The compendium is an annotated bibliography of materials containing instructional objectives and of objectives-based materials collected from institutions, school systems, state departments of education, and commercial producers of educational materials. Organization of listings is by topic, grade range, and alphabetical order. A listing of macro-collections, compilations which contain objectives in a number of different areas and many objectives per area, is followed by a listing of micro-collections, which contain objectives in at least three different areas. Other sections list materials containing educational objectives for specific curriculum areas: early childhood, creative arts, language, mathematics, reading, science, social studies, and vocational-technical education. Final sections list sources (bibliographies and reports) containing objectives or references concerning objectives, materials dealing with development and use of objectives, and teacher training materials which consist of or contain instructional objectives. Information given for each entry includes title, grade range, publisher, price, brief description of material, and a list of topics covered in the material. (KW)
INSTRUCTIONAL OBJECTIVES:
A NATIONAL COMPENDIUM
INSTRUCTIONAL OBJECTIVES:
A NATIONAL COMPENDIUM

PREPARED BY
G. MICHAEL KUHN AND LORRAINE R. GAY
STATE UNIVERSITY SYSTEM OF FLORIDA
DIVISION OF ACADEMIC AFFAIRS
TALLAHASSEE, FLORIDA

STATE OF FLORIDA
Department of Education
Floyd T. Christian, Commissioner
Tallahassee, Florida
May, 1972
This document was prepared under the Florida Educational Research and Development Program. The Research and Development Program is administered by the Division of Elementary and Secondary Education, Florida Department of Education, Tallahassee, Florida.
The utilization of instructional objectives is rapidly becoming as common an educational practice as taking attendance. The accountability movement has amplified the need for precise statements of expected student behaviors and the development of techniques for assessing the presence or absence of these behaviors. In response to these needs, educators at all levels are increasingly basing their instruction on pre-specified instructional objectives. Commercial producers have responded to the resulting educational market demands by developing objectives-based instructional materials. The combined efforts of education and industry have yielded a plethora of carefully stated objectives in a wide variety of instructional areas.

A major thrust in Florida is increased accountability for educational programs. The new state strategy includes the clarifying of goals and objectives, and the analysis and evaluation of educational programs. Florida's Educational Research and Development Program is currently funding projects to develop assessment instruments in a number of curriculum areas. The products from these projects will be used in state assessment, independent program assessment, and classroom instruction. The Board of Governors for the Educational Research and Development Program has recommended, however, that pupil assessment instruments be developed only when other suitable instruments and techniques cannot be obtained more economically.

Primarily in response to Florida's need, but also in recognition that similar situations exist in other states, the Florida Board of Regents, under the auspices of the Florida Educational Research and Development Program, conducted a nationwide survey. Primarily through the use of questionnaires and letters, sent to a wide variety of persons and institutions, information was collected on a myriad of instructional objectives and objectives-based materials.

This document presents the findings of the survey as of May, 1972. It is anticipated that the summary will serve as a reference source for educators contemplating development or implementation of objectives-based education. It is also hoped that other developers, who were not identified for contact, will be prompted to contribute information on their endeavors so that a more comprehensive document may be compiled at a later date.

The authors wish to express sincere appreciation to the Florida Department of Education personnel who provided considerable assistance in the development of this document, especially Mr. John Healy - Coordinator for Assessment, Educational Research and Development Program, Mr. Philip Doughty - Acting Coordinator for Independent Program Assessment, and Dr. Fred W. Vorce - Music Consultant. Appreciation is also due Thelma Varner for her invaluable assistance in the production of the Compendium. Special gratitude is extended to all contributors who took the time and energy to share their efforts.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOREWORD</td>
<td>i</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>iii</td>
</tr>
<tr>
<td>MACRO-COLLECTIONS</td>
<td>3</td>
</tr>
<tr>
<td>MICRO-COLLECTIONS</td>
<td>33</td>
</tr>
<tr>
<td>EARLY CHILDHOOD</td>
<td>49</td>
</tr>
<tr>
<td>THE CREATIVE ARTS</td>
<td>53</td>
</tr>
<tr>
<td>Art</td>
<td>53</td>
</tr>
<tr>
<td>Music</td>
<td>53</td>
</tr>
<tr>
<td>LANGUAGE</td>
<td>61</td>
</tr>
<tr>
<td>English</td>
<td>61</td>
</tr>
<tr>
<td>French</td>
<td>65</td>
</tr>
<tr>
<td>MATHEMATICS</td>
<td>67</td>
</tr>
<tr>
<td>READING</td>
<td>85</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>101</td>
</tr>
<tr>
<td>SOCIAL STUDIES</td>
<td>111</td>
</tr>
<tr>
<td>VOCATIONAL-TECHNICAL EDUCATION</td>
<td>113</td>
</tr>
<tr>
<td>SOURCES OF SOURCES</td>
<td>123</td>
</tr>
<tr>
<td>UTILIZATION OF OBJECTIVES</td>
<td>127</td>
</tr>
<tr>
<td>TEACHER EDUCATION</td>
<td>131</td>
</tr>
<tr>
<td>Counseling</td>
<td>131</td>
</tr>
<tr>
<td>Curriculum Areas</td>
<td>131</td>
</tr>
<tr>
<td>Educational Psychology</td>
<td>131</td>
</tr>
<tr>
<td>Elementary Education</td>
<td>133</td>
</tr>
<tr>
<td>Evaluation and Research</td>
<td>133</td>
</tr>
<tr>
<td>Generic Skills</td>
<td>135</td>
</tr>
<tr>
<td>Interning</td>
<td>145</td>
</tr>
<tr>
<td>Media</td>
<td>147</td>
</tr>
<tr>
<td>Reading</td>
<td>147</td>
</tr>
<tr>
<td>Secondary Education</td>
<td>147</td>
</tr>
<tr>
<td>Vocational Education</td>
<td>149</td>
</tr>
</tbody>
</table>
INTRODUCTION

The critical step in conducting this survey was the identification of sources of instructional objectives. Within the state of Florida the task was somewhat simplified in that key sources were readily identifiable; the task was somewhat more difficult outside the State. It was determined that the most logical initial contacts would be with the state directors of curriculum, instruction, and evaluation. It was correctly assumed that they would supply information on at least the most outstanding efforts in their states. The next major step was the identification of public school systems, universities, regional educational research and development laboratories, and national organizations either known to be involved in the development of instructional objectives, known to be engaged in related activities, or potentially involved in such endeavors because of their size or progressive philosophy. Lastly, an intensive effort was made to identify and contact all major commercial producers of educational materials.

The response to our request for information and materials was gratifyingly high. The response rates for the categories of institutions contacted ranged from 62% to 94%; nearly every state department of education sent information on state efforts. Several comprehensive collections of objectives were identified and obtained, as well as a large number of subject-matter-specific compilations. In addition, documents were received which either dealt with the utilization of objectives or described sources of information on objectives. Lastly, teacher education materials were obtained, most of which contained objectives embedded in a modular format.

The Compendium is organized by topic, grade range and alphabetical order. Collections have been divided into MACRO-COLLECTIONS and MICRO-COLLECTIONS. MACRO-COLLECTIONS contains descriptions of compilations (arranged alphabetically) which contain objectives in a number of different areas and which contain many objectives per area. MICRO-COLLECTIONS contains descriptions of collections which contain objectives in at least three different areas. These are arranged alphabetically within intended grade range. Descriptions of objectives in the curriculum areas, e.g. MATHEMATICS, are also arranged alphabetically within grade range, with the exception of VOCATIONAL-TECHNICAL EDUCATION; descriptions in this category are ordered alphabetically by vocational area. SOURCES OF SOURCES contains descriptions of bibliographies and reports which contain either objectives or references concerning objectives; these are arranged alphabetically by title. UTILIZATION OF OBJECTIVES contains descriptions of materials which deal with the development and utilization of instructional objectives; these are also arranged alphabetically by title. Finally, the TEACHER EDUCATION section contains annotations of available teacher training materials which consist of, or contain, instructional objectives. These are arranged alphabetically, by topic, and by title within topic. SOURCES OF SOURCES, UTILIZATION OF OBJECTIVES, and TEACHER EDUCATION were not originally intended to be sections in the Compendium. However the number
of unsolicited entries received warranted their inclusion. Consequently, in contrast to other sections of the Compendium, these three sections are in no way to be considered comprehensive.

Descriptions of materials are presented in the words of the developer whenever possible. Annotations include the title of the materials, the intended grade range (K = kindergarten, P = primary, I = intermediate, JH = junior high, SH = senior high, A = adult, or post-secondary), name and location of the publisher, and the price of the materials when known. Since it would be impossible to relate all important aspects of each reported effort, this summary presents a brief description of the materials and a listing of the topics included. Using this approach, interested persons may examine the annotations in the area or areas of their choice and identify sources of objectives relevant to their needs.

To enhance the usability of this document, the name and address of the contact person for each entry in the Compendium are presented on the page opposite the page on which the entry originates. Although many more persons were contacted, they either did not respond, did not have materials to contribute, had materials which are not yet available, or responded after the Compendium had been compiled. Late arrivals will be integrated into a revised version at a later date.

Additional copies of this document are available upon request.
INSTRUCTIONAL OBJECTIVES:
A NATIONAL COMPENDIUM
SOURCE REFERENCE

1. Edina Public Schools
   4660 West 77th Street
   Edina, Minnesota 55435
MACRO-COLLECTIONS

1. Curriculum Objectives and Materials (K-SH) - Edina Public Schools, Edina, Minnesota

Description: A series of documents (guides, units, topic outlines, course outlines, scope and sequence, objectives, learning packets, and teaching packets) developed in a wide variety of curriculum areas. Books of objectives also include sample items, test items, answer keys, and resources keyed to specific objectives. Learning packets contain terminal objectives and specific objectives.

Topics Included:

<table>
<thead>
<tr>
<th>Elementary</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Art (I)</td>
<td>.................................................. $5.00</td>
</tr>
<tr>
<td>*Kindergarten Performance Objectives (K)</td>
<td>5.50</td>
</tr>
<tr>
<td>Literature</td>
<td>3.00</td>
</tr>
<tr>
<td>*Mathematics Performance Objectives (K-I)</td>
<td>35.00</td>
</tr>
<tr>
<td>Music (I)</td>
<td>4.00</td>
</tr>
<tr>
<td>Physical Education (P)</td>
<td>4.00</td>
</tr>
<tr>
<td>Physical Education (Scope &amp; Sequence)</td>
<td>2.00</td>
</tr>
<tr>
<td>*Reading Performance Objectives (P)</td>
<td>15.00</td>
</tr>
<tr>
<td>*Reading Performance Objectives (I)</td>
<td>21.00</td>
</tr>
<tr>
<td>Science Units (I)</td>
<td></td>
</tr>
<tr>
<td>Forces which Govern Universal Bodies</td>
<td>3.00</td>
</tr>
<tr>
<td>Chemistry</td>
<td>2.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language Arts</td>
</tr>
<tr>
<td>Composition-Outline (JH)</td>
</tr>
<tr>
<td>Composition at the Typewriter (JH)</td>
</tr>
<tr>
<td>Creative Dramatics (JH)</td>
</tr>
<tr>
<td>Creative Writing (JH)</td>
</tr>
<tr>
<td>*Exploring in Multi-Dimension (Learning Packet)</td>
</tr>
<tr>
<td>Expository Writing (JH)</td>
</tr>
<tr>
<td>History of Language (JH)</td>
</tr>
<tr>
<td>Humor - Teaching Packet (JH)</td>
</tr>
<tr>
<td>Introduction to Language-Unit (JH)</td>
</tr>
<tr>
<td>Introduction to Poetry-Unit (JH)</td>
</tr>
<tr>
<td>Literature-Outline (JH)</td>
</tr>
<tr>
<td>Man Future-Unit (JH)</td>
</tr>
<tr>
<td>Modern Grammar-Unit (JH)</td>
</tr>
<tr>
<td>*Nouns-Learning Packet.</td>
</tr>
<tr>
<td>Language Arts Semester Outline (SH)</td>
</tr>
<tr>
<td>Humanities (SH)</td>
</tr>
</tbody>
</table>

