods of time

IV. JOB REQUIREMENTS:

- Experience might be a factor
- Possible union membership

V. JOB CONDITIONS:

- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:

- Interest in food preparation
- Creative talents
- Excellent memory
- Good manual dexterity, hand-eye coordination
- Business skills helpful

VII. JOB PRACTICE:

- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:

- Reading: Must be able to read recipes, menus, etc.
- Math: Must be proficient
- Verbal: Must be able to communicate with employees
- Written: Must be able to write out recipes

ADDITIONAL JOB INFORMATION:

1) Disadvantages: Kitchen is hot and noisy
   - Must stand for long periods of time
   - Rotating shifts

2) Advantages: High pay

3) Training opportunities: On the job Vocational School
   - Restaurant/ hotel training schools

IX. EVALUATION: As determined by team of teachers.
**LEARNING GOALS**

- To know how to prepare vegetables and fruits
- To know how to prepare meats
- To know how to slice meats
- Be familiar with seasonings and spices
- Be able to understand recipe terms
- To know safety and sanitary rules
- To become familiar with working conditions
- Understand skills and physical requirements
- Be able to use garnishes effectively
- Be thoroughly acquainted with all jobs in the kitchen
- Be able to order supplies
- Be able to price portions
- Basic knowledge of meal planning
- Be able to delegate jobs
- Be able to develop new recipes

**LEARNING ACTIVITIES**

- Cook various vegetables
  - Boil
  - Fry-saute'
  - Cream or other sauces
  - Bake
  - Casseroles
  - Use seasonings and flavoring
  - Cook and prepare fruits for salads and meat accompaniments
  - Roast-bake
  - Fry
  - Boil
  - Casseroles
  - Gravies
  - Cook pasta, rice, potatoes
  - Prepare sauces
  - Cook eggs
  - Omelets
  - Fry
  - Boil
  - Scramble
  - Souffle'
  - Custard
  - Poach
  - See learning activities for all jobs
  - Order supplies for food to be served
  - Price food portions and recipe costs
  - Plan menus
  - Plan work for others
  - View films and filmstrips, discuss, and write an evaluation
  - Choices of assignments for motivation, evaluation and acquiring additional skills and knowledge as a chef

**TOOLS, EQUIPMENT, SUPPLIES**

- All tools, equipment and supplies found in a kitchen

**NEW TERMINOLOGY**

- **MATH**
  - Multiplication
  - Division
  - Fractions
  - Controlled proportions
  - Weights, measure, quantity

- **VOCABULARY**
  - Sauté'
  - Cream
  - All types of spices and seasonings
  - Broil
  - Grill
  - Sauce
  - Whip
  - Mix
  - Blend
  - Simmer
  - Boil
  - Roux
  - Deglaze
  - Crepe
  - Croquette
  - Crouton
  - Falmbe
  - Gratin
  - Kabob
  - Marinade

**TEXT, WORKBOOKS, OTHER MATERIALS**

- Food for Fifty
- Meal Planning, Bennett Co.
- McCall's Cook Book
- Our Second Foods Book, Rutgers University
- Joy of Cooking, Food Preparation
- McGraw Hill
- Professional Restaurant Service
- Our First Foods Book, Rutgers University
- Being a Food Service Worker, Hospital, Research & Ed. Trust
- **FILMSTRIPS**
  - Convenience Cooking
  - Mealtime Can Be Magic
  - Mix and Match for Good Meals
  - Identification of Kinds of Meat
  - Organizing and Preparing Meals
  - Serving Meals Attractively
  - Storing Food, McGraw Hill

- **FILMS**
  - Profitable Port
  - Selection
  - Home Sweet Home Style
  - The New Port
  - 1001 Pineapples
  - The Romance of Cheese
  - Fresh Chilled Sunshine
  - R.S.V.P.
  - Macaroni Menu Magic
### Learning Goals

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<th>Tools, Equipment</th>
<th>New Terminology</th>
<th>Math</th>
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<td>Now is the Time</td>
<td>Citrus in Motion</td>
<td>The Arts and Secrets of Chinese Cookery</td>
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<td>The Kitchen Keyboard</td>
<td>Food for Thought</td>
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<td>Rajah of Spices</td>
<td>Wonderful World of Flavor</td>
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<td>FILM LOOP</td>
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<td>Cooks &amp; Chefs, Encyclopedia Britannica</td>
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<td>FIELD TRIPS</td>
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<td>Reader's Digest</td>
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<td>Silver Moon Restaurant</td>
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<td>Teacher Made Materials</td>
</tr>
</tbody>
</table>

### Text, Workbooks, Other Materials

- Selecting and Preparing Beef
- Now is the Time
- Citrus in Motion
- The Arts and Secrets of Chinese Cookery
- The Kitchen Keyboard
- Food for Thought
- Rajah of Spices
- Wonderful World of Flavor
- FILM LOOP
- Cooks & Chefs, Encyclopedia Britannica
- FIELD TRIPS
- I.B.M. Kitchen
- Reader's Digest
- Silver Moon Restaurant
- Teacher Made Materials
Trade: Food

I. JOB TITLE: Steamtable Worker/Cafeteria Worker

II. JOB DUTIES:
- Prepare all hot beverages, supply the cold beverage service area
- Prepares coffee, tea, hot chocolate, iced tea
- Fill beverage dispensers if used
- Pour juices and other liquids as instructed
- Insure sugar, cream, lemon containers filled
- Clean beverage area and equipment
- May help in other areas as needed
- May help in pantry area as needed

III. WORKING CONDITIONS:
- Well lighted, ventilated work area
- Cooler area of kitchen to work in
- Standing, bending, lifting
- Work in relatively confined area
- Subject to cuts and burns
- Rotating shifts, days off; holiday work

IV. JOB REQUIREMENTS:
- No experience needed

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Quick efficient; hand/finger dexterity
- Hand-eye coordination
- Good memory
- Able to follow instruction

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: Able to read printed menu, food lists, can and package labels
- Math: Simple math computations; number of slices of bread, number of sandwiches sold
- Verbal: Able to be adequately understood by co-workers.
- Written: Working knowledge of English so instructions may be understood

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Usually more demand than jobs available
2) Advantages: Good entry job for a young person in the food preparation trade
3) Training opportunities: On the job

IX. EVALUATION: As determined by teachers
## LEARNING GOALS

- To know the physical requirements and skills needed to work at a steamtable worker.
- To know the working conditions of a steamtable worker.
- To be able to prepare hot beverage.
- To know how to serve equal portions.
- To be able to prepare selected cafeteria foods.

## LEARNING ACTIVITIES

- Portion foods to be served:
  - a) Count
  - b) Cutting into equal size.
  - c) Use of scoop
  - d) Use of scale
  - e) Use of measuring cups

- Setting up steamtable:
  - a) Use of measuring cups

- Cleaning up area:
  - a) Use of measuring cups

- Choices of assignments for motivation, evaluation and acquiring of additional knowledge and skills of the cafeteria worker.

## TOOLS, EQUIPMENT, SUPPLIES

- Measuring equipment
- Spoons
- Cups
- Ladle
- Scoop
- Scale
- Knife
- Cutting board
- Plates
- Dishes
- Foods
  - Soups
  - Meats
  - Vegetables
  - Fruits

## NEW TERMINOLOGY

### MATH
- Counting
- Dividing

### VOCABULARY
- Scoop
- Ladle
- Cutting board

## TEXT, WORKBOOKS, OTHER MATERIALS

- Food Service, John W. Stokes
- Professional Restaurant Service
- McGraw Hill
- Commercial Foods
- Mathematics, Rutgers University
- Being a Food Service Worker
- Hospital Research and Educational Trust
- Kitchawan I.B.M.
- Cafeteria
- Teacher Made Material
I. JOB TITLE: Waiter/Waitress.

II. JOB DUTIES:

Waits on patrons at tables or booths
Takes orders verbally or writes out itemized orders
May make suggestions regarding food, wine and liquor
Sets table, serves food and removes dishes
Carries food and beverages from kitchen to dining room on arm, tray or food cart
May prepare salads and dressings, may carve, bone, flambe', etc.
Computes check or bill for food served
May accept payment and make change or get change from cashier.
May clean and refill sugar bowl, condiment containers and other equipment
May be required to relieve at counter
May work on room service in hotels

III. WORKING CONDITIONS:

Pressure during usual meal hours
Constant standing and walking, often in congested areas
In resorts, may have to sleep in dormitories and work 7 days a week

IV. JOB REQUIREMENTS:

Experience as bus boy or bus girl or waiting on tables is usually required
School dining hall experience is acceptable in resort hotels
Experience and local references are usually required in year-round hotels and in restaurants
Must be at least 18 years old where alcoholic beverages are served
May have to provide own uniforms
Good grooming is important
Should be tactful, alert, courteous, and able to deal with people
Must be able to fill orders correctly
Knowledge of simple arithmetic is required
Must be able to read, write and understand English

V. JOB CONDITIONS:

Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:

Know how to set tables, serve food; prepare salads and arrange them; compute checks
Sometimes make change

VII. JOB PRACTICE:

Shop and laboratory experience

VIII. ACADEMIC DEMANDS:

Reading: Be able to read menus
Math: Be able to make change, compute sales tax
Verbal: Be able to communicate with customers and other employees
Written: Must be able to write orders, charge slips

ADDITIONAL JOB INFORMATION:

1) Disadvantages: Must be able to stand for long periods of time
2) Advantages: Meals may be provided plus tips
3) Training opportunities: On the job Vocational Schools

IX. EVALUATION: As determined by team of teachers
<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT</th>
<th>NEW TERMINOLOGY</th>
<th>MATH</th>
</tr>
</thead>
<tbody>
<tr>
<td>... To be able to perform the duties of walter/waitress</td>
<td>... Practice setting tables</td>
<td>Place mats</td>
<td>Condiments</td>
<td></td>
</tr>
<tr>
<td>... To become familiar with the working conditions</td>
<td>... Practice taking orders</td>
<td>Knives</td>
<td>A la carte</td>
<td></td>
</tr>
<tr>
<td>... To be able to deal with customers politely and in a mature manner</td>
<td>(written and verbal)</td>
<td>Forks</td>
<td>Carte du jour</td>
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<tr>
<td></td>
<td>... Practice writing and tallying sales slips</td>
<td>Spoons</td>
<td>Entree</td>
<td></td>
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<tr>
<td></td>
<td>... Practice serving food</td>
<td>Plates</td>
<td>Hors d’oeuvres</td>
<td></td>
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<tr>
<td></td>
<td>... Practice spelling menu terms</td>
<td>Cups</td>
<td>Mixed grill</td>
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<tr>
<td></td>
<td>... Serve customers</td>
<td>Sauces</td>
<td>Smorgasbord</td>
<td></td>
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<tr>
<td></td>
<td>... Clear table after entree and before dessert</td>
<td>Menu</td>
<td>Table d’hote menu</td>
<td></td>
</tr>
<tr>
<td></td>
<td>... Practice filling water glass</td>
<td>Condiments</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>... Practice stacking, removing and bringing soiled dishes to dishwashing area</td>
<td>Trays</td>
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<tr>
<td></td>
<td>... Practice cleaning table before waitress brings dessert</td>
<td>Sales books</td>
<td></td>
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<tr>
<td></td>
<td>... choices of assignments for motivation, evaluation, and acquiring of additional skills and knowledge in these occupations</td>
<td>Napkins</td>
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<tr>
<td></td>
<td>... View films and filmstrips, discuss and complete ditto sheet questions or write an evaluation</td>
<td>Glasses</td>
<td>See Cashier</td>
<td></td>
</tr>
</tbody>
</table>

**TOOLS, EQUIPMENT SUPPLIES**

- Place mats
- Knives
- Forks
- Spoons
- Plates
- Cups
- Sauces
- Menu
- Condiments
- Trays
- Sales books
- Napkins
- Glasses

**NEW TERMINOLOGY**

- Condiments
- A la carte
- Carte du jour
- Entree
- Hors d’oeuvres
- Mixed grill
- Smorgasbord
- Table d’hote menu

**MATH**

- See Cashier

**TEXT, WORKBOOKS OTHER MATERIALS**

- Professional Restaurant Service, McGraw Hill
- Mathematics For Employment, Mafox
- Busboy Training Book, Restaurant Hotel Aids

**FILMSTRIPS**

- Waiter/Waitress
- Cinderella’s Three Sisters
- Training Program
- Fast Food Service

**FILM LOOP**

- Walter/Waitress, Encyclopedia Britannica

**FIELD TRIPS**

- Charlie’s K-Ranch
- Friendly’s
- Joy Luck
- May Wah
- Grandma’s Pies

**FILMSTRIPS & RECORDS**

- Six Keys to Being a Better Waitress
- Restaurant-Hotel Aids
- Six Keys to being a Better Waiter, Restaurant-Hotel Aids
- Jack and The Beanplate
- Restaurant-Hotel Aids
- Wall the Willing Waiter, Restaurant-Hotel Aids

**Teacher Made Materials**
I. JOB TITLE: Baker

II. JOB DUTIES:
- Responsible for making all yeast products, cakes and pastries
- Responsible for entire bakery shop; responsible to the restaurant manager
- Bakes breads, rolls and other yeast products
- Prepares and bakes cookies, cakes and pastries
- Cake decorating
- Orders necessary supplies for his operation
- Responsible for all bakery department employees
- Supervises and trains employees
- May create new recipes

III. WORKING CONDITIONS:
- Works in separate part of kitchen
- Clean, well-lighted, well-ventilated area but may be hot during baking time
- Standing, stooping, lifting heavy pans and trays
- Working day generally begins before dawn, if restaurant/hotel operation serves homemade products at breakfast meal. Shift then ends earlier in the day
- May work rotating shifts, days off; holidays, weekend work

IV. JOB REQUIREMENTS:
- 18 years of age to begin training or apprenticeship
- May be required to belong to a union

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
- Same as those required for chef
- Basic cooking skills, terms, methods

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: Average reading ability; able to read and interpret recipes, menus, trade journals, cost sheets, inventory sheets
- Math: Average math ability; able to compute costs, supplies needed, quantity dry and liquid measurements and weights
- Verbal: Able to be understood by workers, ability to comprehend managers instructions

ADDITIONAL JOB INFORMATION:
1) Disadvantages: Weekend/holiday work
   - Rotating shifts/days off; first shift would begin before dawn
   - Standing, walking, lifting
   - Generally warm, yeasty, sweet odors in spite of ventilation

2) Advantages: Steady, constant demand for skilled bakers
   - Chance for advancement with increased experience and skills
   - Good employee benefits

3) Training opportunities: On the job Vocational/trade schools
   - Restaurant/hotel schools
   - Armed forces
   - Apprenticeship program

IX. EVALUATION: As determined by team of teachers
Trade: Food

I. JOB TITLE: Baker's Helper

II. JOB DUTIES:
   - Assists baker in all baking operations as well as responsible for cleaning of the baking area.
   - Follows baker's instructions/orders.
   - Measures ingredients.
   - Prepares necessary ingredients.
   - Lines, greases and prepares baking utensils.
   - Mixes, stirs, kneads quantities of dough, etc.
   - Uses timer or watch to time baking.
   - Prepares decorative frostings.
   - Assists in pantry area as needed.
   - Washes utensils, wipes up spills, mops floors.

III. WORKING CONDITIONS:
   - Same as for baker.

IV. JOB REQUIREMENTS:
   - 18 years of age.
   - Be able to follow directions of baker.

V. JOB CONDITIONS:
   - Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:
   - Same as those for baker.

VII. JOB PRACTICE:
   - Shop and laboratory experience.

VIII. ACADEMIC DEMANDS:
   - Reading: Able to read recipes, food packages, baking supplies and instructions on equipment.
   - Math: Basic skills required as baker's helper.
   - Must be able to count consecutively.
   - Verbal: Able to be understood by fellow workers.
   - Must be able to understand managers.
   - Written:

ADDITIONAL JOB INFORMATION:
   1) Disadvantages: Same as baker.
   2) Advantages: Same as baker.
   3) Training opportunities: Same as baker.

IX. EVALUATION: As determined by team of teachers.
COURSE: Exploring Food Trades

OCCUPATION: Baker and Baker's Helper

LEARNING GOALS

Identify various types of baked goods
Know their differences and similarities
Be aware of the importance of safe work habits, handling equipment
Be aware of the importance of proper sanitation
Be able to interpret a recipe and understand the terminology
Know the skills and physical requirements needed to be a baker
Be aware of the working conditions
Be able to apply for a job

LEARNING ACTIVITIES

Bake cakes
- a) One egg cakes
- b) Two egg cakes
- c) sponge
- d) Angel
- e) Pound
- f) Sponge cakes
- g) Fruit cakes
- h) Jelly rolls
- i) Ice cream cakes
- j) Cupcakes
Bake breads
- a) yeast breads
- b) sweet yeast bread
- c) rolls
- d) pastries
- e) yeast batter breads
Bake cookies
- a) drop
- b) sugar
- c) rolled
- d) pressed
- e) filled
- f) refrigerator
Make a pie crust
- a) baked single or double
- b) refrigerated
Prepare pie fillings
- a) cooked
- b) no bake
- c) cream
- d) refrigerated
Make various types of quick breads
- a) muffins
- b) biscuits
- c) popovers
- d) pancakes
- e) tea breads
- f) doughnuts
Measuring liquid and dry ingredients following instructions given in a particular recipe
Prepare pans
Prepare fillings, cooked and uncooked
Prepare frostings and icings
- a) Uncooked

TOOLS, EQUIPMENT

Measuring utensils
Bowl
Mixing spoons
Sifter
Wax paper
Hand and electric mixers
Baking pans
Rubber scrapers
Scale
Cake racks
Cake tester
Cupcake pans
Flour
Baking powder
Baking soda
Eggs
Milk
Sugar
Shortening
Salt
Flavorings
Spices
Fruits
Sauce pan
Rolling pin
pastry cloth
Pastry bag
Thermometer
Yeast
Water
Pastry blender
Cookie press
Cookie cutters
Cookie sheets
Nuts
Chocolate bits
Pie pans
Loaf pans
Muffin tins

NEW TERMINOLOGY

MATH
- Measure
- Fractions

VOCABULARY
- Mix
- Stir
- Beat
- Blend
- Cream
- Cake Tester
- Thermostat
- Confectioner's sugar
- Knead
- Proof
- Gluten
- Yeast
- Fold
- Cut in
- Sift
- Stir
- Carmelize
- Roll out
- Soaked
- Trim
- Froth
- Tea breads

TEXT, WORKBOOKS

McCall's Cook Book
Elementary Baking, McGraw Hill
Joy of Cooking
Commercial Foods
Mathematics
Rutgers University
Our Second Foods Book
Rutgers University
Cake and Food Decorating Yearbook
Wilton Enterprises
Food Preparation
McGraw Hill

FILMSTRIPS

Beautiful Cakes
Fun with Frostings
Flair with Frostings & Deserts
Convenient Creations
Breads You Bake with Yeast
Cookie Wise
Easy as Pie
Biscuits
Batter Breads
Muffin Making

FILMS
- The Art of Cake Making
- Wonderland of Bread
- As American As Apple Pie

FIELD TRIPS

Luna Bakeries
Carvel
I.B.M. Kitchen
Arnold Bakeries
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<tr>
<td>2. Butter</td>
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<td>3. Royals</td>
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<tr>
<td>b) Cooked</td>
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<tr>
<td>1. Fudge</td>
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<td>2. Cooked white</td>
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<td>3. Boiled</td>
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<td>c) Glaze</td>
<td>Prepare puff pastry and turnovers</td>
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<td>View filmstrips, discuss and complete teacher made dit-to sheets</td>
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<td>Choices of assignments for motivation, evaluation, and acquiring of additional knowledge and procedures of Baker</td>
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</tbody>
</table>
I. JOB TITLE: Kitchen Helper

II. JOB DUTIES:

Assists in the preparation and cooking of foods in large quantities in public dining rooms or institutions

- May be male or female
- Prepare vegetables, fruits for cooking or salads
- Gather ingredients, equipment, open cans and packages
- Watch, stir cooking food; time foods during preparation using timer or clock
- Store or serve dishes, cooking utensils, silverware
- Mop floors; clean up breakage, spills
- May serve as a relief person
- May make sandwiches and wrap food for carry out
- May help make desserts

III. WORKING CONDITIONS:

- Usually in well-lighted, well-equipped, ventilated kitchen
- During cooking and serving time kitchen may be hot and noisy
- Worker prone to burns and cuts
- Worker will be under pressure at peak of serving time
- Work on rotating shifts and days off; may work holidays
- Standing, walking, lifting during entire shift

IV. JOB REQUIREMENTS:

- 18 years of age
- Generally work in some area of kitchen a prerequisite

V. JOB CONDITIONS:

- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:

- Interest in food preparation
- Good memory
- Hand-finger agility
- Hand-eye coordination

VII. JOB PRACTICE:

- Shop and laboratory experiences

VIII. ACADEMIC DEMANDS:

- Reading: Minimum
  - Able to read can and package labels
  - Able to read printed instructions
  - Basic computations
  - Understand liquid and dry measurements

- Verbal: Must be able to speak English
  - Able to be understood by co-workers
  - Comprehend verbal instructions

- Written:

ADDITIONAL JOB INFORMATION:

1) Disadvantages: Weekend/holiday work
   - Rotating shifts and day off
   - Standing, walking, lifting during entire shift
   - Generally quite warm, noisy

2) Advantages: Steady, constant employment opportunities
   - Good chance of advancement
   - Good employee benefits as full-time employee

3) Training opportunities: On the job Vocational Schools
   - Restaurant or hotel training programs
   - Armed Forces

IX. EVALUATION: As determined by team of teachers
# LEARNING GOALS

- To learn various jobs in a food operation
- To become acquainted with all equipment in a kitchen
- Know safety and sanitation rules
- To know how to prepare fruits and vegetables for cooking and salads
- To learn to cook all types of foods
- To become familiar with working conditions
- To know physical demands of the job

# LEARNING ACTIVITIES

See learning activities for Short Order Cook, Salad Maker, Sandwich Maker, Cook, and Beverage Maker. Assisting others in preparing foods.

# TOOLS, EQUIPMENT

See individual job sheets

# TEXT, WORKBOOKS

- Commercial Foods
- Mathematics
- Rutgers University

# OTHER MATERIALS
HORTICULTURE/FLORICULTURE OCCUPATIONS
COURSE: HORTICULTURE/FLORICULTURE

UNITS:

First Quarter: Landscaper (Helper)
Groundskeeper, Gardener, Greenskeeper
Nursery Worker (Helper)
Florist (Helper)
Greenhouse Worker (Helper)

Second Quarter: Same as First Quarter.

Third Quarter: Same as First Quarter.