*Definitely includes objectives (materials not so marked may or may not contain specific objectives).
### Foreign Languages
- French I & II: 6.00
- German I & II: 6.00
- Latin III: 3.00

### Social Studies
- *April Morning - Learning Packet (JH): 3.00
- *The Light in the Forest - Teaching Packet (JH): 3.00
- Conflict in Culture (JH): 3.00
- The Colonial Period (JH): 3.00
- The Constitution (JH): 3.00
- The American Revolution (JH): 3.00
- Minorities (JH): 3.00
- American Government (JH): 3.00
- Industrialization: Movement Toward a Mass Society (SH): 1.00
- Political-Diplomatic History: 1.00
- United States Diplomacy: From Isolation to Involvement (SH): 1.00
- United States History Unit: Protest & Reform in America (SH): 1.00
- World History Unit: Latin America (SH): 1.00
- World History Unit: Sub Sahara with Supplement (SH): 2.00
- *Asian Studies (SH): 3.00

### Mathematics
- Consumer Mathematics (SH): 1.00
- Computer Programming (SH): 5.00
- Introductory Algebra I & II (JH-SH): 4.00
- *Mathematics Performance Objectives & Learning Activity Units (SH): 15.00
- Modern Geometry (SH): 3.00
- Refresher Mathematics: 1.00

### Home Economics
- Clothing Construction Sequence (JH): 1.00
- Foods & Nutrition (JH): 1.00
- Foods & Nutrition (SH): 1.00
- General Clothing & Related Units (SH): 2.00
- Intermediate Clothing (SH): 1.50

### Science
- Junior High Science (JH): 4.00
- Physics Manual (SH): 3.00

### Reading
- Developmental Reading (JH): 3.00
- *Elements of Verbal Development - Objectives-Based Units (JH-SH): 3.00
SOURCE REFERENCE

2. Institute for Educational Research
   1400 West Maple Avenue
   Downers Grove, Illinois 60515
Other
Bay's Physical Education .......................... 4.00
Introductory Unit for Multi-Disciplinary
Team Teaching (JH) ................................. 1.00
Modern Art ........................................... 1.00
Music Appreciation (JH) ......................... 1.00
Business Systems .................................. 1.00
Environment Study-Ecology-Based Science
Outline .................................................. 2.00
Man's Future (Science Fiction) - Language
Arts (JH) ............................................... 2.00
Critical Thinking - A Teaching Packet -
Language Arts (JH) .................................. 3.00

2. Evaluation for Individualized Instruction (K-SH) - Institute for Educational Research, Downers Grove, Illinois ($110.00/complete set)

Description: An objective-item bank covering sixteen sectors of four subject areas in each of four grade ranges. Nearly 5,000 behavioral objectives and over 27,000 test items are included. The bank contains cognitive and affective objectives and items for Language Arts, Mathematics, Social Studies and Science. The package also includes an "Operational Guide for Teacher Workshops" (on behavioral objectives and item writing) and "A Report on the Evaluation Workshop in the Affective Domain" both of which are objectives-based.

Topics Included:

Primary
Grammar & Usage
Phonics
Mechanics
Alphabet
Reference Sources
Vocabulary
Reading Skills
Critical Thinking
Creative Writing Through Literature

Intermediate
Communications
Critical Thinking
Etiquette
Grammar & Usage
Literature
Word Study

LANGUAGE ARTS

Junior High
Communications
Critical Thinking
Etiquette
Grammar
History of Language
How to Study Literature
Mechanics
Use of References
Word Study

Senior High
Literary Periods
Literary Techniques & Devices
Literary Works & Authors
Critical Thinking
Rhetoric
Reference
Grammar
Mechanics
Letters
MATHEMATICS

Primary

Numbers & Numeration
- Counting
- Place Holders & Value
- Order
- Comparison
- Fewest, Most
- Pairs
- Roman
- Properties
- Fractions
- Mathematical Symbols

Addition & Subtraction of Whole Numbers
- Addition
- Subtraction
- Addition & Subtraction

Intermediate

Numbers & Numeration
- Names
- Place Holders & Value
- Expanded Notation
- Rounding
- Number Line
- Inequalities
- Exponential Notation
- Fractions
- Decimals
- Bases
- Roman Numerals
- Primes & Factors

Multiplication & Division
- Whole Number Multiplication
- Whole Number Division
- Whole Number Multiplication & Division
- of Fractions
- Percent

Arithmetic Applications
- Applications of Whole Numbers
- Applications of Fractions

Number Systems
- Finite-Infinite
- Properties
- Rational-Irrational

Measurement
- Length, Area & Volume
- Maps
- Bills & Coins
- Statistics
**Junior High**

<table>
<thead>
<tr>
<th>Definitions &amp; Rules</th>
<th>Functions &amp; Relations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sets</td>
<td>Measurement</td>
</tr>
<tr>
<td>Numbers</td>
<td>Polynomials</td>
</tr>
<tr>
<td>Arithmetic Operations</td>
<td>Exponents</td>
</tr>
<tr>
<td>Modular Arithmetic &amp; Bases</td>
<td>Graphs &amp; Charts</td>
</tr>
<tr>
<td>Fractions, Decimals &amp; Proportions</td>
<td>Sequences</td>
</tr>
<tr>
<td>Word Problems</td>
<td>Angles &amp; Trigonometry</td>
</tr>
<tr>
<td>Simplification &amp; Substitution</td>
<td>Probability, Combinations</td>
</tr>
<tr>
<td>Equations</td>
<td>&amp; Permutations</td>
</tr>
<tr>
<td>Inequalities</td>
<td>Spatial Perceptions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Angles</th>
<th>Polynomials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computers &amp; Data</td>
<td>Primes &amp; Factors</td>
</tr>
<tr>
<td>Processing</td>
<td>Probability, Combinations</td>
</tr>
<tr>
<td>Comics</td>
<td>&amp; Permutations</td>
</tr>
<tr>
<td>Construction</td>
<td>Radicals</td>
</tr>
<tr>
<td>Definitions</td>
<td>Proofs, Logic, Theorems</td>
</tr>
<tr>
<td>Distance Formulas</td>
<td>&amp; Axioms</td>
</tr>
<tr>
<td>Equations</td>
<td>Sequences, Progression</td>
</tr>
<tr>
<td>Exponents</td>
<td>&amp; Series</td>
</tr>
<tr>
<td>Fractions, Decimals &amp; Exponents</td>
<td>Sets</td>
</tr>
<tr>
<td>Functions &amp; Relations</td>
<td>Simplification</td>
</tr>
<tr>
<td>Graphing</td>
<td>Slope-Intercept</td>
</tr>
<tr>
<td>Inequalities</td>
<td>Trigonometry</td>
</tr>
<tr>
<td>Measurement</td>
<td>Vectors</td>
</tr>
<tr>
<td>Numbers</td>
<td>Word Problems</td>
</tr>
<tr>
<td>Points, Lines &amp; Planes</td>
<td></td>
</tr>
</tbody>
</table>

**Senior High**

<table>
<thead>
<tr>
<th>Angles</th>
<th>Polynomials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computers &amp; Data</td>
<td>Primes &amp; Factors</td>
</tr>
<tr>
<td>Processing</td>
<td>Probability, Combinations</td>
</tr>
<tr>
<td>Comics</td>
<td>&amp; Permutations</td>
</tr>
<tr>
<td>Construction</td>
<td>Radicals</td>
</tr>
<tr>
<td>Definitions</td>
<td>Proofs, Logic, Theorems</td>
</tr>
<tr>
<td>Distance Formulas</td>
<td>&amp; Axioms</td>
</tr>
<tr>
<td>Equations</td>
<td>Sequences, Progression</td>
</tr>
<tr>
<td>Exponents</td>
<td>&amp; Series</td>
</tr>
<tr>
<td>Fractions, Decimals &amp; Exponents</td>
<td>Sets</td>
</tr>
<tr>
<td>Functions &amp; Relations</td>
<td>Simplification</td>
</tr>
<tr>
<td>Graphing</td>
<td>Slope-Intercept</td>
</tr>
<tr>
<td>Inequalities</td>
<td>Trigonometry</td>
</tr>
<tr>
<td>Measurement</td>
<td>Vectors</td>
</tr>
<tr>
<td>Numbers</td>
<td>Word Problems</td>
</tr>
<tr>
<td>Points, Lines &amp; Planes</td>
<td></td>
</tr>
</tbody>
</table>

**SOCIAL STUDIES**

**Primary**

- Social Studies Terminology
- Principles of Geography
- Transportation & Communication
- Map Reading
- Living in Communities
- Safety Rules

**Intermediate**

- General Social Sciences
- Procedures & Processes
- Terminology
- Map Reading
- Critical Thinking
- Geography
- General Principles
- Countries

- History
- Early Man
- Ancient Civilizations
- Middle Ages
- American History
### Secondary School

**Introduction**
- Locating the Central Issue
- Distinguishing Fact from Opinion
- Determining Difficulty of Proof
- Distinguishing Between Biased & Non-Biased Sources
- Detecting Bias
- Evaluating Sources of Information
- Evaluating the Potential Validity of Sources
- Recognizing Emotional Words
- Drawing Inferences
- Evaluating the Certainty of Statements
- Determining Relevancy
- Recognizing Stated & Unstated Assumptions
- Distinguishing Between Selected Terms
- Interpreting & Applying the Provisions of a Document
- Selecting Probable Outcomes
- Identifying Factors Leading to Significant Historical Events
- Identifying Selected People, Places, Regions, or Events
- Comparing & Contrasting Our Culture with Others

### SCIENCE

#### Primary
- Digestive System
- Skin & Senses System
- Respiration System
- Characteristics of Animals
- Earth Science
- Circulatory System
- Brain & Nervous System
- Skeletal System
- Plants
- Mechanics & Heat

#### Intermediate
- Characteristics of Body
- Digestive System
- Respiratory System
- Circulatory System
- Nervous System
- Skeletal System
- Reproduction
- Health
- Characteristics of Animals
- Insects
- Characteristics of Plants
- Nature of Matter
- Color
- Earth Science
- Weather
- Machines
- Electricity
- Planets & Space Travel
- Mechanics & Heat
- Light
- Critical Thinking
- Measurement

#### Junior High
- Respiratory System
- Excretory System
- Animal Cells
- Skeletal System
- Oceanography
- Space Travel
- Matter
- Energy
- Measurement
- Critical Thinking
- Circulatory System
- Digestive System
- Nervous System
- Geology
- Laws of Motion
- Weather
- Properties of 4 Gases
- Tools & Techniques
- Drugs
SOURCE REFERENCE

3. Dr. W. James Popham  
   Instructional Objectives Exchange  
   The Center for the Study of Evaluation  
   Box 24095  
   Los Angeles, California 90024
3. Instructional Objective Exchange - IOX (K-12) - University of California, Los Angeles, California ($8.00/topic)

Description: A comprehensive compilation of objectives and criterion-references test items. Many of the topic areas include multiple items per objective. Also available is a user's guide which discusses the selection of objectives, instruction and evaluation.

Topics Included:

Language Arts: Decoding Skills (K-SH)
- Discrimination
- Recognition of Letters by Name
- Pronunciation of Letter Combinations & Words
- Sight Vocabulary
- Recognition, Reproduction of Sounds and Their Association with Letters

Language Arts: Structural Analysis (K-SH)
- Individual Word Forms
- Multiple Word Forms
- Division of the Form
- History of the Form

Language Arts: Comprehension Skills (K-SH)
- Literal Comprehension
- Interpretation
- Vocabulary & Word Meaning
- Comprehension of Non-Written Materials

Language Arts: Composition Skills (K-SH)
- Basic Composition
- Story Writing
- Letters
- Figurative & Descriptive Language
- Poetry Writing
- Paragraph Form & Development
- Expository Paragraph Form
- Paragraph Development

Physical Sciences

Measurement
Charts & Graphs
Energy
Heat
Light
Gases
Structures, Formulas & Bonding
Equations & Equilibrium
Reactions & Rates
Electrochemical Cell

Models & Problem Solving
Mechanics
Atomic Structure
Waves
Electricity & Magnetism
Moles
Solutions & Solubility
Acids & Bases
Oxidation-Reduction
Electrolysis
Qualitative Analysis

Life Sciences
Capillarity
Electron Transport System
Genetics
Organic Compounds
Plant Function & Structure
Reproduction

Diffusion & Osmosis
Enzymes
Microscope
Photosynthesis
Plasmolysis
Problem Solving
Drugs
<table>
<thead>
<tr>
<th>Language Arts: Listening, Oral Expression, &amp; Journalism (K-SH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening</td>
</tr>
<tr>
<td>Affective Listening  Comprehension &amp; Interpretation</td>
</tr>
<tr>
<td>Analytical Listening</td>
</tr>
<tr>
<td>Oral Expression</td>
</tr>
<tr>
<td>Speech</td>
</tr>
<tr>
<td>Oral Presentation</td>
</tr>
<tr>
<td>Journalism</td>
</tr>
<tr>
<td>Journalistic Techniques</td>
</tr>
<tr>
<td>Journalistic Forms</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Language Arts: Mechanics &amp; Usage (K-SH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanics</td>
</tr>
<tr>
<td>Capitalization</td>
</tr>
<tr>
<td>Punctuation</td>
</tr>
<tr>
<td>Integrated Practice</td>
</tr>
<tr>
<td>Usage</td>
</tr>
<tr>
<td>Sentence Sense</td>
</tr>
<tr>
<td>Sentence Precision</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Language Arts: Study &amp; Reference Skills (K-SH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference Skills - Use of Data Sources</td>
</tr>
<tr>
<td>Study Skills</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Language Arts: Traditional Grammar (K-SH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parts of Speech</td>
</tr>
<tr>
<td>Sentence Analysis</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Language Arts: Transformational Grammar (K-SH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentence Components</td>
</tr>
<tr>
<td>Transformations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English Literature (JH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Novel</td>
</tr>
<tr>
<td>Poetry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English Skills (JH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition</td>
</tr>
<tr>
<td>Mechanics &amp; Conventions</td>
</tr>
<tr>
<td>Diction &amp; Tone</td>
</tr>
<tr>
<td>Speech</td>
</tr>
<tr>
<td>Mass Media</td>
</tr>
<tr>
<td>Reference Skills</td>
</tr>
<tr>
<td>Study Skills</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mathematics (I)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sets</td>
</tr>
<tr>
<td>Numbers, Numerals, Numeration Systems</td>
</tr>
<tr>
<td>Operations &amp; Their Properties</td>
</tr>
<tr>
<td>Measurement</td>
</tr>
<tr>
<td>Geometry</td>
</tr>
<tr>
<td>Relations, Functions &amp; Graphs</td>
</tr>
<tr>
<td>Probability &amp; Statistics</td>
</tr>
<tr>
<td>Application--Problem</td>
</tr>
<tr>
<td>Solving</td>
</tr>
<tr>
<td>Mathematical Sentences--Order, Logic</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mathematics (P)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sets</td>
</tr>
<tr>
<td>Numbers, Numerals, Numeration Systems</td>
</tr>
<tr>
<td>Operations &amp; Their Properties</td>
</tr>
<tr>
<td>Measurement</td>
</tr>
<tr>
<td>Geometry</td>
</tr>
<tr>
<td>Relations, Functions &amp; Graphs</td>
</tr>
<tr>
<td>Probability &amp; Statistics</td>
</tr>
<tr>
<td>Application--Problem</td>
</tr>
<tr>
<td>Solving</td>
</tr>
<tr>
<td>Mathematical Sentences--Order, Logic</td>
</tr>
</tbody>
</table>
Mathematics (JH)
Sets
Numbers, Numerals, Numeration Systems
Operations & Their Properties
Measurement
Geometry
Relations, Functions & Graphs
Probability & Statistics
Application--Problem Solving
Mathematical Sentences--Order, Logic

Business Law (SH)
Foundations of Law
Law of Contracts
Law of Property
Law of Negotiable Instruments
Law of Business Relations & Business Organizations

General Business (SH)
Vocabulary
Money & Banking Services
Checking Accounts
Cost of Living & Taxes
Kinds of Business Ownership
Sales
Marketing Functions
Insurance & Pensions
Consumer Services
Communications
Employment Application & Interview
Business Math
Glossary

Home Economics (JH)
Child Development
Clothing & Textiles
Consumer Practices
Design Principles
Health Services
Home Management & Family Economics
Housing
Pregnancy

General Math (SH)
Sets
Numbers, Numerals, Numeration Systems
Operations & Their Properties
Measurement
Geometry
Relations, Functions & Graphs
Probability & Logic
Applications, Problem Solving

Business Education--Bookkeeping (SH)
Ten Bookkeeping Processes
Banking Transactions
Cash Transactions
Payroll Records
Depreciation
Accrual & Deferred Expense
Vocabulary Skills

Business Education--Secretarial Skills (SH)
Typing
Shorthand
Office Machines
Office Practice
Business English & Communication

Home Economics (3H)
Child Development
Clothing & Textiles
Consumer Practices
Foods & Nutrition
Home Management & Family Economics

Health (Nutrition) (P-I)
Daily Food Choices
Nutrients from Food
Food Processing
Consumer Education
Food in Man's Environment
Auto Mechanics (SH)
Automotive Tune-up & Repair

General Metals (JH-SH)
Property of Metals
Operations & Functions
Cutting & Shearing
Filing
Cutting Holes
Grinding
Forming & Bending Metals
Metal Spinning
Threaded Fasteners
Soldering
Riveting
Sheet Metal Seams
Polishing & Buffing
Decorating Metal

Mechanical Drawing (JH-SH)
Basic Drafting Skills
Beginning Lettering
Making the Drawings
Orthographic Projections
Dimensioning
Scale Drawing
Pictorial Drawing
Section Drawing
Auxiliary Views
Productions Notations
Thread Conventions & Symbols
Assembly & Detail Drawings
Reference Symbols

Music (P-I)
Melody
Harmony
Melody & Harmony
Rhythm
Musical Form
Musical Sound
Performance
Band Instruments
Wind Instruments
String Instruments

Spanish (JH-SH)

Electronics (JH-SH)
Fundamentals
Block Diagrams
Direct-Current Circuits
Primary & Secondary Batteries
Magnetism
Electromagnetic Induction
Direct-Current Generators
Direct-Current Motors & Controls
Alternating Current
Single-Phase Circuits
Operations & Maintenance
Glossary

Woodworking (JH-SH)
Tools
Reading a Working Drawing
Stock Billing
Distances & Lines
Clamping Stock
Crosscutting & Ripping Stock
Getting Out Rough Stock
Irregular Surfaces
Planning Stock
Chamfering
Laying-Out Patterns
Boring Holes
Sawing Curves
Making Joints
Fastening Joints
Sanding
Bleaching
Finishing
Hanging Doors
Mounting Locks
Correcting Defects
Gluing Upstock
Removing Finishes

Physical Education (P)
Locomotor Skills
Sensory Motor Skills
Balance
Total Body Skills
Eye-Hand Skills
Eye-Foot Skills
SOURCE REFERENCE

4. Mr. Larry Conaway
   Assistant to the Director
   1860 Lincoln, Suite 300
   Denver, Colorado 80203
American History (JH-SH)
- Historical Figures
- Historical Inferences
- Analysis of Data
- Historical Speeches
- Historical Documents
- British Colonial Acts
- Values & Goals
- Political Philosophies
- Military Conflict
- Political Influence
- Society & Culture
- Supreme Court Cases
- Constitutional Rights
- Legislation
- Territorial Expansion
- Geography
- United Nations
- Testing Hypotheses
- Political Protest

Attitudes Related to Tolerance (SH)
- List of Objectives
- Paper & Pencil Instruments
  (Direct Self-Report)
    General
    Ethnic
- Paper & Pencil Instruments
  (Inferential)
    General
    Ethnic

Sociology (I-JH)
- The Method of Sociology
- Social Organization
- Social Processes & Social Change

Measures of Self Concept (K-SH)
- Objectives by Grade Ranges
- Self-Concept Measures
  Direct Self Report
  Inferential Self Report
  Observational Indicators

Attitude Toward School (K-SH)
- Objectives by Grade Ranges
- Attitude Toward School Measures
  Direct Measures
  Inferential Measures
  Observational Indicators

Judgment: Deductive Logic & Assumption Recognition (JH-SH)
- List of Objectives
- Measures

Anthropology (I)
- Man as a Unique Animal
- Fossil Man & Prehistory
- The Record of Culture
- The Nature of Culture
- Genetics, Evolution & Race

Early Childhood Education
- Achieving in the Arts
- Language Arts
- Math & Arithmetic Skills
- Promoting Physical Growth
- Science
- Satisfying Social & Personal Needs

4. National Assessment of Educational Progress (P-SH) - National Assessment Project, Denver Colorado ($1.00/curriculum area)

Description: Booklets of objectives in a variety of curriculum areas. For each area objectives are listed which are appropriate to ages 9, 13, 17 and young adults. Also available are demonstration packages which indicate items used for assessment at each of the age levels in each of the assessed areas. The objectives and the assessment instruments cover a wide range of difficulty levels.
### Mathematics

<table>
<thead>
<tr>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number &amp; Numeration</td>
</tr>
<tr>
<td>Concepts</td>
</tr>
<tr>
<td>Arithmetic Computation</td>
</tr>
<tr>
<td>Estimation &amp; Measurement</td>
</tr>
<tr>
<td>Algebraic Expressions</td>
</tr>
<tr>
<td>Functions</td>
</tr>
<tr>
<td>Geometry</td>
</tr>
<tr>
<td>Mathematical Proof</td>
</tr>
<tr>
<td>Business &amp; Consumer Math</td>
</tr>
<tr>
<td>Miscellaneous</td>
</tr>
<tr>
<td>Properties of Numbers &amp; Operations</td>
</tr>
<tr>
<td>Sets</td>
</tr>
<tr>
<td>Exponents &amp; Logarithms</td>
</tr>
<tr>
<td>Equations &amp; Inequalities</td>
</tr>
<tr>
<td>Probability &amp; Statistics</td>
</tr>
<tr>
<td>Trigonometry</td>
</tr>
<tr>
<td>Logic</td>
</tr>
<tr>
<td>Attitude &amp; Interest</td>
</tr>
</tbody>
</table>