Fourth Quarter: Same as First Quarter.
I. JOB TITLE: (Landscape Helper)

II. JOB DUTIES:
- Plan lawns, floral arrangements and landscaping on public and private grounds
- Prepare and grade terrain and apply fertilizers, seeds and sod to revitalize lawns
- Plant shrubs, trees and flowers
- Transplant shrubs and plants
- Mow and trim lawns
- Trim and spray trees and shrubs
- Clean rounds

III. WORKING CONDITIONS:
- Out of doors
- All kinds of weather
- Subject to strenuous work
- Seasonal work - irregular hours

IV. JOB REQUIREMENTS:
- Be at least 18 years of age
- Desirable to have some knowledge about plans
- Possess N.Y. State driver's license and be able to drive a light truck
- General interest in out of doors
- Like doing routine work for long periods

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS & KNOWLEDGE:
- Be able to understand oral and written direction
- Create attractive arrangements using plants, shrubs and flowers
- Be friendly and courteous in dealing with customers

VII. JOB PRACTICE:
- Design and execution of various landscape projects
- Constructing and maintaining turf plots
- Pruning, fertilizing and spraying existing plants

VIII. ACADEMIC DEMANDS:
- Reading: Minimum reading level 5th-6th grade.
- Math: Basic knowledge of measurements - cubic, volume, liquid measurement
- Lang. Arts: Verbal: Be able to understand and communicate with and to others
- Written: Be able to understand written instructions, labels, directions
- Be able to understand safety precautions as with insecticide, fertilizers

ADDITIONAL JOB INFORMATION:
- Job Locations:
  - Farms
  - Landscape Contractors
  - County Estates
  - Federal State, and City Parks and Highways
  - Retail or Wholesale Nurseries
COURSE: Horticulture/Floriculture

OCCUPATION: Landscaper (Helper)

LEARNING GOALS

- Make students aware of safety hazards involved in agricultural work and use of tools and equipment
- To be able to identify and know how to use landscaping tools and equipment safely
- To become familiar with the duties of a landscaper (helper)
- To become familiar with the different types of trees and shrubs
- To become familiar with the proper planting and transplanting methods for trees and shrubs
- To become familiar with the characteristics of different kinds of flowers, vegetables and weeds
- To become familiar with the uses of plants in different landscaping sites
- To become familiar with site and plot planning
- To become familiar with maintenance of grounds
- To become familiar with seasonal maps and charts
- To become familiar with billing procedures
- To become familiar with basic insects

LEARNING ACTIVITIES

- Discuss safety
- Indicate specific hazards of tiller, power mower, hand saws, axes etc.
- Show safety films
- Plant and transplant trees and shrubs
  a) Dig and ball live trees and shrubs
  b) Bare root
  c) Staking
  d) Mulching
- Prune small trees and shrubs
- Create different types of gardens
  a) Rock garden
  b) Vegetable garden
  c) Annual garden
  d) Perennial garden
  e) Miniature garden
- Force bulbs, trees, and plants
- Practice lawn upkeep around building
- Cut and transplant sod
- Top dress lawns around building
- View pictures and films for identification of insects and complete teacher made ditto
- Collect, identify, and classify bark, buds, wood, leaves, and seeds
- On site observation to determine shapes, colors, size and use of trees, shrub and plants
- Research of charts and

TOOLS, EQUIPMENT

<table>
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<tr>
<th>Supplies</th>
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<td>Rakes</td>
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<td>Hoe</td>
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<td>Wheelbarrow</td>
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<td>Saws, hand</td>
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<td>Burlap</td>
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<td>Seeds, grass and plant</td>
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<td>Gravel</td>
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<td>Charts</td>
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<td>Crayons</td>
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<td>Seed catalogues</td>
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<td>Rulers</td>
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<td>Landscape kits</td>
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<td>String</td>
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<td>Measuring tape</td>
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<td>Charts</td>
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NEW TERMINOLOGY

- Turf
- Tilling
- Fertilizer
- 10-6-4
- Mulch
- Annuals
- Perennials
- Evergreen
- Conifer
- Deciduous
- Broadleaf
- Pith
- Camphor
- Transplant
- Landscape
- Site
- Plot
- Top dress
- Terrain
- Bare root
- Ball root
- Easement
- Drainage
- Cerrated
- Cord
- Coir
- Budding
- Graft
- Terminal
- Opposite
- Prune
- Force
- Sod
- Wood round
- Terrarium
- Accessibility
- Rotation
- Seasonal
- Miniature

TEXT, WORKBOOKS, OTHER MATERIALS

- Lawns and Groundcovers Sunset
- A guide to Field Identification of Trees of No. American
- Golden Press
- Fundamentals of Plant Identification, Ohio University Press
- Ideas for Landscaping, Sunset
- How to Grow Annuals, Sunset
- How to Grow House Plants, Sunset
- Landscape Design
- University of Pennsylvania
- Turfgrass Maintenance and Establishment
- University of Penn.
- Landscape Maintenance and Establishment
- University of Penn.
- Trees for Landscaping, Ohio University
- Landscaping Your Home, Ohio University

MAGAZINES

- Better Homes & Gardens
- Horticulture
- House & Garden
- Organic Gardening
- Flower & Garden
- Landscape
- Plants Alive

FILMS

- Saga of Safety Sam, BOCES
<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT SUPPLIES</th>
<th>NEW TERMINOLOGY MATH</th>
<th>TEXT, WORKBOOKS, OTHER MATERIALS</th>
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<tbody>
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<td>books for identification of trees, shrubs, and plants</td>
<td>Maintenance</td>
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<td>Split Second from Disaster BOCES</td>
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<td>... Sand and finish wood rounds</td>
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<td>It Didn't Have to Happen BOCES</td>
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<td>... Make a journal of plant identification projects</td>
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<td>Don't Push Your Luck BOCES</td>
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<td>a) Leaf rubs</td>
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<td>b) Drawings</td>
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<td>c) Leaf ironings</td>
<td>Scales</td>
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<td>d) Charts</td>
<td>Diameter</td>
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<td>... Cut and stack a cord of wood</td>
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<td>Plant Diseases Around the</td>
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<td>a) Type of soil</td>
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<td>Effect of Air Pollution on</td>
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<td>d) Drainage</td>
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<td>e) Rock ledges</td>
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<td>g) Terrain</td>
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<td>h) Accessibility</td>
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<td>... Create miniature landscape projects using kits and live plants</td>
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<td>... Construct and repair dry stone walls</td>
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<td>Groundcover and Vines</td>
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<td>Soil and Its Properties</td>
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<td>... Chart rotation of crops, plants and seasonal growth</td>
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<td>... Design and draw landscape plan for a given plot</td>
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<td>TRANSPARENCIES</td>
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<td>... Seed plot</td>
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<td>... Plant, grow and transplant plants to be used in landscape plan</td>
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<td>Pruning and Training Plants</td>
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<td>LEARNING GOALS</td>
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<td>TEXT, WORKBOOKS, OTHER MATERIALS</td>
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<td>... Landscape plot ... Practice ordering supplies by mail and telephone using catalogs ... Practice billing procedures a) Sales slips b) Charge and cash c) Credit cards d) Making change ... View films and loops and complete teacher made data sheet for each ... Choices of assignments for motivation, evaluation and acquiring of additional knowledge and skills</td>
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<td>FILMSTRIPS All available from Cornell Department of Education Using Power Lawn Mowers Safely Garden Flowers-Annuals I &amp; II Foliage Plant Identification Bailing and Burlapping Trees and Shrubs Landscaping Do's and Don'ts</td>
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<td>FILM LOOPS All available from Encyclopedia Britannica Forestry Aides Handling Garden Tools Safely Safety Rules with Outdoor Plants Snake Bite with Kit Plant Poisoning</td>
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<td>FIELD TRIPS Rosedale Nursery Wilkins Fruit Farm D'Agostino's I.B.M. Grounds Brooklyn Botanic Garden, Kitchawan Research Laboratory</td>
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</tbody>
</table>
| | | | | PAMPHLETS All available from Cornell Department of Education; Lawn and Landscaping Insects, Diseases and Pests of Landscape Plantings Soils Recommended Annual Flowers The Rock Garden How to Make A Terrarium Landscaping
I. JOB-TITLE: Groundskeeper

II. JOB DUTIES:
Year round maintenance of grounds, such as parks, private and public, golf courses, cemeteries, etc.
Weeding, feeding, cutting, trimming, watering, mowing, rolling of established lawns, greens, etc.
Trimming and pruning of trees and shrubs. Removal of debris, garbage, leaves, snow and any items which might detract from general appearance of grounds
Gardens - creating and upkeep

III. WORKING CONDITIONS:
Almost exclusively outdoors, all year round (although some positions are seasonal)
Pay is salaried with good benefits and vacation time in year round commercial or institutional positions
In residential or private situations may include room and board as well as salary
In seasonal situations pay will be hourly and benefits fewer or non-existent
No fixed schedule, things must be done as needed, often dirty and repetitive in nature.

IV. JOB REQUIREMENTS:
Of working age. H.S. diploma helpful but not required
Physically reasonably well endowed
Some knowledge lawn care practices and establishment (groundskeeping), helpful but not necessary

V. JOB CONDITIONS:
Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS & KNOWLEDGE:
Physically able
Ability to work independently and generally self-motivated and responsible
Knowledge of simple tools and machinery
Basic techniques of lawn, gardening, shrubs, tree care, pruning helpful but not necessary

VII. JOB PRACTICE:
Shop and laboratory experiences

VIII. ACADEMIC DEMANDS:
Reading: Minimal - operation instructions and applications of equipment and materials. Relevant charts and tables.
Math: Simple computations - mixtures to specifications; determining settings on feeders, spreaders, etc., by using charts and tables.
Lang. Arts. Verbal: Terminology of equipment and materials for purposes of ordering, records of use and communication of instructions from supervisor.
ADDITIONAL JOB INFORMATION:

1. Disadvantages: Repetitive tasks, basically physical work that involves getting dirty. Since skills are minimal, can be easily replaced.

2. Advantages: Outdoor work, fresh air and exercise; steady year round employment, work at own pace; good employee benefits; good chance for advancement with continuous employment and experience.

3. Training opportunities: Vocational, trade school, on the job.

IX. EVALUATION:

As determined by teachers.
**LEARNING GOALS**

- Make students aware of safety hazards involved in Groundskeeper work.
- To become familiar with duties of a Greenskeeper and Groundskeeper.
- To become familiar with cultivation using hand tools and rotary tiller.
- To become familiar with lawn preparation.
- To become familiar with maintaining lawns and grounds.
- To become familiar with identification of grass.
- To become familiar with weed identification.
- To become familiar with insect identification.

**LEARNING ACTIVITIES**

- Discuss safety rules.
- Discuss specific hazards of machines.
- View safety films, discuss and write an evaluation.
- Cultivate soil.
- Prepare soil for planting.
- Utilize site a) Plan area b) Maintain lawn water mow edge fertilize
- Collect, identify, and classify different types of grasses bent crab grass zoysia
- Collect, identify and classify different types of weeds.
- Collect, identify and classify different types of insects.
- Maintain trees and shrubs.
- Choices of assignments for evaluation, motivation and acquiring of additional knowledge and skills.
- View slides, filmstrips, loops and transparencies and complete teacher made dittos for each.

**TOOLS, EQUIPMENT SUPPLIES**

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<tr>
<th>Shovels</th>
<th>Rakes</th>
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<td>Rotary tiller</td>
<td>Lawn mower</td>
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<td>Edger</td>
<td>Fertilizer</td>
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<td>Lime</td>
<td>Hose</td>
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<td>Wheelbarrow</td>
<td>Seeds</td>
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<td>Soil Test Kits</td>
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**NEW TERMINOLOGY MATII**

- Height
- Depth
- Drainage
- Phosphorus
- Nitrogen
- Potash
- Seed names
- Turf
- Zoysia
- Bent
- Grading
- Renovate
- Cinch bug
- Grubs
- Plantain
- Clover

**TEXT, WORKBOOKS, OTHER MATERIALS**

- Better Homes and Gardens Gardenbook, McGraw Hill
- Landscape Manual
- University of PA.

- SLIDES
  - Types of Turf
  - Ohio University
  - Lawn Care and Management
  - Cornell Ed. Dept.
  - Exploring Turf Occupations, Cornell Education Department

- FILMSTRIPS
  - Lawn Weed Identification, Cornell Ed. Department
  - Using Power Lawn Mowers Safely, Cornell Education Department

- FILM LOOPS
  - Handling Garden Tools Safely, Encyclopedia Britannica

- TRANSPARENCIES
  - Ground Maintenance Construction, Cornell Education Department
  - Plant Identification
  - Cornell Ed. Department

- FILMS
  - Saga of Safety Sam, BOCES
  - Split Second from Disaster BOCES
  - Don't Push Your Luck BOCES
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<td>PAMPHLETS</td>
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<td>All of the following from Cornell Department of Education: Conservation Lawns and Landscaping Soils Tillage, Basic Principles Teacher Made Materials</td>
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I. **JOB TITLE:**

*Nursery Worker* (salesman & helper)

*Amount of responsibility, salary varies under this job title depending on ability and eagerness*

II. **JOB DUTIES:**

Cares for nursery supplies and nursery stock

Loads and unloads and stores supplies, water plants and other live nursery stock

Frequently aids in selling nursery stock and garden supplies

Also general clean-up and maintenance of nursery center

III. **WORKING CONDITIONS:**

Outdoor work, lifting, carrying, a great deal of physical labor

Uniforms or coveralls are usually supplied as there are frequently times when hands and clothing will get soiled

Full-time work, which slackens and increases according to seasonal demands

Employer paid benefits

IV. **JOB REQUIREMENTS:**

(Enjoy working outdoors and with plants)

Should have knowledge of garden tools and their uses

Some knowledge of plant identification and care

Some knowledge of shrubs and trees identification care

Some knowledge of fertilizer and insect sprays and mulches - use and application

Knowledge of basic propagation techniques - cutting, layering, division, etc.