### Social Studies

- Have Curiosity about Human Affairs
- Use Analytic-Scientific Procedures Effectively
- Are Sensitive to Creative-Intuitive Methods of Explaining the Human Condition
- Have Knowledge Relevant to the Major Ideas & Concerns of Social Scientists
- Have a Reasoned Commitment to the Values that Sustain a Free Society

### Science

- Know Fundamental Facts & Principles of Science
- Possess the Abilities & Skills Needed to Engage in the Processes of Science
- Understand the Investigative Nature of Science
- Have Attitudes about & Appreciations of Scientists, Science, & the Consequences of Science that Stem from Adequate Understandings

### Reading

- Comprehend What is Read
- Analyze What is Read
- Use What is Read
- Reason Logically from What is Read
- Make Judgments Concerning What is Read
- Have Attitudes about & an Interest in Reading

### Writing

- Write to Communicate Adequately in a Social Situation
- Write to Communicate Adequately in a Business or Vocational Situation
- Write to Communicate Adequately in a Scholastic Situation
- Appreciate the Value of Writing

### Literature

- Read Literature of Excellence
- Become Engaged In, Find Meanings In, and Evaluate A Work of Literature
- Develop a Continuing Interest & Participation in Literature and the Literary Experience
Art
Perceive & Respond to Aspects of Art
Value Art as an Important Realm of Human Experience
Produce Works of Art
Know About Art
Make & Justify Judgements about the Aesthetic Merit & Quality of Works of Art

Music
Perform a Piece of Music
Read Standard Musical Notation
Listen to Music with Understanding
Be Knowledgable about some Musical Instruments, Some of the Terminology of Music, Methods of Performance & Forms, Some of the Standard Literature of Music, & Some Aspects of the History of Music
Know about the Musical Resources of the Community & Seek Musical Experiences by Performing Music
Make Judgments about Music, & Value the Personal Worth of Music

Career & Occupational Development
Prepare for Making Career Decisions
Improve Career & Occupational Capabilities
Possess Skills that are Generally Useful in the World of Work
Practice Effective Work Habits
Have Positive Attitudes Toward Work

Citizenship
Show Concern for the Welfare & Dignity of Others
Support Rights & Freedoms of All Individuals
Help Maintain Law & Order
Know the Main Structure & Functions of Our Government
Seek Community Improvement through Active Democratic Participation
Understand Problems of International Relations
Support Rationality in Communication, Thought & Action on Social Problems
Take Responsibility for Own Personal Development & Obligations
Help & Respect Their Own Families
Nurture the Development of Their Children as Future Citizens

Other topics will be available.
SOURCE REFERENCE

5. Mrs. Wanda Perry
PLAN
Westinghouse Learning Corporation
2680 Hanover Street
Palo Alto, California 94304
5. PLAN: Master Objectives (K-SH) - Westinghouse Learning Corporation, Palo Alto, California

Description: A program of individualized education in Reading, Language Arts, Mathematics, Science, and Social Studies which can be adapted to each pupil's needs, abilities, interests and goals. The major components of the program are a set of instructional objectives, a variety of study plans to achieve these objectives, and a computer support system to help plan student learning and monitor student progress. Objectives for the Guidance program are also included.

Topics Included:

<table>
<thead>
<tr>
<th>Language Arts</th>
<th>Primary Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation to PLAN</td>
<td>Mathematics</td>
</tr>
<tr>
<td>Readiness</td>
<td>Numerals</td>
</tr>
<tr>
<td>Language Arts Skills</td>
<td>Place Value to 9999</td>
</tr>
<tr>
<td>Reading Skills</td>
<td>Roman Numerals</td>
</tr>
<tr>
<td>Writing</td>
<td>Addition of 4-digit</td>
</tr>
<tr>
<td>Social Studies</td>
<td>Numbers</td>
</tr>
<tr>
<td>History</td>
<td>Subtraction of 4-digit</td>
</tr>
<tr>
<td>Sociology</td>
<td>Numbers</td>
</tr>
<tr>
<td>Geography</td>
<td>Multiplication Facts</td>
</tr>
<tr>
<td>Economics</td>
<td>Division with 1-digit</td>
</tr>
<tr>
<td>Science</td>
<td>Numbers</td>
</tr>
<tr>
<td>Biology</td>
<td>Addition of Like Fractions</td>
</tr>
<tr>
<td>Psychology</td>
<td>Patterns of Objects</td>
</tr>
<tr>
<td>Physics</td>
<td>Functions of a Graph</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Geometric Figures</td>
</tr>
<tr>
<td>Geology</td>
<td>Value of Coins</td>
</tr>
<tr>
<td>Meteorology</td>
<td>Time to the Minute</td>
</tr>
<tr>
<td>Inquiry Development</td>
<td>Linear Measure to 1/4</td>
</tr>
<tr>
<td>Observing/Perceiving</td>
<td>Inch</td>
</tr>
<tr>
<td>Inquiry Development</td>
<td>Temperature Readings</td>
</tr>
<tr>
<td>Taxonomic/Classifying</td>
<td>Elements of a Set</td>
</tr>
<tr>
<td>Experimenting</td>
<td>Set Notation</td>
</tr>
<tr>
<td></td>
<td>Number Sentences</td>
</tr>
<tr>
<td></td>
<td>Word Problems</td>
</tr>
</tbody>
</table>

Intermediate Objectives

<table>
<thead>
<tr>
<th>Language Arts</th>
<th>Listening</th>
</tr>
</thead>
<tbody>
<tr>
<td>History &amp; Dialectology</td>
<td>Reading-Study Skills</td>
</tr>
<tr>
<td>Speaking</td>
<td>Reading-Organizational Skills</td>
</tr>
<tr>
<td>Reading-Phonetic Analysis</td>
<td>Reading-Interpretation Skills</td>
</tr>
<tr>
<td>Structural Analysis</td>
<td>Writing-Form &amp; Analysis</td>
</tr>
<tr>
<td>Reading-Critical Reading</td>
<td>Writing-Creative Writing</td>
</tr>
<tr>
<td>Skills</td>
<td>Writing-Structure</td>
</tr>
<tr>
<td>Reading-Literature &amp;</td>
<td>Writing-Mechanics</td>
</tr>
<tr>
<td>Literary Form</td>
<td>Writing-Study Skills</td>
</tr>
<tr>
<td>Writing-Correspondence</td>
<td>Non-Verbal Communication</td>
</tr>
<tr>
<td>Skills</td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>Mathematics</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Life Science</td>
<td>Analysis of Number &amp; System</td>
</tr>
<tr>
<td>Psychology</td>
<td>Operations: Numerical &amp; Algebraic</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>Operations: Graphics</td>
</tr>
<tr>
<td>Earth &amp; Space Science</td>
<td>Geometry</td>
</tr>
<tr>
<td>Inquiry Process Development - Observing/</td>
<td>Measure &amp; Probability</td>
</tr>
<tr>
<td>Perceiving</td>
<td>Sets &amp; Logic</td>
</tr>
<tr>
<td>Inquiry Process Development - Taxonomic/</td>
<td>Problem Solving</td>
</tr>
<tr>
<td>Classifying</td>
<td></td>
</tr>
<tr>
<td>Inquiry Process Development - Experimenting</td>
<td></td>
</tr>
<tr>
<td>Humanizing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Secondary Objectives</strong></td>
<td></td>
</tr>
<tr>
<td>Language Arts</td>
<td>Science</td>
</tr>
<tr>
<td>History &amp; Dialectology</td>
<td>Life Sciences</td>
</tr>
<tr>
<td>Listening</td>
<td>Life Science-Ecology</td>
</tr>
<tr>
<td>Speaking</td>
<td>Life Science-Psychology</td>
</tr>
<tr>
<td>Reading-Critical Reading Skills</td>
<td>Physical Science-Physics</td>
</tr>
<tr>
<td>Writing-Form &amp; Analysis</td>
<td>Physical Science-Chemistry</td>
</tr>
<tr>
<td>Writing-Creative Writing</td>
<td>Earth Science-Geology</td>
</tr>
<tr>
<td>Writing-Structure &amp; Mechanics</td>
<td>Earth Science-Meteorology</td>
</tr>
<tr>
<td>Writing-Study Skills</td>
<td>Earth Science-Astronomy</td>
</tr>
<tr>
<td></td>
<td>Inquiry Process Development - Observing/Perceiving</td>
</tr>
<tr>
<td></td>
<td>Inquiry Process Development - Questioning/</td>
</tr>
<tr>
<td></td>
<td>Problem Formulation</td>
</tr>
<tr>
<td></td>
<td>Inquiry Process Development - Taxonomic/</td>
</tr>
<tr>
<td></td>
<td>Classifying</td>
</tr>
<tr>
<td></td>
<td>Inquiry Process Development - Formulating</td>
</tr>
<tr>
<td></td>
<td>Hypotheses</td>
</tr>
<tr>
<td></td>
<td>Biology-Inquiry Development</td>
</tr>
<tr>
<td></td>
<td>Inference-Inferring/Applying</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>Social Studies</td>
</tr>
<tr>
<td>Analysis of Number &amp; System</td>
<td>History</td>
</tr>
<tr>
<td>Operations: Numerical &amp; Algebraic</td>
<td>Sociology/Anthropology</td>
</tr>
<tr>
<td>Calculus</td>
<td>Psychology/Philosophy</td>
</tr>
<tr>
<td>Operations: Graphics</td>
<td>Political Science</td>
</tr>
<tr>
<td>Geometry</td>
<td>Geography</td>
</tr>
<tr>
<td>Measure &amp; Probability</td>
<td>Economics</td>
</tr>
<tr>
<td></td>
<td>Social Studies Research</td>
</tr>
</tbody>
</table>


SOURCE REFERENCE

6. Dr. Dale Wiezenecker
   Assistant Superintendent for Instruction
   Behavioral Objectives Project Report
   Brevard County Schools
   P. O. Box 5
   Titusville, Florida

7. Mr. George A. Koopman, Vice-President
   Edcodyne Corporation
   One City Boulevard West, Suite 935
   Orange, California 92668
6. Brevard County Behavioral Objectives Project (K-I) - Brevard County Schools, Titusville, Florida

Description: A collection of objectives for all areas of the elementary school curriculum. Also included are pre-school objectives classified by subject matter area.

Topics Included: Reading, Language Arts, Mathematics, Health, & Safety
Objectives for these categories are arranged by grade level.

Science
Observing
Classifying
Space-Time Relations
Measuring
Predicting
Formulating Hypotheses
Controlling Variables
Defining Operationally
Interpreting Data

Social Studies
Man & Society
Geographical Environment
Culture Structure & Behavior
Self-Government
Economic Needs & Wants
Societal Behavior
Skills
Values & Attitudes

Kindergarten & Nursery
Language Arts
Mathematical Relationships
Health, Physical Development & Safety
Art-Crafts
Music
Science
Social Studies

Music
Creativity
Verbalization
Music Reading
Discrimination & Skill
Comprehension
Value Judgements
Perception
Conceptualization
Attitudes
Application

Art
Visual Relationships
Production
Criticism

Physical Education
Physical Fitness
Rhythm & Movement Skills
Team Activities & Sports

7. Assessment Program of Early Learning Levels - APELL (K-P) - Edcodyne Corporation, Orange, California ($320.00/first year/class - $35.00 each additional year/class).

Description: The APELL is an instructional management system for use at the preschool, kindergarten, and first grade levels. It diagnoses skill levels based on specific measurable objectives and suggests instructional activities and materials for the child's individual needs.
SOURCE REFERENCE

8. Mr. Joe Carico
   Educational Progress Corporation
   2250 Monaghan Drive
   Tallahassee, Florida  32303

9. Dr. Robert O'Reilly, Chief
   Bureau of School and Cultural Research
   State Education Department
   Albany, New York  12224
Topics Included:

**Pre-Reading**
- Visual Discrimination
- Similarities
- Differences
- Auditory Association
- Beginning Sounds
- Word Beginnings
- Letter Names

**Language**
- Nouns
- Pronouns
- Verbs
- Adjectives
- Plurals
- Prepositions

**Auditory Association**
- Adjectives
- Beginning Sounds
- Word Beginnings
- Letter Names

**Pre-Math**
- Discrimination of Attributes
- Position, Size
- Quantity, Shape
- Number Concepts
  - Counting
  - Number Identification
  - Set Relationships
- Number Facts
- Addition
- Subtraction

8. Multimedia Programs (K-JH) - Educational Progress Corporation, Tulsa, Oklahoma

*Description:* A collection of multimedia programs which contain objectives embedded within the materials.

**Program Titles:**
- Human Growth & Development (c $130.00 to $360.00)
- Continuous Progress Laboratory (c $100.00)
- Audio Reading Progress Laboratory (c $80.00 to $340.00)

9. System for Pupil and Program Evaluation and Development (SPPED) (K-SH) - New York State Education Department, Albany, New York

*Description:* SPPED is a comprehensive computer-based system for monitoring student progress and for aiding in program development. The technical support system contains the following:
- BOIR - Bank of Instructional Objectives, Items and Instructional Resources
- CAM - Comprehensive Achievement Monitoring
- MAST-T - Mastery Testing
- Test scheduling and test construction programs
- Training for teachers
- Paper Bank - Objectives and items for several areas.

SPPED was developed to aid teachers in designing instructional programs, in adjusting and refining instruction on a continuous basis, in monitoring student progress, and in managing student progress on a day to day basis.

*This annotation is based on a description of the materials; the actual materials were not forwarded for inspection.*
SOURCE REFERENCE

10. Mrs. Margaret DuMars, Principal
    Rosewood Elementary School
    Vero Beach, Florida

11. Dr. Glenn Fletcher
    Houston Independent School District
    Houston, Texas 77002
It also aids the administrator in evaluating, monitoring and managing instructional programs. Students benefit from detailed feedback on their learning. The objectives contained in the program are from three sources: IOX, Downers Grove and the state of New York. (The IOX and Downers Grove objectives are described previously - see MACRO-COLLECTIONS.)

10. Behavioral Objectives Syllabus (P-I) - Rosewood Elementary School, Vero Beach, Florida

Description: A collection of cognitive and affective objectives for administrators, teachers, support personnel and students.

Topics Included:
- Administration
- Guidance
- Media Center
- Textbooks
- Food Service
- Transportation
- School Plant & Facilities
- Art
- Health
- Health & Safety
- Language Arts
- Mathematics
- Music
- Physical Education
- Safety
- Science
- Social Studies

11. Objectives for Elementary Subject Areas (P-I) - Houston Independent School District, Houston, Texas

Description: An outline of terminal objectives in a number of areas which indicates performances expected of students upon the completion of the third grade and upon completion of the sixth grade.

Topics Included:
- Handwriting
- Language
- Appreciation: Observing & Listening
- Oral Language
- Written Composition
- Form & Mechanics
- Syntax
- Mathematics
- Mathematics Strands
- Concept Skills
- Operations, Sentences, Properties
- Competency Strands
- Computation
- Social Studies
- Acquisition of Knowledge
- Development of Skills
- Development & Establishment of Values
- Spelling
- Study Habits
- Affective and Interpersonal Goals
- Science
- Inquiry
- Scientific Attitudes
- Scientific Thinking
- Concepts
SOURCE REFERENCE

12. Mr. Norman E. Harris  
   Field Manager  
   Southeastern Region  
   Silver Burdett Company  
   3272 Peachtree Road, N. E.  
   Atlanta, Georgia 30305

13. Mr. John Patrick  
   Room 506 Knott Building  
   State Department of Education  
   Tallahassee, Florida 32304

14. Evaluation Center  
   Hopkins Schools  
   1001 Highway 7  
   Hopkins, Minnesota 55343

15. Mr. O. D. Roberts, Director  
   Program Planning  
   Leon County Public Schools  
   925 Miccosukee Road  
   Tallahassee, Florida 32303
12. Objectives for Spelling, Social Studies and Mathematics (P-JH) - Silver Burdett Company, Atlanta, Georgia ($2.00 each)

Description: Includes three booklets: Performance Objectives for "Spell Correctly"; Performance Objectives for "Contemporary Social Science Curriculum"; and A Nongraded Program for "Modern Mathematics through Discovery". Objectives are organized by levels. The resources upon which the spelling and mathematics objectives are based contain procedures for evaluation.

13. Elementary and Secondary Accreditation Standards (P-SH) - Department of Education, Tallahassee, Florida

Description: Guides for writing performance objectives in the visual arts, mathematics, and English language arts. Each guide includes goal statements and objectives for instruction, materials and equipment, and facilities.

14. Evaluation Center Collection (P-SH) - Hopkins Evaluation Center, Hopkins, Minnesota

*Description: Materials written and collected by teachers for use in their own classrooms. They are reviewed annually by the teachers who utilize item analysis data in order to improve the collection.

Topics Included: Algebra American History
Biology Mathematics
English Social Studies
Geometry World Studies

15. Objectives Based on State Accreditation Standards (P-SH) - Leon County School System, Tallahassee, Florida

Description: A collection of process and product objectives based on Florida's Accreditation Standards. Includes objectives for students, instructional personnel, and the school.
SOURCE REFERENCE

16. Dr. Raymond Bernabei
    Intermediate Unit #22
    Administration Building - 7th Floor
    Bucks County Public Schools
    Doylestown, Pennsylvania 18901

17. Mr. David W. Lloyd
    Thurston Intermediate School
    700 Park Avenue
    Laguna Beach, California 92615
Topics Included: Vocational-Technical Education (SH)
Industrial Arts (SH)
Technical Education (SH)
Distributive Education (SH)
Home Economics (JH)

School Health & Safety
Service (P-I)
Art (P-SH)
Physical Education (P-I)
Guidance Services (P-SH)

Exceptional Children
Educable Mentally Retarded
Visually Handicapped
Learning Disabilities
Speech Correction

Pre-School
Music (P-I)
Foreign Language (SH)
Media (P-SH)

16. Quality Education Program Study (P-SH) - Bucks County Public Schools, Doylestown, Pennsylvania ($12.00)

Description: A series of booklets which describe objectives and evaluation for ten major goals of quality education. Each goal has two reports. The first is a Description which contains behavioral statements of effective and ineffective student behaviors related to the goal, a rationale for the areas of effective student behavior, and related teacher strategies. The second is related to the Needs Assessment of that goal and contains instructions, the general needs assessment instrument, and an analysis of instruments.

Topics Included:
GOAL ONE - Self Understanding
GOAL TWO - Understanding Others
GOAL THREE - Basic Skills
GOAL FOUR - Interest in School & Learning
GOAL FIVE - Good Citizenship
GOAL SIX - Good Health Habits
GOAL SEVEN - Creativity
GOAL EIGHT - Vocational Development
GOAL NINE - Understanding Human Accomplishment
GOAL TEN - Preparation for a Changing World

17. Objectives for the Intermediate School (JH) - Thurston Intermediate School, Laguna Beach, California ($2.00/topic area)

Description: Continua of objectives for academic, non-academic and vocational areas. Also available are job descriptions for personnel described in performance terms.
<table>
<thead>
<tr>
<th>Topics Included:</th>
<th>Social Studies Continuum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>Social Studies Skills</td>
</tr>
<tr>
<td>Tools of Science</td>
<td>Anthropology</td>
</tr>
<tr>
<td>Chemical Laws of Nature</td>
<td>Civilization</td>
</tr>
<tr>
<td>Magnetism and Electricity</td>
<td>The Age of Democratic Revolution</td>
</tr>
<tr>
<td>Structure of Life</td>
<td>Politics and the United States Constitution</td>
</tr>
<tr>
<td>Movement</td>
<td>The Constitution and Individual Rights</td>
</tr>
<tr>
<td>Receptors</td>
<td>Geography</td>
</tr>
<tr>
<td>Digestion</td>
<td></td>
</tr>
<tr>
<td>Circulation</td>
<td></td>
</tr>
<tr>
<td>Reproduction</td>
<td></td>
</tr>
<tr>
<td>Ecology</td>
<td></td>
</tr>
<tr>
<td>Personal Health</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
</tr>
<tr>
<td>Sets</td>
<td></td>
</tr>
<tr>
<td>Numbers &amp; Numerals</td>
<td></td>
</tr>
<tr>
<td>Mathematical Operations</td>
<td></td>
</tr>
<tr>
<td>Number Sentences</td>
<td></td>
</tr>
<tr>
<td>Number Theory</td>
<td></td>
</tr>
<tr>
<td>Measurement</td>
<td></td>
</tr>
<tr>
<td>Geometry</td>
<td></td>
</tr>
<tr>
<td>Statistics &amp; Probability</td>
<td></td>
</tr>
<tr>
<td>Logic</td>
<td></td>
</tr>
<tr>
<td>Functions</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td></td>
</tr>
<tr>
<td>Basic Study Skills</td>
<td></td>
</tr>
<tr>
<td>Language Study</td>
<td></td>
</tr>
<tr>
<td>Written Communication</td>
<td></td>
</tr>
<tr>
<td>Literature</td>
<td></td>
</tr>
<tr>
<td>Reading Skills</td>
<td></td>
</tr>
<tr>
<td>Physical Education</td>
<td></td>
</tr>
<tr>
<td>Aerobics</td>
<td></td>
</tr>
<tr>
<td>Balance</td>
<td></td>
</tr>
<tr>
<td>Basketball</td>
<td></td>
</tr>
<tr>
<td>Creative Dance</td>
<td></td>
</tr>
<tr>
<td>Soccer</td>
<td></td>
</tr>
<tr>
<td>Speedaway</td>
<td></td>
</tr>
<tr>
<td>Stunts &amp; Tumbling</td>
<td></td>
</tr>
<tr>
<td>Swimming</td>
<td></td>
</tr>
<tr>
<td>Tennis</td>
<td></td>
</tr>
<tr>
<td>Track &amp; Field</td>
<td></td>
</tr>
<tr>
<td>Folk Dance</td>
<td></td>
</tr>
<tr>
<td>Volleyball</td>
<td></td>
</tr>
<tr>
<td>Wrestling</td>
<td></td>
</tr>
<tr>
<td>Football</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td></td>
</tr>
<tr>
<td>Music Appreciation</td>
<td></td>
</tr>
<tr>
<td>Instrumentation</td>
<td></td>
</tr>
<tr>
<td>Baroque &amp; Classical Periods (1700-1820)</td>
<td></td>
</tr>
<tr>
<td>Romantic Period &amp; Twentieth Century (1820-present)</td>
<td></td>
</tr>
<tr>
<td>Wind Instruments</td>
<td></td>
</tr>
<tr>
<td>Percussion Instruments</td>
<td></td>
</tr>
<tr>
<td>Stringed Instruments</td>
<td></td>
</tr>
<tr>
<td>Choral Music</td>
<td></td>
</tr>
<tr>
<td>Typing</td>
<td></td>
</tr>
<tr>
<td>Shop</td>
<td></td>
</tr>
<tr>
<td>Woodworking</td>
<td></td>
</tr>
<tr>
<td>Metal Working</td>
<td></td>
</tr>
<tr>
<td>Industrial Drawing</td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td></td>
</tr>
<tr>
<td>Art</td>
<td></td>
</tr>
<tr>
<td>Crafts</td>
<td></td>
</tr>
<tr>
<td>Foreign Language - Spanish &amp; French</td>
<td></td>
</tr>
<tr>
<td>Pronunciation</td>
<td></td>
</tr>
<tr>
<td>Vocabulary</td>
<td></td>
</tr>
<tr>
<td>Grammar</td>
<td></td>
</tr>
<tr>
<td>Culture</td>
<td></td>
</tr>
<tr>
<td>Oral Communication</td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td></td>
</tr>
<tr>
<td>Writing</td>
<td></td>
</tr>
</tbody>
</table>
SOURCE REFERENCE

18. Mr. Samuel Sharrow
   Dunbar Community High School
   500 N. Caroline Street
   Baltimore, Maryland 21205
18. **Instructional/Curriculum Materials - Learning Activity Packages (TH-SH) - Dunbar Community High School, Baltimore, Maryland ($1.00/Learning Activity Package)**

**Description:** A collection of instructional modules each containing objectives, a pretest, activities and resources for each objective, and evaluation procedures.