Physically able to bend, climb, kneel, stoop; balance, crouch, crawl; finger and feel; good vision and good hand-eye coordination

Use of power tools and hand tools

V. **JOB CONDITIONS:**

Determined by field trips, guest speakers, etc.

VI. **BASIC SKILLS & KNOWLEDGE:**

Soil mixtures: Sand, peat moss, perlite, vermiculite

Prepare plant beds

Planting seeds, seedlings and bulbs

Weeding and cultivating, watering, pruning, spraying and propagating nursery stock

Transplanting stock for sale or shipment

Identify plants, trees, and shrubs - plant diseases

Physically able to carry out these tasks

Some knowledge and invoices, order forms, sales slips, running a cash register

Pleasant helpful personality as they may frequently be called on to assist customers

Use of power tools

VII. **JOB PRACTICE:**

Shop and laboratory experience
VIII. ACADEMIC DEMANDS:

Reading: Able to read instructions on labels of items sold. Follow and fill out forms such as invoices, shipping orders, sales slips, etc. Most instructions are verbal.

Math: Making change, basic math skills with emphasis on basic geometry (shapes) measurements, ratios and formulas.

Lang. Arts.: Verbal: Terminology including tools, equipment and nursery stock - able to understand and carry out detailed but uninvolved oral instructions. May frequently be required to assist customers.

Written: Minimal - completing sales slips, inventory sheets, written labels and tags for stock.
COURSE: Horticulture/Floriculture

OCCUPATION: Nursery Worker (Helper)

LEARNING GOALS

- Make students aware of safety hazards involved in agricultural work and use of tools and equipment
- To be able to identify and know how to use tools and nursery equipment safely
- To become familiar with the duties of a nursery worker (helper)
- To become familiar with the different types of trees and shrubs
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  c) Staking
  d) Mulching
- Prune small trees and shrubs
- Force bulbs, trees, and plants
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- Collect, identify, and classify bark, buds, wood, leaves, and seeds
- On site observation to determine shapes, colors, size, and use of trees, shrub, and plants
- Research of charts and books for identification of trees, shrubs, and plants
- Make a journal of plant identification projects
  a) leaf rubs
  b) drawings
  c) leaf lastings
  d) charts
- Discuss different factors of the land
  a) type of soil
  b) vegetative growth
  c) water available
  d) drainage
  e) rock ledges

TOOLS, EQUIPMENT SUPPLIES

- Charts
- Pictures
- Books
- Burlap
- Hoe
- Shovels
- Wheelbarrows
- Tiller
- Saws
- Rakes
- Paper, graph
- Rulers
- Landscape kits
- Measuring tapes
- Plants
- Trees
- Hose
- Stakes
- String
- Crayons
- Seeds
- Loppers
- Pruners
- Files

NEW TERMINOLOGY

- Height
- Depth
- Weight
- Mulch
- Trenching
- Hilling
- Drip edge
- Corms
- Budding
- Crafts
- Terminal
- Opposite

TEXT, WORKBOOKS, OTHER MATERIALS

Know Your Trees
Cornell Ed. Dept
Land Landscape Manual
Pennsylvania University
Basic Gardening, Sunset Guide to Organic Gardening, Sunset
Pruning, Sunset
The Nursery Worker
Parts I & II, I
Ohio University
Nursery Production,
Pennsylvania University
The Garden Center Worker
Ohio University

SLIDES

All of the following are available from Ohio University:
- Institutional Landscaping
- Landscaping the Home Ground
- Designing With Flowers
- Land Decorative Materials
- Commonly Used Trees, Shrubs, Groundcover, and Vines
- Poinsettia
- Geranium
- Soil and Its Properties

All of the following are available from Cornell Department of Education:
- Plant Diseases Around The Home and Grounds
- Effect of Air Pollution on Plant Life

FILMSTRIPS

- Folliage
- Plant Identification
- Cornell Dept. of Education
- Balling, and Burlapping Trees
COURSE: Horticulture/Floriculture
OCCUPATION: Nursery Worker (Helper) Continued

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<td>h) accessibility</td>
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<td>... Chart rotation of crops, plants and seasonal growth</td>
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<td>... Plant, grow and transplant plants</td>
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<td>... Practice ordering supplies by mail and telephone using catalogs</td>
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<td></td>
<td>... Practice billing procedures</td>
<td>a) sales slips</td>
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<td></td>
<td>... View films, filmstrips, and slides and complete teacher made ditto sheet for each</td>
<td>b) charge and cash</td>
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<td></td>
<td>... Choices of assignments for motivation, evaluation and acquiring of additional knowledge and skills</td>
<td>c) credit cards</td>
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<td></td>
<td>... Handling Garden Tools Safely</td>
<td>d) making change</td>
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<td></td>
<td>... Forestry Aides</td>
<td>... Snake Bite with Kit Plant Poisoning</td>
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</table>

NEW TERMINOLOGY

MATH

TEXT, WORKBOOKS, OTHER MATERIALS

and Shrubs
Cornell Dept. of Education
Landscaping Do's and Don't's
Cornell Dept. of Education

FILM LOOPS

All of the following are available from Encyclopedia Britannica
Forestry Aides
Handling Garden Tools Safely
Safety Rules with Outdoor Plants
Snake Bite with Kit Plant Poisoning

TRANSPARENCIES

All of the following available from Cornell Department of Education:
Plant Identification
Plant Propagation
Pruning and Training Plants
I. JOB TITLE: Florist Helper

II. JOB DUTIES:
Check flower supplies such as seeds, fertilizers, growing media, corsage ribbons and pins. Select natural and artificial flowers and foliage for floral arrangements. Wire, pin and wrap stems with floral tape to form bouquets, corsages, sprays etc. Prepare floral arrangements, corsages etc. Take orders for floral arrangements (also F.T.D.) Sell orders to customers. Deliver orders. Maintain clean, orderly work and display areas.

III. WORKING CONDITIONS:
Usually indoors
May be required to work overtime in peak periods
Weekend and evening hours sometimes required

IV. JOB REQUIREMENTS:
Be able to stand for long periods of time
Have manipulative skills
Be 18 years of age or older
Prefer a driver’s license
Be non-allergic to flowers and sprays
Be able to distinguish colors

V. JOB CONDITIONS:
Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS & KNOWLEDGE:
Be able to handle and manipulate delicate materials and variety of tools rapidly and skillfully
Use imagination and good judgment in creating designs to suit particular occasions.
Be able to communicate ideas verbally and through designs.
Basic math skills in proportions, sales slips.

VII. JOB PRACTICE:
Cut and strip flowers
Tape and prepare flowers for use in corsages and arrangements
Prepare various styles of arrangements under supervision
Maintain workshop and selling areas.

VIII. ACADEMIC DEMANDS:
Reading: Must be able to read well enough to prepare orders, understand instructions and communicate with others
Math: Basic math of making change for customers and to figure costs of materials for orders in specific price range.
Lang. Arts. Verbal: Must be able to communicate with others
Take phone orders
Written: Write out orders
ADDITIONAL JOB INFORMATION:

Job Locations:
- Retail florists
- Large retail greenhouses
- Some garden centers

Workers may advance to:
- Shop Managers
- Self-employment
- Can be trained on the job
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<th>MATH</th>
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<td>... Make dried and plastic flower arrangements</td>
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<td>Primary colors</td>
<td>Curves</td>
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<td>Secondary colors</td>
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<td>stigma</td>
<td>Floriculture Crops</td>
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<td>... Plan for seasonal demands</td>
<td>... Make holiday decorations</td>
<td>Order blanks</td>
<td>pistil</td>
<td>Designing with Flowers and Decorative Material</td>
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<tr>
<td>... Identify using charts, books, manipulation</td>
<td>... Make holiday decorations</td>
<td>Plants</td>
<td>caylx</td>
<td>Ohio University</td>
</tr>
<tr>
<td>a) Plants</td>
<td>... Make holiday decorations</td>
<td>Bottles</td>
<td>Peat moss</td>
<td>Identification Foliage Plants</td>
</tr>
<tr>
<td>b) Flowers</td>
<td>... Make holiday decorations</td>
<td>Bowls</td>
<td>Terrarium</td>
<td>I &amp; II &amp; III, Cornell Ed. Dept.</td>
</tr>
<tr>
<td>c) Containers</td>
<td>... Make holiday decorations</td>
<td>Soils</td>
<td>Foliage</td>
<td>Poinsettia</td>
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<tr>
<td>... Design shop</td>
<td>... Make holiday decorations</td>
<td>Terrarium tools</td>
<td>Vertical</td>
<td>Ohio University</td>
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<td>... Wrap plants</td>
<td>... Make holiday decorations</td>
<td>Tapes</td>
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<td>Geranium,</td>
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<tr>
<td>... Make bows</td>
<td>... Make holiday decorations</td>
<td>sooth</td>
<td>scotch</td>
<td>Ohio University</td>
</tr>
<tr>
<td>... Maintain greenhouse-to include care of plants and upkeep</td>
<td>... Make holiday decorations</td>
<td>masking</td>
<td>masking</td>
<td>FILMSTRIPS</td>
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<tr>
<td>... Design and create terrariums</td>
<td>... Make holiday decorations</td>
<td>Staples</td>
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<td>Greenhouses - Uses and Design,</td>
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<tr>
<td>... View slides and filmstrips and complete teacher made ditto sheet</td>
<td>... Make holiday decorations</td>
<td>Wild Flowers</td>
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<td>Cornell</td>
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<tr>
<td>... Choices of assignments for motivation, evaluation and acquiring of additional knowledge and skills</td>
<td>... Make holiday decorations</td>
<td>Frames</td>
<td></td>
<td>Department of Education</td>
</tr>
</tbody>
</table>

| TEXT, WORKBOOKS, OTHER MATERIALS | |
|----------------------------------| |
| Better Homes and Gardens Garden Book, McGraw Hill | |
| Slides | Floriculture Crops |
| Ohio University | Ohio University |
| Designing with Flowers and Decorative Material | Designing with Flowers and Decorative Material |
| Ohio University | Ohio University |
| Identification Foliage Plants | Ohio University |
| I & II & III, Cornell Ed. Dept. | Ohio University |
| Poinsettia | Geranium, |
| Ohio University | Ohio University |
| FILMSTRIPS | FILMSTRIPS |
| Greenhouses - Uses and Design, Cornell | Teacher Made Materials |
| Department of Education | Sales Slip Pads |
| Teacher Made Materials | Teletrainer with Scripts |
I. JOB TITLE: Greenhouse Worker (Helper)

II. JOB DUTIES:
- Preparing plant beds
- Propagation of seeds, bulbs, stock-plants, shrubs
- Transplanting nursery stock
- Preparing planting media: soil, sand, artificial fertilizing, spraying, pruning, and watering of stock
- Care of Greenhouses, tools and equipment
- General maintenance and grounds and facilities

III. WORKING CONDITIONS:
- Indoors in Greenhouse, often warm and very humid
- Outdoor conditions involve physical strength and frequently getting dirty - hands and clothes
- Contact with chemicals and sprays
- Year-round work, hourly pay and employer paid benefits

IV. JOB REQUIREMENTS:
- Background in use of Greenhouse, cold frames and related structures
- Knowledge of propagation techniques
- Plant identification and care requirements
- Soil and planting media preparation

V. JOB CONDITIONS:
- Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS & KNOWLEDGES:
- General knowledge of Greenhouses and related structures, their uses, operation and capabilities
- Factors affecting germination, rooting and transplanting, and general plant growth
- Must understand measurements: linear, perimeter area and cubic, propagation techniques, also ratios formulas, charts and graphs, temperature, coils and other planting media
- Good memory and able to follow detailed oral instructions

VII. JOB PRACTICE:
- Shop and laboratory experience

VIII. ACADEMIC DEMANDS:
- Reading: Labels and package instructions, generally minimal amount required.
- Math: Basic computations, area, perimeter, cubic calculations. Ratios and formulas - follow graphs and charts
- Verbal: Understood by co-worker, able to understand verbal instructions.
- Written: Labeling of stock
ADDITIONAL INFORMATION:

1. Disadvantages: May be periodically laid off due to seasonal demand
   Atmosphere is generally dirty, warm, and humid
   Frequent contact with chemical sprays and powders
   Often physically demanding

2. Advantages: Employable without extensive training
   Tasks are generally repetitive in nature, can easily become very proficient
   During busy seasons, overtime available
   Chance for easy advancement or with basic skills after short time and small investment may become independent.