**Topics Included:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Topics Included:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Studies</strong></td>
<td>Let Freedom Ring</td>
</tr>
<tr>
<td></td>
<td>American Medicine &amp; Health</td>
</tr>
<tr>
<td></td>
<td>A Lap on Maps</td>
</tr>
<tr>
<td></td>
<td>Melting Pot</td>
</tr>
<tr>
<td></td>
<td>Immigration</td>
</tr>
<tr>
<td><strong>Data Processing</strong></td>
<td>Card Punch Machine</td>
</tr>
<tr>
<td><strong>Science</strong></td>
<td>Operations (5 LAPS)</td>
</tr>
<tr>
<td>Basic Laboratory Techniques &amp; Safety</td>
<td>Precautions</td>
</tr>
<tr>
<td>Measuring Devices:</td>
<td>Measurement of volume, weight, &amp; temperature</td>
</tr>
<tr>
<td>Solutions &amp; How to Prepare Them</td>
<td>The Microscope</td>
</tr>
<tr>
<td>Cells, the Basic Units of Life</td>
<td>DNA: The Molecule of Life</td>
</tr>
<tr>
<td>Life from Life: Reproduction &amp; Development</td>
<td>Acquiring &amp; Transporting Materials</td>
</tr>
<tr>
<td>Techniques in Culturing Micro-organisms</td>
<td>Microbiology: Part I Introduction</td>
</tr>
<tr>
<td>Microbiology: Part II Bacteriology</td>
<td>Microbes Other than Bacteria</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Natural Numbers (5 LAPS)</td>
</tr>
<tr>
<td></td>
<td>Decimals (5 LAPS)</td>
</tr>
<tr>
<td></td>
<td>Fractions (8 LAPS)</td>
</tr>
<tr>
<td></td>
<td>Percents (5 LAPS)</td>
</tr>
<tr>
<td></td>
<td>Metric System (3 LAPS)</td>
</tr>
<tr>
<td></td>
<td>Programma 101 (5 LAPS)</td>
</tr>
<tr>
<td></td>
<td>Coordinate Geometry (5 LAPS)</td>
</tr>
<tr>
<td></td>
<td>Sets (5 LAPS)</td>
</tr>
<tr>
<td>English</td>
<td>Kernel Structure</td>
</tr>
<tr>
<td></td>
<td>Eliminates Wordiness</td>
</tr>
<tr>
<td></td>
<td>Who, What, &amp; What's Happening</td>
</tr>
<tr>
<td></td>
<td>Adjectives &amp; Adverbs</td>
</tr>
<tr>
<td></td>
<td>Coloring Your Ideas</td>
</tr>
<tr>
<td></td>
<td>Add a Little Spice</td>
</tr>
<tr>
<td></td>
<td>Focusing on Phrases &amp; Clauses</td>
</tr>
<tr>
<td></td>
<td>Let's Make it a Howling Success</td>
</tr>
<tr>
<td></td>
<td>Come to the Point</td>
</tr>
<tr>
<td></td>
<td>Kernel Structure</td>
</tr>
<tr>
<td></td>
<td>Avoid Wordiness</td>
</tr>
<tr>
<td></td>
<td>Wrapping it All Up</td>
</tr>
<tr>
<td></td>
<td>Following Directions on Tests &amp; Assessment of Skills</td>
</tr>
<tr>
<td></td>
<td>From Sentences to a Paragraph</td>
</tr>
<tr>
<td></td>
<td>Non-Verbal Communication</td>
</tr>
<tr>
<td></td>
<td>A LAP on LAP's</td>
</tr>
</tbody>
</table>
19. Dr. Donald T. Tosti  
Vice-President  
Individual Learning Systems, Inc.  
P. O. Box 3388  
San Rafael, California 94902
Description: For each topic, a test set includes alternate forms of criterion-referenced unit tests, criterion-referenced course post-tests, and answer keys.

Topics Included: Behavior Technology: Motivation and Contingency Management
Introductory Sociology
Precalculus: Algebraic & Trigonometric Functions
An Individualized History of the United States (Volumes I and II)

Other courses are currently available.
SOURCE REFERENCE

20. Dr. Raymond Bernabei
Intermediate Unit #22
Administration Building - 7th Floor
Bucks County Public Schools
Doylestown, Pennsylvania 18901

21. Dr. Donald Wood, Coordinator
Curriculum and Supervision
State Department of Education
140 Cordell Hull Building
Nashville, Tennessee 37219

22. Ms. Anita Brewer, Director
Information and Communications
Southwest Educational Development Laboratory
800 Brazos Street
Austin, Texas 78701
20. Behavioral Objectives Curriculum Guide: A Transitional Pre-First Grade Program (K) - Bucks County Public Schools, Doylestown, Pennsylvania ($3.50)

Description: An individualized program of sequential, developmental learning experiences leading to readiness for first grade. Designed for children who have completed kindergarten who have indicated a need for an extended readiness period. Includes an outline of objectives and suggested pupil learning experiences for each objective.

Topics Included: Visual Motor Triordination
                  Body in Space Perception
                  Eye-Hand Coordination
                  Auditory Perception
                  Auditory Discrimination
                  Auditory Motor Sequential
                  Auditory Memory
                  Visual Perception
                  Visual Memory
                  Visual Discrimination
                  Language Use
                  Speech
                  Oral Language Facility
                  & Comprehension
                  Reading Comprehension


Description: A curriculum guide which contains objectives and instructional activities for eight basic learning skills areas. Also contains suggested equipment and materials, suggested instruments for evaluation, and a basic book list.

Topics Included: Visual Perception
                   Auditory Perception
                   Motivation
                   Classroom Skills
                   Language Development
                   Mathematics
                   Socialization
                   Esthetic Development
                   Physical Development

22. Early Childhood System for Economically Disadvantaged and Culturally Different Children (Pre K-K) - Southwest Educational Development Laboratory, Austin, Texas

*Description: The system emphasizes teaching of sensory - perceptual, cognitive and language skills.
SOURCE REFERENCE

23. Dr. Charles L. Bertram
Appalchia Educational Laboratory, Inc.
P. O. Box 1348
Charleston, West Virginia 25325
The system is offered in four variations:
A three-year sequential bilingual program for children ages three to five
A two-year sequential bilingual program for children ages four and five
Bilingual Kindergarten
Kindergarten English Speakers
Each variation employs four basic components - instructional material, staff development, parent education, and learning ecology. Lesson plans contain objectives, materials, precautions and special instructions.

23. The Initial Phase of a Preschool Curriculum Development Project (Pre - P) - West Virginia University, Morgantown, West Virginia

Description: Objectives for a compensatory preschool program for Appalachian children. Objectives are divided into major categories of motor activities, language skills, and cognition, and deal with the three methods of intervention - home visitation, mobile facilities, and television programming.

Topics Included: Orienting and Attending Skills
(e.g. persistence)

Motor Activity
(gross, fine, creative)

Language
Language Construction
(phonology & sentence production)
Descriptive Language
(describing objects & events & dramatic expression)

Cognition
Sensory Discrimination
(auditory, perceptual, tactile)
Higher Order Cognitive Acts
(e.g. memory, seriation, problem solving)
SOURCE REFERENCE

24. Miss Frankie MacDonald
Supervisor, Art Education
2418 Hatton Street
Sarasota, Florida 33577

25. Mr. Edmund W. Schaefer
Music Contact Person
Bay County School Board
1855 Liddon Road
Panama City, Florida 32401
THE CREATIVE ARTS

Art

24. Behavioral Objectives Based on State Accreditation Standards (P-SH) - Sarasota Public School System, Sarasota, Florida

Description: A listing of objectives for art, P-SH, based on the Proposed Accreditation Standards for Florida Schools, 1969-70, designed to provide a basis for a total art program.

Topics Included:

<table>
<thead>
<tr>
<th>Elementary</th>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Approach</td>
<td>Arrangements &amp; Principles</td>
</tr>
<tr>
<td>Pre-Cognitive Approach</td>
<td>Characteristics</td>
</tr>
<tr>
<td>Invisible Symbols &amp; Ideas</td>
<td>Arrangement</td>
</tr>
<tr>
<td>Sculpture</td>
<td>Reaction</td>
</tr>
<tr>
<td>Collages &amp; Mosaics</td>
<td>Comparative</td>
</tr>
<tr>
<td>Fabrics &amp; Textiles</td>
<td>Value</td>
</tr>
<tr>
<td>Architecture &amp; Home Furnishings</td>
<td>Intensity</td>
</tr>
<tr>
<td>Ceramics, Pottery &amp; Jewelry</td>
<td>Textural</td>
</tr>
<tr>
<td>Printing &amp; Graphics</td>
<td></td>
</tr>
<tr>
<td>Severing, Joining &amp; Forming</td>
<td>Space</td>
</tr>
<tr>
<td>New Media or Hardware</td>
<td></td>
</tr>
<tr>
<td>Value, Intensity, Texture</td>
<td></td>
</tr>
<tr>
<td>Objects, Style, Composition</td>
<td></td>
</tr>
<tr>
<td>Lines, Figures, Interpretation</td>
<td></td>
</tr>
<tr>
<td>Justification of Negative</td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td></td>
</tr>
<tr>
<td>Focus-Closure</td>
<td></td>
</tr>
<tr>
<td>Symbols</td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td></td>
</tr>
<tr>
<td>Changes</td>
<td></td>
</tr>
</tbody>
</table>

Music

25. Bay County Music Guide (K-I) - Bay County Public Schools, Panama City, Florida

Description: A comprehensive music guide for elementary grades including goals, student objectives, suggested related activities, materials, equipment, textbooks and recordings. Also includes a basic song list, filmstrip titles, resource units and sources of materials and supplies.
SOURCE REFERENCE

26. Mr. Phil E. Suiter
    Director of Teacher Preparation
    State Department of Education
    Charleston, West Virginia 25305

27. Mrs. Dorothy Land
    Elementary Music Supervisor
    Palm Beach County Schools
    Box 2469
    West Palm Beach, Florida 33402

28. Mr. T. James Edison
    Supervisor, Elementary Music
    707 E. Columbus Drive
    Tampa, Florida 33602
Topics Included: Rhythm, Melody, Harmony, Form, Singing, Listening, Playing, Reading, Creativity

26. West Virginia Music Program (K-A) - West Virginia State Department of Education, Charleston, West Virginia

Description: A series of booklets and handbooks describing the music program for the State of West Virginia from K through A. Includes expected measurable outcomes for students and statements of teacher objectives for the music program. Program reflects a spiral approach.