3. Training Opportunities: On the job and trade or vocational schools
   Extension courses at home
LEARNING GOALS

- To become familiar with processes needed to grow plants
- To become familiar with greenhouse maintenance
- To become familiar with identification of annual perennials, houseplants and vegetables
- To become familiar with different ways of growing and reproducing of plants
- To become familiar with creating terrariums and gardens
- To become familiar with different types of soil
- To become familiar with basic flower arrangements
- To become familiar with supplies used by a florist
- To understand how and why to sterilize soil

LEARNING ACTIVITIES

- Collect, identify and classify plants
  a) seeds
  b) plants
  c) annuals
  d) perennials
  e) vegetables
- Grow seasonal plants
- Propagate plants
- Make charts of shade and sun plants
- Design and create terrariums
- Design and plant miniature gardens
- Design and plant hanging pots
- Sell plants
- Complete sales slips for plant sales
- Cross pollinate plants
- Make flats
- Maintain greenhouse and work area
  a) clean
  b) water
  c) feed
  d) trim
  e) stake
  f) transplant
- Use seeds and plants to study different shapes, colors, sizes and growing procedures
- Plant identification
  a) research books and pamphlets
  b) make charts
  c) label plants
- Make a journal of plant identification projects

TOOLS, EQUIPMENT

- Seeds
- Soil
- Sterilizer
- Perlite
- Vermiculite
- Sand
- Market pack
- Dibbles
- Plants
- Garden knife
- Trowels
- Fertilizers
- Pots
- Greenhouse
- Sprinklers
- Rocks
- Shovels
- Plastic sheets
- Labels
- Pens
- Seed catalogues
- Boards
- Nails

NEW TERMINOLOGY

- Height
- Weight
- Depth
- Market packs
- Perlite
- Vermiculite
- Dibbles
- Pollination
- Germinate
- Peat pots
- Terrariums
- Plant names
- Greenhouse
- Ph values
- Acid
- Alkaline
- Neutral
- Clay
- Styrofoam
- Sterilize
- Propagate

MATH

- Basic Gardening
- Sunset Series
- Better Homes & Gardens
- Gardenbook, McGraw Hill
- Greenhouses and Related Structures, Cornell Department of Education
- Greenhouse Worker, Ohio University
- Greenhouse Crop Production, University of Pennsylvania
- SLIDES
  - Effect of Air Pollution on Plant Life, Cornell Dept. of Ed.
  - Poinsettia, Ohio U.
  - Soil and Its Properties, Ohio U.
- FILMSTRIPS
  - Garden Flowers (Annuals) I & II, Cornell Department of Education
  - Propagation, Cornell Department of Education
  - Landscaping Do's and Don'ts, Cornell Department of Ed.
  - Greenhouses-Uses and Designs, Cornell Department of Ed.
- TRANSPARENCIES
  - All available from Cornell Department of Education:
    - Plant Identification
    - Plant Propagation
    - Pruning and Training Plants
    - Teacher Made Material
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<th>TEXT, WORKBOOKS, OTHER MATERIALS</th>
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</thead>
<tbody>
<tr>
<td>a) drawings</td>
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<td>b) charts</td>
<td>Plant flower boxes</td>
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<td>Prepare proper soil mixes per type of plants</td>
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<td>Experiment with feeding of plants</td>
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<td>Adjust ventilation, heat, and light</td>
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<td>Maintain stock</td>
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<td>Gather various types of branches from outside areas and discuss different characteristics of each</td>
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<td>Force bulbs and plants</td>
<td>Pot Store in cold frame Remove from bloom</td>
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<td></td>
<td>Create arrangements</td>
<td>a) wild flowers b) plastic flowers</td>
<td>Sterilize soil</td>
<td>Test soil</td>
<td>Practice writing sales slips and making change</td>
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<td></td>
<td>View slides, filmstrips, and transparencies</td>
<td>complete teacher made, ditto for each</td>
<td>Choices of assignments for evaluation and motivation</td>
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PERSONAL GROOMING/COSMETOLOGY OCCUPATIONS
COURSE: PERSONAL GROOMING/COSMETOLOGY OCCUPATIONS

UNITs:

First Quarter: Beautician
Manicurist
Personal Grooming (For selected students.)

Second Quarter: Same as First Quarter.

Third Quarter: Same as First Quarter.

Fourth Quarter: Same as First Quarter.
TRADE: Cosmetology/Personal Services

I. JOB TITLE: Beautician/Manicurist

II. JOB DUTIES:

Suggest hair styling, according to physical features of customer and
current styles, or follow customer's instructions for styling.
Style hair by cutting, trimming, and tapering
Shampoo hair and scalp with various ingredients and rinses
Curl hair with rollers or pins
Apply bleach, dye or tint to color customer's hair
Suggest cosmetics for conditions such as dry or oily skin
Massage scalp and give other hair and scalp-conditioning treatments
Clean, shape, and polish fingernails and toenails
Perform other beauty services, such as giving face or neck massages,
shaping and coloring eyebrows or eyelashes, removing unwanted
hair, or applying hair-straightening liquids
Schedule appointments

III. WORKING CONDITIONS:

Work in a beauty salon or large shop
Be subject to cuts from scissors and razors and burns from hair dryers
Be exposed to strong odors from various hair preparations and lotions
Work with and around all kinds of people

IV. JOB REQUIREMENTS:

Speak, read, and write English so as to understand instructions and
speak to customers
Complete a minimum of 1,000 hours in the theory and practice of
Cosmetology in an approved school
Take and pass licensing examination to obtain a permanent license
Renew license every 2 years
Use eyes and hands at the same time
Move fingers rapidly and accurately to work with small objects
Be alert to similarities or differences in colors
Be able to stand most of the day

V. JOB CONDITIONS:

Determined by field trips, guest speakers, etc.

VI. BASIC SKILLS AND KNOWLEDGE:

Chemical compositions of nails, hair, skin
Mixtures used in preparation of rinses, dyes, etc.

VII. JOB PRACTICE:

Shop and laboratory experience

VIII. ACADEMIC DEMANDS:

Reading: Be able to read directions for mixing various preparations
Math: Accurate measurement and timing
Verbal: Be able to understand and communicate with customers
Written: Be able to keep appointment books
Able to fill out various forms

ADDITIONAL JOB INFORMATION:

1. Disadvantages: Earnings vary greatly from week to week depending
on amount of tips
2. Advantages: Part time work generally available
3. Training opportunities: Vocational Schools-Cosmetology Schools
IX. EVALUATION:

As determined by team of teachers
# LEARNING GOALS

- To know the skills and physical requirements to be a beautician
- To be aware of the working conditions
- To become familiar with the duties of the dispensary clerk and shopkeeper
- To become acquainted with safety precautions
- To understand bacteria and sterilization
- To identify equipment and its use
- To become familiar with the proper procedure for giving a manicure
- To become familiar with proper procedure for a hand and arm massage
- To understand nail structure and disorders
- To become familiar with the proper procedure for giving a facial
- To understand skin and its functions
- To understand the necessity for a clean skin
- To know and identify make-up
- To understand the proper use of make-up
- To become familiar with the composition of hair
- To become familiar with the proper procedure for giving a shampoo
- To become familiar with

# LEARNING ACTIVITIES

- Reading and discussion of Job Profile (duties)
- Discussing safety/sanitation
- Discussion and reading of attitudes, grooming and attire
- Class discussion of the use of the dispensary check-out sheet and the proper procedure for checking supplies out and in
- Class discussion of state laws concerning sterilization and sanitation
- Display and identify equipment used in giving a manicure
- Demonstrate the correct procedure for giving a manicure
- Set up the manicure table
- Students to pick a partner and practice giving a manicure
- Classroom reading and discussion on the structure and disorders of the nail
- Display and identify equipment for a facial
- Test students' knowledge of the equipment used in giving a facial
- Demonstrate the correct procedure for giving a facial
- Students to choose a partner and practice giving a facial
- Classroom reading and discussion on the function

# TOOLS, EQUIPMENT, SUPPLIES

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<th>TOOLS, EQUIPMENT</th>
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<td>Polish</td>
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<tr>
<td>Cuticle remover</td>
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<tr>
<td>Nail polish remover</td>
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<td>Steel pusher</td>
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<td>Orange wood stick</td>
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<td>Emery board</td>
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<td>Nail hardener</td>
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<td>Wonder nail</td>
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<td>Hand lotion</td>
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<td>Steel pusher</td>
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<td>Orange wood stick</td>
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<td>Emery board</td>
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<td>Nail brush</td>
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<td>White pencil</td>
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<td>Spatula</td>
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<td>Cleansing cream</td>
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<td>Massage cream</td>
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<td>Practikin</td>
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<td>Practikin holder</td>
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<td>Rat tail comb</td>
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<td>Finger wave comb</td>
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<td>Afro pick</td>
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<td>Roller caddy</td>
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<td>End papers</td>
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<td>Permanent wave</td>
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<td>Ear shields</td>
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<td>Ultra Sheen</td>
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<td>Oven</td>
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<td>Pressing comb</td>
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<td>Pressing curler</td>
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<tr>
<td>Comb out</td>
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<td>Buffer</td>
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# NEW TERMINOLOGY

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<td>Emery board</td>
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<tr>
<td>White pencil</td>
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<tr>
<td>Dispensary clerk</td>
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<tr>
<td>Shopkeeper</td>
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# TEXT, WORKBOOKS, OTHER SUPPLIES

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</tr>
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<tbody>
<tr>
<td>Theory of Beauty Culture</td>
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<tr>
<td>Rutgers University</td>
</tr>
<tr>
<td>The Beautician</td>
</tr>
<tr>
<td>McGraw Hill</td>
</tr>
<tr>
<td>The Van Dean Manual</td>
</tr>
<tr>
<td>Milady Publishing Company</td>
</tr>
<tr>
<td>Keystone Publications, Inc.</td>
</tr>
<tr>
<td>Ethnic Hairdressing</td>
</tr>
<tr>
<td>Rutgers University</td>
</tr>
<tr>
<td>24 Practice Hairstyles Featuring Classic Movements, Keystone Publications</td>
</tr>
<tr>
<td>Mathematics for Cosmetology-Part I and II, Rutgers University</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>WORKBOOKS</th>
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<tbody>
<tr>
<td>Van Dean Theory</td>
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<tr>
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<td>Van Dean Practical</td>
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<thead>
<tr>
<th>TRANSPARENCIES</th>
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<tbody>
<tr>
<td>Facial, Hair and Manicure</td>
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<tr>
<td>3M Company</td>
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<table>
<thead>
<tr>
<th>SLIDES</th>
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<tbody>
<tr>
<td>The Many Faces of Beauty</td>
</tr>
<tr>
<td>A Step-by-Step Make-up</td>
</tr>
<tr>
<td>Application for Dark Skins, Milady Publishing Co.</td>
</tr>
<tr>
<td>Basic Hairdressing, Techniques, Teacher's Guide and Slide Presentation, Rutgers University</td>
</tr>
</tbody>
</table>
COURSE: Exploring Cosmetology/Personal Service

OCCUPATION: Beautician/Manicurist

LEARNING GOALS

- The proper procedure for a pin curl set
- To become familiar with the proper procedure for a roller set
- To become familiar with the proper procedure for a permanent wave rod set
- To become familiar with the proper procedure for using the curling iron
- To become familiar with the proper procedure for combing
- To become familiar with the proper procedure for thermal straightening
- To become familiar with the proper procedure for thermal curling and waving
- To become familiar with inventory and ordering procedures
- To become acquainted with the receptionist duties of a beautician
- To become familiar with the actual operation of a beauty salon

LEARNING ACTIVITIES

- And structure of the skin
- View slides, listen to cassette and take quiz on make-up application
- Demonstrate the correct procedure for applying make-up
- Classroom reading and discussion on hair composition, structure analysis and disorders and styles best suited for particular face shapes
- Demonstrate the correct procedure for a shampoo
- Students to choose a partner and practice shampooing
- View slides for pin curl sets
- Demonstrate the correct procedure for pin curl sets
- Demonstrate fingerwave sets
- Demonstrate the proper procedure for a roller set
- Students to practice correct methods of fingerwaving and roller sets
- Demonstrate the correct procedure for a permanent wave rod set
- Students to practice a permanent wave rod set
- Display and discuss various hair styles and comb outs
- Demonstrate comb-outs and styling
- To become familiar with the proper procedure for a permanent wave rod set
- To become familiar with the proper procedure for a thermal straightening
- To become familiar with the proper procedure for thermal curling and waving
- To become familiar with inventory and ordering procedures
- To become acquainted with the receptionist duties of a beautician
- To become familiar with the actual operation of a beauty salon

TOOLS, EQUIPMENT, SUPPLIES

- Spray bottle
- Permanent wave rods
- Bobby pins
- Hair pins
- Blow dryer
- Curling iron
- Hair net
- Ear shields
- Hair spray
- Ultra sheen
- Oven
- Pressing comb
- Pressing curler
- Pressing cream
- Cotton
- Buffer
- Towels
- Manicure table
- Protective cloth
- Dryer
- Sink
- Shampoo
- Disinfectant solution
- Container
- Lip stick brush
- Facial mask
- Fake nails
- Scissors
- Manicure stool
- Styling chair
- Shampoo chair
- Receptionist desk and chair
- Styling tables
- Rolling storage cabinets
- Display unit
- Teletrainer

NEW TERMINOLOGY, MATH

- Manipulation
- Rotate
- Massage
- Matrix
- Nail bed
- Luulla
- Bacteria
- Sterilization
- Pores
- Texture
- Acne
- Disinfectant
- Follicle
- Medulla
- Cortex
- Elasticity
- Porosity
- Root
- Shaft
- Bulb
- Sectioning
- Dermatology
- Elimination
- Glands
- Absorption
- Epidermis
- Dermis
- Appendage
- Free edge
- Hangnail
- Keratin
- Mantle
- Pedicure
- Antiseptic
- Back combing
- Cosmetics
- Deodorant
- Implement
- Nape

TEXT, WORKBOOKS, OTHER SUPPLIES

- Film loops
- Cosmetologist
- Encyclopedia Brittanica
- Field Trips
- Land of Oz Beauty Salon
- International House of Design
- Tech Center Classes
- Guest Speakers
- Land of Oz Hair Stylist
- Merle Norman Cosmetics
- Holiday Magic Cosmetics
- Zuri Cosmetics
- Redkin Cosmetics
- Teacher made appointment sheets
- Teacher made step by step instruction sheets
- Teacher made dispensary check-out sheets
- Inventory forms
- Order forms
- Receipts
- Telephone book
- Fake money
- Teacher Made Materials
**LEARNING GOALS**

- Students to practice comb-outs and styling
- Class reading and discussion on blow drying
- Demonstrate using the curling iron
- Students to choose a partner and practice using the curling iron
- Demonstrate corn-rowing
- Students to practice corn-rowing
- Class reading and discussion on thermal straightening, curling and waving
- Display and identify equipment used for thermal straightening, curling and waving
- Test students' knowledge of equipment used in thermal straightening, curling and waving
- Demonstrate thermal straightening, curling and waving
- Students to practice thermal straightening, curling and waving
- Class discussion and practice in completing inventory and order forms
- Students to count and list quantities on hand of all supplies
- Students to complete order forms for items in short supply
- Using teacher made conversations, students order

**TOOLS, EQUIPMENT AND SUPPLIES**

- Nippers
- Pigment
- Sanitation
- Sebum
- Inventory
- Receptionist
- Receipts

**NEW TERMINOLOGY**

- MATH

**TEXT WORKBOOKS**

**OTHER SUPPLIES**
**LEARNING GOALS**

supplies and take and record appointments using the teletrainer

... Complete receipts, total receipts, and make change

... Using teacher made appointments for students in other classes

... Complete receipts for appointments for students in other classes

... Students to perform various services for other students in the building

... Choices of assignments for motivation, evaluation, and acquiring of additional knowledge and skills as a beautician

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<th>TOOLS, EQUIPMENT SUPPLIES</th>
<th>NEW TERMINOLOGY</th>
<th>TEXT WORKBOOKS</th>
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<table>
<thead>
<tr>
<th>OTHER SUPPLIES</th>
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</table>
PERSONAL GROOMING FOR SELECTED SPECIAL EDUCATION STUDENTS

I. To introduce students to the importance of good grooming in any occupation.
   A. Set up a grooming schedule and record daily.

II. To learn the correct procedures for caring for the body.
    A. Bath, shower or sponge bath.
    B. Washing face and hands.
    C. Acne
    D. Eyebrows
    E. Teeth and mouth care
    F. Make-Up
    G. Shampoo and hair care
    H. Use of deodorant
    I. Feminine Hygiene
    J. Manicure
    K. Hair removal
    L. Pedicure

III. To understand the importance of good nutrition and daily exercise on one's appearance.

IV. To learn to choose the appropriate clothing for different occasions.

V. To learn to care for clothing
   A. Laundry
   B. Dry cleaning
   C. Simple mending

VI. To be able to read the directions for using grooming products.

VII. To form correct attitudes towards appearance and work.

VIII. To be able to complete simple forms.

IX. To be able to purchase grooming products.
    A. Recognize and count money.

X. To acquaint students with job responsibilities and the importance of being on time.
    A. To be able to tell time.
**COURSE:** Personal Grooming  
**OCCUPATION:** Preparation For Employment  

### LEARNING GOALS

- To acquaint students with the importance of good grooming.  
- To introduce students to the principles of good grooming.  
- To understand how frequently each grooming task should be performed.  
- To learn how to properly cleanse the skin.  
- To learn how to care for acne.  
- To learn how to properly brush the teeth and use dental floss and mouthwash.  
- To understand the importance of regular dental checkups.  
- To learn to choose appropriate makeup.  
- To be able to apply makeup properly.  

### LEARNING ACTIVITIES

- Complete teacher-made self-care survey.  
- Read, discuss and complete pages 1-3 in Plans For Living workbook, “Taking Care of Yourself”.  
- Distribute letters explaining the course for parental permission to perform grooming activities.  
- Field trip to purchase appropriate supplies for each student.  
- Distribute self-grooming chart for daily, weekly, monthly and yearly requirements followed by teacher explanation and class discussion.  
- Discuss how grooming can affect getting and keeping a job.  
- Distribute personal grooming supplies and cases appropriate for each student.  
- View films followed by teacher-directed discussion.  
- View filmstrip and listen to cassette followed by teacher-directed discussion.  
- Demonstrate the proper cleansing of skin with step by step directions.  
- Read, complete and discuss, “Taking Care of Your Body”, page 22 in Plans For Living with teacher supervision and direction.  

### TOOLS, EQUIPMENT SUPPLIES

- Folders  
- Paper  
- Pencils  
- Survey  
- Cases  
- Grooming supplies  
- Soap  
- Water  
- Sink  
- Shower  
- Washcloth  
- Towel  
- Cotton  
- Astringent  
- Sea-breeze  
- Buff-puff  
- Softening cream  
- Tweezers  
- Antiseptic  
- Mirrors  
- Toothbrush  
- Toothpaste  
- Dental floss  
- Red Tablets  
- Mouthwash  
- Cups  
- Cream  
- Lotion  
- Base  
- Eyeshadow  
- Mascara  
- Blush  
- Lipstick  
- Eyebrow pencil  
- Washcloth  
- Alcohol  

### NEW TERMINOLOGY MATH

- Grooming  
- Style  
- Hair  
- Wash  
- Comb  
- Shave  
- Eyebrows  
- Repair  
- Apply  
- Make-up  
- Manicure  
- Nails  
- Daily  
- Shower  
- Deodorant  
- Body odor  
- Dirt  

### TEXTS, WORKBOOKS OTHER MATERIALS

- **TEXTS**  
  - Plans for Living, Fearon Pub. Company  
  
- **KITS**  
  - Personal Care, Proctor and Gamble Educational Services  
  
- **FILMS**  
  - All About Me, State of New Jersey  
  - A Time and a Place, Sterling Films  
  - Body Care and Grooming, University of Missouri  
  - How to Be Well Groomed, University of Missouri  
  - Good Looks-Here and Now, Modern Talking Pictures  
  
- **FILMSTRIP & CASSETTE**  
  - Good Grooming General, RMI Educational Films, Inc.  
  
- **FIELD TRIPS**  
  - CVS  
  - Cerece's Rexall Pharmacy  
  - Caldor's  

- **TEXT**  
  - Plans for Living, Fearon Publishing Company
LEARNING GOALS
... To learn the proper procedure for cleansing the ears.
... To learn how to properly care for pierced ears in order to prevent infection.
... To learn how to totally care for one's own hair.
... To learn the reasons for shampooing.
... To be able to identify one's own hair type.
... To be able to choose the correct shampoo and conditioners.
... To learn how to correctly shampoo one's own hair.
... To be able to comb, part and blow dry one's own hair.
... To understand the importance of a good hair cut which is easy to care for.
... To understand what hair style is appropriate for one's self.
... To understand the causes of body odor.
... To be able to choose the proper deodorant.
... To know when and why deodorant should be used.

LEARNING ACTIVITIES
... Read and discuss Face and Skin Care from Personal Development.
... Have students practice taking a shower and giving themselves a sponge bath using the appropriate procedure.
... View and discuss film strip "Face Facts".
... Daily class discussion on alternative methods of keeping the skin clean, with emphasis on the parts of the body that cause odors.
... Review critical vocabulary.
... Class discussion of how inexpensive it is to keep the body clean.
... View films followed by teacher directed discussion of each.
... Demonstrate the correct procedure for washing face and hands with step-by-step directions to include using the hands rather than a face cloth.
... Have students practice this procedure in groups of five at sinks under teacher direction.
... Have students close pores with the use of an astrigent.
... Identify the students with acne.
... Read, discuss and complete "Taking Care of Your Skin".

TOOLS, EQUIPMENT SUPPLIES
Brush
Comb
Shampoo
Cream rinse
Blow dryer
Ultra-sheen conditioner
Roller
Round brushes
Picks
Clips
Electric curling iron
Conditioner
Deodorants
Sanitary napkins
Sanitary pants
Sanitary belts
Tampons
Toilet paper
Electric razor
Powder
Polish kit
Orange wood stick
Soak bowl
Hand lotion
Emery board
White pencil
Bowl
Nail clipper
Fake fingernails
Scale
Tape measure
A change of clothing
Samples of apparel for all occasions
Samples of improperly cared for clothing
Detergent

NEW TERMINOLOGY MATH
Dental
Plaque
Bad breath
Dental Floss
Circular
Mouth wash
Base
Eye shadow
Mascara
Blush
Lipstick
Eyebrow pencil
Eye lash
Cheeks
Forehead
Cosmetics
Cream
Lotion
Gaudy
Natural
Cost of Items
Infection
Hearing loss
Deafness
Alcohol
14 carat gold
Ear drum
Cotton swabs
Oily hair
Dry hair
Dandruff
Damaged hair
Lather
Becoming
Attractive
Manageable
Blow drying
Roller

TEXT, WORKBOOKS OTHER MATERIALS
Personal Development
FILMSTRIP & CASSETTE
Face Facts, Skin and Hair Care, RMI Educational Films, Inc.
FILMS
It's Up To You, Armour-Dial Co.
The Beauty of You, Avon
KITS
Personal Care, Proctor and Gamble Educational Services
FILMSTRIPS & CASSETTES
Self-Care Series, The Problem Acne, Interpretive Education.
FILMS
Teen-Aged? Have Acne?, Sterling Films
Young Reflections, Modern Talking Pictures
Pictures taken from "Seventeen", "Glamour", "Ladies' Home Journal", "McCalls" and "Ebony".
<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT SUPPLIES</th>
<th>NEW TERMINOLOGY MATH</th>
<th>TEXT, WORKBOOKS OTHER MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>... To be able to choose the correct products for use during menstruation.</td>
<td>... Class discussion of the causes and prevention of acne.</td>
<td></td>
<td>FILMSTRIPS &amp; CASSETTES</td>
<td>Self-Care Female, Medical, Dental and Optical Care, Interpretive Education Teeth Care, Interpretive Education</td>
</tr>
<tr>
<td>... To be able to properly dispose of used products during menstruation.</td>
<td>... View filmstrip and listen to cassette on acne, its causes, prevention and cures followed by teacher directed discussion.</td>
<td></td>
<td>FILMS</td>
<td>Teeth Are Good Things to Have, Johnson &amp; Johnson Take Time For Your Teeth, Sterling Films Healthy Teeth-Happy Smile... State of Missouri How To Clean Your Teeth State of Missouri Matter of Choice, State of Missouri Teeth, Modern Talking Pictures Gateway to Health, State of Missouri Teeth, The Development and Care, State of Missouri Preventive Dentistry in B Sharp, Modern Talking Pictures The Haunted Mouth, Modern Talking Pictures Showdown at Sweet Rock Gulch, Modern Talking Pictures</td>
</tr>
</tbody>
</table>
## Learning Goals

- To understand the value and benefits of daily exercise.
- To be able to do simple exercises to improve personal appearance.
- To become acquainted with appropriate dress for different occasions.
- To be able to coordinate colors.
- To be able to coordinate patterns and designs.
- To be able to choose appropriate shoes, socks, and stockings.
- To understand the importance of the proper care of clothing.
- To be aware of the different cleaning methods of clothing and be able to determine the proper one.
- To be able to do laundry by hand.
- To be able to do laundry in an automatic washer and dryer.
- To be able to recognize dirty clothing.
- To be aware of clothing, which must be laundered after each use.