Topics Included: Band, Vocal Music, Listening, Musical Experience, Relationships Between Music & Other Arts, Music Reading, Music History, Self-expression, Music Structure

27. Assessment of the Behavioral Curriculum in Music (P-I): Appendix E, Objectives of the Elementary Music Curriculum - Palm Beach County Schools, West Palm Beach, Florida

Description: A behavioral curriculum in elementary music with objectives sequenced according to logical development, student growth and development and convenience and tradition.

Topics Included: Melody, Form, Expressive Qualities, Rhythm, Harmony

28. Behavioral Objectives for Music (P-I) - Hillsborough County Public Schools, Tampa, Florida

Description: A collection of cognitive and affective music goals and objectives for elementary school students.
SOURCE REFERENCE:

29. Mr. O. D. Roberts
Instructional Services
925 Miccosukee Road
Tallahassee, Florida 32303

30. Mr. William E. George
Assistant Superintendent for Instruction
Indian River County School Board
P. O. Box 2648
Vero Beach, Florida 32960

31. Dr. D. C. Anderson, Director
Division of Elementary and Secondary Education
Kentucky Department of Education
Frankfort, Kentucky 40601
Topics Included: Creativity
Singing
Verbalization
Music Reading
 Discrimination & Skill
 Comprehension

Value Judgements
Perception
Conceptualization
Attitude
Application

29. Elementary School Music Curriculum Guide (P-I) - Leon County School System, Tallahassee, Florida

Description: An elementary music curriculum guide composed of goals and objectives for singing, moving, listening, playing, creating and reading for grades 1-5. Also included are scope and sequence objectives for music reading and recommended music textbooks.

30. Indian River County Music Guide, 1970 (P-I) - Indian River County, Vero Beach, Florida

Description: An elementary music curriculum guide composed of skill, literature and concept objectives for grades 1-6.

Topics Included: Melody
Harmony
Rhythm
Form Expression
& Style

31. Music Education (P-SH) - Kentucky Department of Education, Frankfort, Kentucky

Description: Definitions of basic concepts and practices essential to the development of a music program. Outlines desirable goals for the various areas and grade levels.

Topics Included: Foundations of Music Education
Musical Values and Education
Program Planning and Development
Special Areas
Experiences Contributing to the Music Program
SOURCE REFERENCE

32. Mr. Lloyd Schmidt
   Music Consultant
   Connecticut State Department of Education
   Bureau of Elementary and Secondary Education
   Hartford, Connecticut

33. Mr. Robert Lampi
   Florida Bandmasters Association
   Box 666
   Pahokee, Florida 33476
32. A Taxonomy for Behavioral Objectives in Music (P-SH) - Connecticut State Department of Education, Hartford, Connecticut

Description: A general taxonomy for objectives in music which includes goals, classification of behavior, classification of sub-topics for general musicianship, activities, parameters and conditions. Instrumentation of the taxonomy is outlined for cognitive behavior, affective behavior, psychomotor behavior, and creativity. A glossary of terms is provided.

33. Florida Bandmasters Association State Accreditation Committee Report: Instructional Objectives (JH-SH) - Florida Bandmasters Association, Pahokee, Florida

Description: Cognitive and affective objectives for students participating in band, based upon state of Florida Accreditation Standards.

Topics Included: Expression Evaluation
Listening Sensitivity
Verbalization Creation
Performance Respect
Skill Development Attention
Perception Valuing
Post-School Participation Interest
Recognition Implementation
Analysis Growth
SOURCE REFERENCE

34. Dr. L. C. Leach
Specialist in English Language Arts
State Department of Education
State Education Building
Little Rock, Arkansas 72142
**Language**

**English**

34. Behavioral Objectives, Language and Literature (K-SH) - Arkansas State Department of Education, Little Rock, Arkansas

**Description:** A series of objectives in the cognitive and affective domains for courses in language and literature in grades K-12.

**Topics Included:**

<table>
<thead>
<tr>
<th>Objectives in Language</th>
<th>Phonology</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of Language</td>
<td>Sentence Patterns</td>
</tr>
<tr>
<td>Old English Period</td>
<td>Form Classes</td>
</tr>
<tr>
<td>Middle English</td>
<td>Syntax</td>
</tr>
<tr>
<td>Early Modern English</td>
<td>Noun Phrase</td>
</tr>
<tr>
<td>Modern English</td>
<td>Verb Phrase</td>
</tr>
<tr>
<td>Dialect</td>
<td>Single-Base Transformations</td>
</tr>
<tr>
<td>Semantics</td>
<td>Double-Base Transformations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objectives in Literature</th>
<th>Short Story</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literary Structure &amp; Form</td>
<td>The Nature of the Short Story</td>
</tr>
<tr>
<td>Folk Tales</td>
<td>Setting</td>
</tr>
<tr>
<td>Adventurous Stories</td>
<td>Point of View</td>
</tr>
<tr>
<td>Panchtul Tales</td>
<td>Character Development</td>
</tr>
<tr>
<td>Animal Stories</td>
<td>Plot Structure</td>
</tr>
<tr>
<td>Myths</td>
<td>Style &amp; Tone</td>
</tr>
<tr>
<td>Fables</td>
<td>Theme</td>
</tr>
<tr>
<td>Stories of Other Lands</td>
<td>Novel</td>
</tr>
<tr>
<td>&amp; People</td>
<td>The Nature of the Novel</td>
</tr>
<tr>
<td>Biography</td>
<td>Setting</td>
</tr>
<tr>
<td>Historical Fiction</td>
<td>Point of View</td>
</tr>
<tr>
<td>Poetry</td>
<td>Character Development</td>
</tr>
<tr>
<td>Essays</td>
<td>Plot Structure</td>
</tr>
<tr>
<td>Poetry</td>
<td>Style &amp; Tone</td>
</tr>
<tr>
<td>The Nature of Poetry</td>
<td>Theme</td>
</tr>
<tr>
<td>Tone &amp; Diction</td>
<td>Drama</td>
</tr>
<tr>
<td>Sound, Rhythm, &amp; Meter</td>
<td>The Nature of Drama</td>
</tr>
<tr>
<td>Figurative Language</td>
<td>Tragedy</td>
</tr>
<tr>
<td>The Poet &amp; His Poetry</td>
<td>Comedy</td>
</tr>
<tr>
<td>Characterization in Poetry</td>
<td>Setting</td>
</tr>
<tr>
<td>Theme in Poetry</td>
<td>Plot</td>
</tr>
<tr>
<td>Values in Poetry</td>
<td>Point of View</td>
</tr>
<tr>
<td>Analysis &amp; Evaluation of Poetry</td>
<td>Character Development</td>
</tr>
<tr>
<td>Appreciation for Poetry</td>
<td>Style</td>
</tr>
<tr>
<td>Appreciation for Drama</td>
<td></td>
</tr>
</tbody>
</table>

**Critical Approaches to Literature**

- Traditional Approaches
- Formalistic Approach
- Exponential Approaches
- Psychological Approach
- Mythical & Archetypal Approaches
SOURCE REFERENCE

35. Malcolm Price Laboratory School
   State College of Iowa
   Cedar Falls, Iowa

36. Mr. George M. Gibbs, Coordinator
    Division of Curriculum Services
    Fairfax County Public Schools
    10700 Page Avenue
    Fairfax, Virginia 22030

37. Mr. Jack Allen
    Director of Curriculum
    Multnomah County Intermediate Education
    District
    P. O. Box 16657
    Portland, Oregon 97216
35. The English Language Arts Program (K-SH) - Malcolm Price Laboratory School, Cedar Falls, Iowa ($1.00)

Description: A guide for instruction which provides an overview of the concepts to be dealt with in the area of language arts. Desirable outcomes are listed at four levels for each of seven topic areas reflecting a spiral approach. Also included is a bibliography.

Topics Included: Listening, Language; Reading, Spelling; Speaking, Use of the Library; Writing

36. Reporting to Parents: English Language Arts (K-JH) - Fairfax County Public Schools, Fairfax, Virginia

Description: A booklet listing objectives in English Language Arts to be completed by each student at each grade level. A space is provided for indicating the date on which the student attained the objective. The form is used as a reporting vehicle to the parents.

Topics Included: Recognize and Use Words Effectively; Comprehend and Interpret Written Material; Use Accepted Mechanics of Writing; Use Basic Study Skills; Write for Informational Purposes; Write for Creative Expression; Use Oral and Dramatic Expression Effectively; Analyze and Evaluate Multimedia Communication; Establish Personal Tastes and Values

37. Tri-County Area Course Goal Collection in Language Arts (K-SH) - Multnomah County Intermediate Education District, Portland, Oregon

Description: A collection of goal statements arranged in a hierarchical manner to reflect the need for greater specificity as one progresses from the district level, through the program level, down to the course level. A fourth level of goal statements is the teacher made goal statement. Goals at this level, however, are not specified by the district.
SOURCE REFERENCE

38. Mr. George T. Gabriel, Director
    Office of Educational Research
    Board of Education of Baltimore County
    Towson, Maryland 21204

39. Mr. Tom Gann
    Jefferson County Schools
    1810 25 Court 800th
    Homewood, Alabama 35209

40. Mr. Normand Robitaille
    Project Director
    Mascenic Bilingual Program, ESEA, Title VII
    Sacred Heart School
    Greenville, New Hampshire 03048
38. English Language Diagnostic Test: First Level (P) - Board of Education of Baltimore County, Towson, Maryland

Description: A test designed to measure acquisition of specific language concepts and skills included in grades 1-3 of the GUIDE TO THE STUDY OF THE ENGLISH LANGUAGE, K-6, a publication of the Board of Education of Baltimore County. Parallel forms are available.

Topics Included:
- Word Order
- Punctuation
- Syntax
- Kinds of Sentences
- Nouns
- Verbs
- Pronouns
- Coordination

39. Language Arts Units (P-JH) - Jefferson County Schools, Birmingham, Alabama

Description: A series of units, for grade three or grade seven, designed to give every child a degree of success with his English program. Each third grade unit contains an overview, resources, a teacher plan, behavioral objectives, bulletin board suggestions, a student lesson directional sheet, a student individual work sheet or exercise sheet, a post-test, and an answer key. Each seventh grade unit contains an overview, behavioral objectives, a teacher's unit, evaluation, and students' units. In all units, objectives are classified according to Bloom's Taxonomy.

Topics Included:
- Grade 3
  - Playacting Stories
  - Building Good Sentences
  - Friendly Letters
  - Learning About Verbs
  - Writing Paragraphs
  - Nouns
  - Verbs
  - Pronouns
  - Adjectives
  - Adverbs
  - Connectives
  - Punctuation
- Grade 7
  - Helpful Units in Speech
  - Improving Sentences
  - Finding Facts
  - Understanding Words
  - Letter Writing
  - Library

French

40. Behavioral Objectives for French (K-P) - Sacred Heart School, Greenville, New Hampshire

Description: A listing of French objectives for kindergarten, first grade, and second grade. In addition, for each objective suggested materials and processes are included.
SOURCE REFERENCE

41. Mr. J. W. Knight
   Center for Individualized Instructional Systems
   P. O. Box 11343
   Durham, North Carolina 27703

42. Dr. Dale Wiezenecker
   Assistant Superintendent for Instruction
   Brevard Mathematics Continuum
   Brevard County Schools
   P. O. Box 5
   Titusville, Florida

43. Mr. D. L. Bundren
   Clark County School District
   2832 East Flamingo Road
   Las Vegas, Nevada 89109
MATHMATICS

41. Behavioral Objectives for the Individualized Mathematics System, Levels I-IX (K-I) - Regional Education Laboratory for the Carolinas and Virginia, Durham, North Carolina

Description: Presentation of ten topics in elementary mathematics at each of nine levels. For any given topic and level, the number of objectives ranges from one to eleven.