## Learning Activities

- Demonstrate the correct procedure for brushing teeth.
- Read and discuss “Care of the Teeth” in Personal Care with teacher direction and supervision.
- Have students practice step-by-step brushing procedure in groups of five with the teacher.
- View films, Take Time for Your Teeth, Healthy Teeth-Happy Smile, and How to Clean Your Teeth followed by teacher directed discussion.
- Following brushing students are to chew red tablet to indicate portions of teeth that have gone unbrushed.
- Have students brush again where indicated.
- View films Matter of Choice, Teeth, Gateway to Health, and The Haunted Mouth followed by teacher directed discussion.
- Demonstrate the use of dental floss.
- Have students practice using dental floss.
- Demonstrate the use of mouthwash.
- Have students view filmstrips and listen to cassettes on dental care followed by teacher directed discussion of each.

## Tools, Equipment, Supplies

- Manicure
- Cuticle
- Orangewood stick
- Soak bowl
- Hand lotion
- Emery board
- White pencil
- Polish
- Polish remover
- Base
- Cuticle remover
- Pedicure
- Nail clipper
- File
- Hang nail
- Chapped
- Nutrition
- Diet
- Balanced
- Four Basic Food Groups
- Count and measure servings
- Height
- Weight
- Measurements
- Bust
- Hip
- Thigh
- Calf
- Ankle
- Upper arm
- Posture
- “Standing tall”
- Inch
- Dress clothing
- Work clothing
- Casual clothing

## New Terminology

- Math

## Text, Workbooks, Other Materials

- Merlin's Magical Message, Modern Talking Pictures
- Field Trips
  - Local dentist's office
- Slides
  - Milady Make-up Slides
- Filmstrips & Cassettes
  - Self-care Female Make-up
  - Interpretive Education
- Resource Book
  - The Great Looks Book
  - Bonnie Bell
  - Editorial Services Inc.
- Filmstrips & Cassettes
  - Self-Care Female, Hair Care, Interpretive Education
- Films
  - Really Understanding Your Hair,
  - Modern Talking Pictures
- Magazines
  - American Hairdresser
**COURSE:** Personal Grooming

**OCCUPATION:** Preparation For Employment

### LEARNING GOALS

<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT</th>
<th>NEW TERMINOLOGY</th>
<th>MATH</th>
<th>TEXT, WORKBOOKS</th>
<th>OTHER MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>To be able to read the directions for using grooming products.</td>
<td>Field trip to a dentist's office.</td>
<td></td>
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<td>Guest Speakers</td>
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</tr>
<tr>
<td>To be able to select suitable grooming products within an available budget.</td>
<td>Identify each student's last dental appointment.</td>
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<td>KITS, &quot;Growing Up and Liking It&quot;</td>
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<tr>
<td>To form the correct attitudes toward appearance and work.</td>
<td>Class discussion of importance of visiting the dentist every six months.</td>
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<td></td>
<td>Recorded Lessons in Feminine Hygiene for Special Education Classes, The Feminine Hygiene Kit, Personal Products Co.</td>
<td></td>
</tr>
<tr>
<td>To be able to complete simple forms.</td>
<td>View films <em>Showdown at Sweet-Rock Gulch</em> and <em>Merlin's Magical Message</em> followed by teacher directed discussion.</td>
<td></td>
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<td></td>
<td>FILMS, Naturally a Girl, Kimberly-Clark</td>
<td></td>
</tr>
<tr>
<td>To be able to recognize and count money.</td>
<td>Class discussion of the purpose of make-up, to include the appropriate and inappropriate use of make-up.</td>
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<td>Teacher Made Pictures, FILMSTRIPS &amp; CASSETTES, Self-Care Female-Hand and Foot Care, Interpretive Education</td>
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</tr>
<tr>
<td>To be able to tell time.</td>
<td>View make-up slides, followed by discussion and teacher made quiz.</td>
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<td></td>
<td>TEXT, Personal Development</td>
<td></td>
</tr>
<tr>
<td>To acquaint students with job responsibilities and the importance of being on time.</td>
<td>Teacher to read &quot;Make-up and Special Creams or Lotions&quot; followed by class discussion.</td>
<td></td>
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<td></td>
<td>Magazine pictures of the pedicure.</td>
<td></td>
</tr>
</tbody>
</table>

**SUPPLIES**

- Practice Hairstyles, Keystone Pub. Company
- Guest Speakers
- KITS, "Growing Up and Liking It"
- Recorded Lessons in Feminine Hygiene for Special Education Classes, The Feminine Hygiene Kit, Personal Products Co.
- FILMS, Naturally a Girl, Kimberly-Clark
- Teacher Made Pictures, FILMSTRIPS & CASSETTES, Self-Care Female-Hand and Foot Care, Interpretive Education
- TEXT, Personal Development
- Magazine pictures of the pedicure.
- Teacher made laminated paper nails
**LEARNING GOALS**

- Practiced washing their face and hands.
- Have students identify appropriate and inappropriate make-up for different occasions in magazines.
- Use Bonnie Bell Book for students to practice coloring in make-up with chalk and crayons.
- Have students evaluate how make-up looks on each other.
- Read, discuss and complete "Taking Care of Your Ears", page 28 in Plans for Living with teacher supervision and direction.
- Class discussion of the importance of proper ear care to include the ill effects of cotton swabs or sharp objects in the ears.
- Demonstrate the proper procedure for cleansing ears.
- Students to practice cleaning their own ears with close teacher supervision.
- Demonstrate the appropriate care of pierced ears.
- Students with pierced ears to practice care with close teacher supervision.
- View filmstrips and listen to cassettes on hair care followed by teacher directed discussion.

**LEARNING ACTIVITIES**

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**TOOLS, EQUIPMENT**

- Weekly
- Bi-weekly
- Annual
- Cooperate
- Temper
- Share
- Popular
- Patience
- Stealing
- Arguing
- Problem
- Solve
- Instructions
- Personality
- Application
- Middle name
- County
- Country
- City
- State
- Single
- Zip code
- Married
- Social Security No.
- Male
- Divorced
- Female
- Widowed
- Mother's name
- Father's name
- Schools attended
- Subjects studied
- U.S. citizen
- Dependents
- References
- Employee
- Employer

**NEW TERMINOLOGY**

- Math

**TEXT, WORKBOOKS**

- FILMS
  - The Beauty of You, Avon
  - And Everything Nice, State of Missouri
  - Cardboard and flannel foods, Balanced Meals, Instructor

- TEXTS
  - Hanging Places with Your Personality, Fearon Publishing Co.

- MAGAZINES
  - McCall's
  - Ladies' Home Journal
  - Articles of clothing

- OTHER MATERIALS
  - Laminate paper dolls and clothing
  - Teacher made materials
  - FILMS
    - Clothing Communicates,
### COURSE: Personal Grooming

### OCCUPATION: Preparation For Employment

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<th>LEARNING GOALS</th>
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<th>TOOLS, EQUIPMENT</th>
<th>NEW TERMINOLOGY</th>
<th>MATH</th>
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<td></td>
<td>Read, discuss and complete &quot;Taking Care of Your Hair&quot;, page 24, in Plans for Living with close teacher direction and supervision.</td>
<td></td>
<td>Previous Employment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Identify each student's hair and scalp type.</td>
<td></td>
<td>Penny</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assign the proper shampoos and conditioners for each type.</td>
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<td>Nickel</td>
<td></td>
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<tr>
<td></td>
<td>Assist each student in determining how frequently to shampoo.</td>
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<td>Dime</td>
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<td></td>
<td>View films followed by teacher directed discussion.</td>
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<td>Quarter</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teacher to read and discuss &quot;Care of the Hair&quot;, Personal Care.</td>
<td></td>
<td>Half dollar</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Demonstrate the proper procedure for shampooing one's own hair with step-by-step directions.</td>
<td></td>
<td>Silver dollar</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Have students practice combing tangles out of their hair prior to shampooing.</td>
<td></td>
<td>One dollar bill</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Demonstrate the appropriate method of washing one's comb and brush prior to shampooing.</td>
<td></td>
<td>Two dollar bill</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Have students wash their own comb and brush.</td>
<td></td>
<td>Five dollar bill</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Have students practice in groups of five shampooing their own hair again with step-by-step instructions.</td>
<td></td>
<td>Ten dollar bill</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Demonstrate the proper procedure for parting the hair.</td>
<td></td>
<td>1 cent</td>
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<td></td>
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<td></td>
<td>5 cents</td>
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<td>10 cents</td>
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<td>25 cents</td>
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<td>50 cents</td>
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<td>$10.00</td>
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<td></td>
<td></td>
<td>Counting money and change.</td>
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<td>Shifts</td>
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<td>Check-in-time</td>
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<td>Work station</td>
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<td>Daily time</td>
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<td>Schedule</td>
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<td>Quitting time</td>
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<table>
<thead>
<tr>
<th>OTHER MATERIALS</th>
<th>TEXT, WORKBOOKS</th>
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<tbody>
<tr>
<td>Modern Talking Pictures</td>
<td>FILMSTRIPS &amp; CASSETTES</td>
</tr>
<tr>
<td>Clothes and Your Line and Proportion, State of Missouri</td>
<td>Self-Care Series, Wardrobe, Interpretive Education</td>
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<tr>
<td>Field Trips</td>
<td>Fashion Formulas, RMI Education Films</td>
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<tr>
<td>Caldor's Pickwick Village Shoetown Econowash</td>
<td>Teacher Made Grooming Chart</td>
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<tr>
<td>Texts</td>
<td>Films</td>
</tr>
<tr>
<td>Going Places with Your Personality Fearon Pub.</td>
<td>Your Job-Good Work Habits, University of Missouri</td>
</tr>
<tr>
<td>Workbooks</td>
<td>Workbooks</td>
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</table>
COURSE: Personal Grooming

OCCUPATION: Preparation For Employment

<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>hair.</td>
<td>Have students part their own hair.</td>
</tr>
<tr>
<td></td>
<td>Demonstrate the use of the blow dryer.</td>
</tr>
<tr>
<td></td>
<td>Have selected students practice using the blow dryer under close teacher supervision.</td>
</tr>
<tr>
<td></td>
<td>Demonstration and class lecture by a professional beautician emphasizing the importance of the hair cut and the appropriate style for the individual.</td>
</tr>
<tr>
<td></td>
<td>Using magazines, pictures and styling books assist students in choosing a becoming hair cut and style which they can manage themselves.</td>
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<tr>
<td></td>
<td>Teachers to provide the opportunity for the hair cut to be given.</td>
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<tr>
<td></td>
<td>Practice on hair care procedures to continue throughout course.</td>
</tr>
<tr>
<td></td>
<td>Class discussion of the causes of body odor and the parts of the body, most likely to produce odor.</td>
</tr>
<tr>
<td></td>
<td>Display and discuss different types and brands of deodorants and anti-perspirants.</td>
</tr>
<tr>
<td></td>
<td>Teacher directed reading and discussion of deodorants using the Personal Care Kit, Deodorants.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOOLS, EQUIPMENT SUPPLIES</th>
<th>NEW TERMINOLOGY MATH</th>
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</thead>
<tbody>
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</table>

<table>
<thead>
<tr>
<th>TEXT, WORKBOOKS OTHER MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money Makes Sense, Fearon Publishing Co.</td>
</tr>
<tr>
<td>Time and Telling Time, Fearon Publishing Co.</td>
</tr>
<tr>
<td>FILMSTRIPS &amp; CASSETTES</td>
</tr>
<tr>
<td>Money, Interpretive Edu.</td>
</tr>
<tr>
<td>Time, Interpretive Edu.</td>
</tr>
<tr>
<td>Coin Puzzles</td>
</tr>
<tr>
<td>Money Game</td>
</tr>
<tr>
<td>Coins and Bills, Developmental Learning Materials</td>
</tr>
<tr>
<td>LEARNING GOALS</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>... Students to be assisted in choosing the proper deodorant for themselves. Teachers will encourage the use of a roll-on. ... With teacher instruction and close supervision, students will apply deodorant following their showers. ... Students to view &quot;Naturally a Girl&quot;, followed by class discussion. ... Teacher edited &quot;Growing Up and Liking It&quot; from the Procter and Gamble kit to be read to class. ... Display and discuss various products available for use during menstruation. ... Class discussion of why odor is caused by infrequent changes. ... Discuss and demonstrate proper methods for disposing of soiled sanitary napkins. ... Discuss the increased odor caused by underarm hair. ... View pictures showing models with and without hair on legs and underarms. ... Class discussion of the models with better appearance. ... Demonstrate removal of hair from underarms and legs using an electric razor. ... Students to practice in groups of five with close teacher supervision.</td>
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<tr>
<td>LEARNING GOALS</td>
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<tr>
<td>LEARNING GOALS</td>
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<tr>
<td>... Read, discuss and complete exercises “Helping Your Body to Grow”, page 9 in Plans for Living with teacher direction and supervision.</td>
</tr>
<tr>
<td>LEARNING GOALS</td>
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<tr>
<td>----------------</td>
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<tr>
<td>... With teacher direction and participation students exercise.</td>
</tr>
<tr>
<td>... Students to check posture in mirrors to evaluate &quot;standing tall&quot;.</td>
</tr>
<tr>
<td>... View filmstrips and listen to cassettes followed by teacher directed discussion.</td>
</tr>
<tr>
<td>... Show articles of clothing and ask students where each might be worn and why.</td>
</tr>
<tr>
<td>... View films followed by teacher directed discussion of patterns.</td>
</tr>
<tr>
<td>... Each student to prepare a shopping list of needed clothing items if they were going to work.</td>
</tr>
</tbody>
</table>
### Learning Goals

- Use Sears Catalogue to have students choose appropriate items.
- Field trip to Pickwick Village, Caldors and Shoe-town to practice the selection of clothing.
- Class discussion of fact that all clothing has a care label.
- Display various articles of clothing in which students must find care labels.
- Help students learn to read and understand care labels.
- Display items that have not been cared for properly and discuss the consequences.
- Field trip to Econowash to learn to use washers, dryers and cleaning machines.
- Demonstrate hand washing.
- Have class practice washing small items by-hand.
- Demonstrate the use of home washer and dryer in classroom.
- Have class practice using the home washer and dryer.
- Display examples of clothing with the most common type of soil e.g. spots, ring-around-the-collar.
- With teacher direction have students identify the soil and clean the clothing appropriately.

### Learning Activities

<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING ACTIVITIES</th>
</tr>
</thead>
</table>
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| ... Class discussion of fact that all clothing has a care label. | ...
| ... Display various articles of clothing in which students must find care labels. | ...
| ... Help students learn to read and understand care labels. | ...
| ... Display items that have not been cared for properly and discuss the consequences. | ...
| ... Field trip to Econowash to learn to use washers, dryers and cleaning machines. | ...
| ... Demonstrate hand washing. | ...
| ... Have class practice washing small items by-hand. | ...
| ... Demonstrate the use of home washer and dryer in classroom. | ...
| ... Have class practice using the home washer and dryer. | ...
| ... Display examples of clothing with the most common type of soil e.g. spots, ring-around-the-collar. | ...
| ... With teacher direction have students identify the soil and clean the clothing appropriately. | ...
**LEARNING GOALS**

- Identify students wearing soiled clothing have them change into their extra set of clothing and have them wash, dry and fold or hang up the clothing they were wearing.
- Class discussion of clothing which must be laundered after each use.
- Demonstrate threading a needle using a needle threader.
- Students to practice threading a needle with teacher supervision.
- Demonstrate sewing on a button, repairing a hem and repairing a seam.
- Students to practice these procedures on items of clothing in need of repair which they have brought from home.
- Have class practice reading labels on various grooming products.
- Compare examples of expensive products to inexpensive products.
- Teachers to assist each student in determining which grooming product they can afford.
- Students will review, with teacher, their teacher made grooming charts, daily, throughout the course.

**TOOLS, EQUIPMENT**

**TEXT, WORKBOOKS**
**Learning Goals**

- Students will sign up to do their daily, weekly and bi-weekly tasks where needed, each day, with teacher assistance.
- View and discuss film, Your Job—Good Work Habits.
- Read, discuss and complete "Getting Along With Others", "Getting and Giving Help" and "Getting and Giving Instructions", page 13-38, in Going Places with Your Personality, under close teacher supervision and direction.
- Teachers to role play inappropriate work habits to develop student understanding.
- Students to take a pre-test to determine what information they can already fill in on an application.
- Students will be placed at their own level in filling out applications and will proceed at their own pace in learning how to fill in information.
- When all aspects of the application are mastered students will complete a post-test.
- Teacher to work with selected group of students in identifying coins.

**Tools, Equipment Supplies**

<table>
<thead>
<tr>
<th>LEARNING ACTIVITIES</th>
<th>TOOLS, EQUIPMENT SUPPLIES</th>
<th>NEW TERMINOLOGY MATH</th>
<th>TEXT, WORKBOOKS OTHER MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>... ... ... ... ... ...</td>
<td>... ... ... ... ... ...</td>
<td>... ... ... ... ... ...</td>
<td>... ... ... ... ... ...</td>
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</tbody>
</table>

**Notes:**

- 346
### LEARNING GOALS

- View filmstrip and listen to cassette on money followed by teacher directed discussion.
- Selected students to practice purchasing grooming products with close teacher supervision.
- Assign selected students Money, Makes Sense books for additional practice in identifying coins.
- View filmstrip and listen to cassette on time followed by teacher directed discussion.
- Teacher to work with selected group of students who are unable to tell time.
- Read, discuss and complete "The Parts of the Clock", "Telling the Hour", "Measuring Time", "After the Hour", "Before the Hour", "Half Hours", and "AM and PM Make a Day" in Time and Telling Time with close teacher supervision.
- Read, discuss and complete "Being on Time", page 3 and "Getting Things Done", page 39 in Going Places with Your Personality with close teacher supervision and direction.

### LEARNING ACTIVITIES

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- Read, discuss and complete "Being on Time", page 3 and "Getting Things Done", page 39 in Going Places with Your Personality with close teacher supervision and direction.
SCREENING REPORT

Student ______________________ District __________ School __________

(Last Name) (First) __________ ________ __________________________

Address ________________________________ __________________________

Date of Birth __________ Sex _______ Telephone No. __________________

I.Q. _______ Date & Test ___________________________ Attendance __________

Number of days out __________________________

Present Grade __________ Counselor __________

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

TYPE OF CLASS REQUESTED (Please indicate FIRST, SECOND or THIRD choice.)

1. AGRICULTURE OCCUPATIONS ______ 6. HEALTH SERVICE OCCUPATIONS ______

2. BUILDING TRADES ______ 7. AUTO TRADES ______

3. PERSONAL GROOMING (Selected) ______ 8. COSMETOLOGY ______

4. FOOD TRADES ______ 9. METAL TRADES ______

5. PERSONAL SERVICES (Selected) ______ 10. BUILDING MAINTENANCE OCCS. ______

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

Family Name __________________________ Address __________________________

Father __________________________ Mother __________________________

Siblings __________________________

Guardian __________________________

Person to notify in lieu of parents __________________________ Phone No. ______

Family Physician __________________________ Phone No. ______

Parental attitude regarding BOCES and the Readiness Center __________________________

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

Was referral discussed? ______ Response __________________________

(Continued on Reverse Side) 351
CONFIDENTIAL INFORMATION

Pattern of academic development:

Strengths

Weaknesses

Interests

Behavior - Include situations producing desirable or undesirable behavior.

Reading: __________________________

Actual Reading Level

Limited English Proficiency

Yes ☐ No ☐

Math: __________________________

Actual Arithmetic Level

Major Language Spoken

ADDITIONAL INFORMATION NEEDED FOR PLACEMENT:

Prior attendance in Special Education (if applicable)

BOCES Date DISTRICT

COMMITTEE ON THE HANDICAPPED Date DISTRICT

VOCATIONAL/EVALUATION CENTER Date DISTRICT

ATTENTION:

1. All above requested information must be completed in full.
2. Additional information, such as teacher comments, recent psychological reports and transcripts should be included with the screening report.
3. Copy of student's most recent IEP.
MEDICAL FORM

STUDENT'S NAME __________________________

Is this student receiving medication? ______ Name of Medication ______
Dosage: ______ How much? ______ How often? ______

Has the student had any of the following illnesses?

Heart Disease ______ Diabetes ______
Asthma & Hay Fever ______ Epilepsy ______
Back Ailments ______ Grand Mal ______
Rheumatic Fever ______ Petit Mal ______

Please list allergies (insect stings, drugs, foods):

Is this student to wear glasses? (Please check one.)

Not at all ______ All the time ______ Reading only ______

Does this student have any hearing loss? __________________________

Any ear defects? __________________________ Heart defects? __________________________

Any skin disorders (diseases)? __________________________

PLEASE NOTE ANY PHYSICAL LIMITATIONS YOU ARE AWARE OF WHICH
WILL HELP US TO WORK MORE EFFECTIVELY WITH THIS STUDENT.

School Nurse Signature __________________________

School District __________________________
# Student Evaluation

**Name:** [Name]
**Home School:** [School]
**Date:** [Date]

**Teachers:** [Teachers]
**Course:** [Course]
**Quarter:** [Quarter]
**Days Absent:** [Days Absent]

## Marking System

- **E** - Excellent
- **G** - Good
- **S** - Satisfactory
- **I** - Improving
- **U** - Unsatisfactory

### Personal Development

<table>
<thead>
<tr>
<th>Item</th>
<th>E</th>
<th>G</th>
<th>S</th>
<th>I</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takes part in group activities</td>
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<td>Respects property of others</td>
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<tr>
<td>Is cooperative</td>
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<td>Works well alone</td>
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<td>Shows self-confidence</td>
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<td>Shows initiative</td>
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<td>Accepts responsibility</td>
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<td>Follows direction</td>
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<td>Makes decisions</td>
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<td>Seeks help</td>
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<td>Accepts correction</td>
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<tr>
<td>Handles minor disappointments</td>
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<tr>
<td>Is courteous and considerate</td>
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<tr>
<td>Practices good health habits</td>
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</tbody>
</table>

### Laboratory/Shop Performance

<table>
<thead>
<tr>
<th>Item</th>
<th>E</th>
<th>G</th>
<th>S</th>
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<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Works with sustained attention</td>
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<tr>
<td>Works without supervision</td>
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<td>Works accurately</td>
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<td>Uses good judgement</td>
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<td>Performs safely</td>
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<td>Participates in group</td>
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<tr>
<td>Has dexterity and coordination</td>
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<tr>
<td>Uses equipment appropriately</td>
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<tr>
<td>Dresses appropriately for shop</td>
<td></td>
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<tr>
<td>Has self-control</td>
<td></td>
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<tr>
<td>Works neatly</td>
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</table>

### Related Academics

<table>
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<tr>
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<tbody>
<tr>
<td>Works with sustained attention</td>
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<tr>
<td>Works without supervision</td>
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<td></td>
</tr>
<tr>
<td>Is equipped for class work</td>
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<tr>
<td>Participates in class</td>
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<tr>
<td>Completes assignments</td>
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<tr>
<td>Uses occupational math</td>
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<tr>
<td>Uses occupational vocabulary</td>
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<tr>
<td>Understands occupational information</td>
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### Laboratory/Shop Grade

- **Laboratory/Shop Grade:** [Grade]
- **Class Grade:** [Grade]
- **Average:** [Average]

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**Parent:**

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**Note:** This student seems to have [much, some, little] potential in this occupational area and [should, should not] consider it for further training.

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