Topics Included:
- Numeration
- Fractions
- Addition
- Mixed Operations
- Subtraction
- Money
- Multiplication
- Time
- Division
- Measurement
- Geometry-to be completed

42. Mathematics Continuum (K-I) - Brevard County Schools, Titusville, Florida

Description: A sequence of elementary mathematics objectives listed in order of difficulty within a topic. Includes resources, and criterion-referenced tests.

Topics Included:
- Mainstream Topics
  - Numeration
  - Sets
  - Number Theory
  - Number Sentences
  - Place Value
  - Addition & Subtraction
  - Multiplication & Division
  - Fractions
  - Decimals
  - Integers
- Floating Topics
  - Geometry
  - Metric
  - Non-metric
  - Time
  - Money
  - Special Topics

43. Mathematics Curriculum Guide (K-I) - Clark County School District, Las Vegas, Nevada

Description: A guide of essential math concepts necessary to build a sequential program through the elementary school. Concepts are arranged in a continuous pattern. The curriculum guide is accompanied by criterion-referenced tests for each grade level. Tests are machine scorable and alternate forms are available.
SOURCE REFERENCE

44. Ms. Hattilu M. Moore, Principal
Prairie View Elementary School
1801 S. E. 32nd Place
Gainesville, Florida 32601

45. Moreland School
Snake River District #52
Moreland, Idaho
Top ips Included: Number Sets Whole Numbers (Cardinals) Rational Numbers Integers Irrational Numbers Ordinal Numbers Operations Whole Numbers Rational Numbers Integers Geometry Geometric Figures Properties Constructions Numeration A Number has many Names Whole Numbers Rational Numbers Integers (Notation) Irrational Numbers Other Notation Measurement Concepts of Measurement Measurement of Physical Properties (Standard Units) Renaming Measures Computations with Measures

44. Mathematics Levels Program (K-I) - Prairie View Elementary School, Gainesville, Florida

Description: A detailed mathematics guide for the elementary school. A spiral approach is used with the same topics occurring in each grade and at increasingly more difficult levels. It includes suggested materials and equipment, activities and games, evaluation procedures, and an in-depth discussion of the first grade program.

Topics Included: Number and the Study of Sets Numbers and Systems of Numeration Mathematical Operation I - Whole Numbers Mathematical Operation II - Fractions Geometry Graphing

45. Individualized Nongraded K-3 Math Program (K-P) - Moreland School, Snake River District No. 52, Moreland, Idaho

Description: Description of an individualized mathematics program which includes scope and sequence charts, behavioral objectives and evaluation instruments.
SOURCE REFERENCE

46. Publications c/o Mrs. Mary Starr
State Department of Education
State Office Building
Boise, Idaho 83707
Topics Included:

Number & Operations
- The Natural Numbers
  - Counting & Numeration
- The Natural Numbers
  - Add, Sub, Mult, Div
- The Rational Numbers
- The Rational Numbers
  - Add, Sub, Mult, Div
- The Integers
- The Irrational Numbers

Geometry
Non-metric Geometry

Sets, Functions, Relations,
Systems, and Logic
Sets
Relations & Functions
Mathematical Sentences
Systems & Logic
Measurements & Estimation
Concept of Measurement
Measurable Quantities
Renaming Measures
Computations with Measure

46. Idaho Curriculum Guide in Mathematics (K-JH) - State of Idaho Department of Education, Boise, Idaho

Description:
A comprehensive guide for the teaching of mathematics arranged by grade level. The organization of topics reflects a consistent spiral approach throughout the guide. It includes major topics, objectives, and teaching aids. In addition there are supplementary materials, tables, and problems listed in the appendix.

Topics Included:

Number & Operations
- Natural Numbers - Counting & Numeration
- Natural Numbers - Add, Sub, Mult, Div
- Rational Numbers
- Rational Numbers - Add, Sub, Mult, Div
- Integers
- Irrational Numbers

Sets, Functions, Relations,
Systems & Logic
Sets
Relations & Functions
Mathematical Sentences
Systems & Logic

Geometry
Non-metric Geometry

Sets, Functions, Relations,
Systems, and Logic
Sets
Relations & Functions
Mathematical Sentences
Systems & Logic
Measurements & Estimation
Concept of Measurement
Measurable Quantities
Renaming Measures
Computations with Measure

Geometry
Non-metric Geometry
Metric Geometry
SOURCE REFERENCE

47. Mr. Clyde E. Stevens
   Superintendent of Schools
   District School Board of Lake County
   201 W. Burleigh Boulevard
   Tavares, Florida 32778

48. Mr. George M. Gibbs, Coordinator
    Division of Curriculum Services
    Fairfax County Public Schools
    10700 Page Avenue
    Fairfax, Virginia 22030

49. Dr. John A. Dow
    Research for Better Schools, Inc.
    1700 Market Street
    Philadelphia, Pennsylvania 19103
47. Lake County Mathematics Continuum and Resource Guide (K-JH) - Lake County School System, Tavares, Florida

Description: A sequential program of concepts and skills in mathematics. The guide is organized by topic; each topic consists of a continuum of skills for levels A-I (K-JH). Includes objectives, examples and related resources for each objective. Objectives only are available in a separate document entitled "Mathematics Continuum". Two additional documents related to the Continuum are also available: "Mathematics Placement Tests" and "Mathematics Mastery Tests".

Topics Included:
- Numeration
- Non-metric Geometry
- Addition & Subtraction
- Metric Geometry
- Multiplication & Division
- Geometry
- Fractions
- Time
- Rational Numbers
- Money
- Decimals
- Special Topics
- Integers
- Non-metric Geometry
- Metric Geometry
- Geometry
- Time
- Money
- Special Topics

48. Reporting to Parents: Mathematics (K-JH) - Fairfax County Public Schools, Fairfax, Virginia

Description: A booklet listing objectives in mathematics to be completed by each student at each grade level. A space is provided for indicating the date on which the student attained the objective. The form is used as a reporting vehicle to the parents.

Topics Included:
- Numeration
- Enrichment
- Whole Numbers & Operations
- Measurement
- Fractions & Operations
- Money & Time
- Mixed Operations
- Integers & Operations
- Equations, Inequalities, Graphs; Proportions & Percent
- Rational Numbers & Operations
- Geometry


Description: An outline of objectives in elementary mathematics, listed by topic within a level. Levels indicate objectives of greater or lesser complexity for any given topic.
50. Office of the Superintendent  
Greece Central School District #1  
Rochester, New York

51. Mrs. Mary D. Gibb  
Director of Staff Development  
Monroe County School System  
Key West, Florida 33040

52. Mr. Otis E. Williams, Jr.  
Product Manager BLM  
425 North Michigan Avenue  
Chicago, Illinois 60611
50. Mathematics Assessment Program (P-I) - Greece, New York

*Description: The Mathematics Assessment Program (MAP) is a computer-based system for monitoring the progress of students in mathematics. Contained within the package are objectives for assessing mastery and for diagnosis of specific learning difficulties. The tests are criterion-referenced to aid the teacher in determining the effectiveness of his or her teaching.

51. Mathematics Objectives (P-I) - Monroe County School System, Key West, Florida

Description: Presents elementary mathematics objectives within twelve levels, with given topics recurring at several levels.

Topics Included:
- Readiness
- Multiplication & Its Inverse
- Sets
- Solving Verbal Problems
- Addition & Its Inverse
- History of Mathematics
- Measurement & Units
- Early Number Systems
- of Measurement
- Statistics & Probability
- Geometry
- Place Value

52. The "Telling Time" Audio-Tutorial Program (P-I) - Encyclopaedia Britannica Educational Corporation, Chicago, Illinois

Description: The telling time audio-tutorial program consists of four 15-minute lessons designed to teach key concepts and skills. The materials are complete teaching units, utilizing audio instruction and manipulative materials. Each lesson states prerequisite skills necessary to complete the lesson and objectives for the lesson.
SOURCE REFERENCE

53. Dr. Barbara S. Prentice  
   Director of Research  
   Tucson Public Schools  
   P. O. Box 4040  
   Tucson, Arizona 85717

54. Mr. Don Boehmer  
    Director, Special Education  
    Barnes County Courthouse  
    Valley City, North Dakota 58072
53. Sequence of Whole Numbers, Sequence of Measurement and Measurement: Time
(P-JH) - Tuscon Public School District, Tuscon, Arizona

Description: Three documents, each containing a sequence of behavioral objectives for a different area. Each reflects a spiral approach.

Topics Included:

<table>
<thead>
<tr>
<th>Sequence of Whole Numbers</th>
<th>Sequence of Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-to-one Correspondence</td>
<td>Measurement Sequence: Time</td>
</tr>
<tr>
<td>Concept of Zero</td>
<td>Telling Time</td>
</tr>
<tr>
<td>Number System</td>
<td>Reading Notation</td>
</tr>
<tr>
<td>Sets</td>
<td>Writing Notation</td>
</tr>
<tr>
<td>Basic Operations</td>
<td>Naming Days &amp; Months</td>
</tr>
<tr>
<td>Power &amp; Roots</td>
<td>Oral Reading of &quot;to the hour&quot;</td>
</tr>
<tr>
<td>Coordinates</td>
<td></td>
</tr>
<tr>
<td>Ratio &amp; Proportion</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Symbols</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commutative Property</td>
</tr>
<tr>
<td>Associative Property</td>
</tr>
<tr>
<td>Distributive Property</td>
</tr>
<tr>
<td>Relations</td>
</tr>
<tr>
<td>Base Systems</td>
</tr>
<tr>
<td>Prime &amp; Composite Numbers</td>
</tr>
<tr>
<td>Modulo Arithmetic</td>
</tr>
</tbody>
</table>

54. Guideposts Along the Way: An Arithmetic Guide for the Educable Mentally Handicapped Students in Special Classes (P-SH) - Barnes County, Valley City, North Dakota

Description: A mathematics curriculum for educable mentally handicapped students. Includes goals, specific objectives, suggested resources, and work sheets. Within a topic, objectives are classified as P, I, JH or SH.

Topics Included:

<table>
<thead>
<tr>
<th>Spatial Awareness</th>
<th>Number Symbol Sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rote Counting</td>
<td>Writing &amp; Spelling</td>
</tr>
<tr>
<td>Geometric Form - Size</td>
<td>Number Symbols</td>
</tr>
<tr>
<td>Comparisons</td>
<td>Place Value</td>
</tr>
<tr>
<td>Number Symbol Recognition</td>
<td>Calendar</td>
</tr>
<tr>
<td>One-to-one Relationships</td>
<td>Clock</td>
</tr>
<tr>
<td>Money</td>
<td>Fractions</td>
</tr>
<tr>
<td>Measurement</td>
<td>Roman Numerals</td>
</tr>
<tr>
<td>Addition</td>
<td>Multiplication</td>
</tr>
<tr>
<td>Subtraction</td>
<td>Division</td>
</tr>
<tr>
<td>Grouping by 2's, 5's, &amp; 10's</td>
<td>Decimals</td>
</tr>
<tr>
<td>Meters, Graphs, Schedules &amp; Maps</td>
<td>Percentages</td>
</tr>
</tbody>
</table>
SOURCE REFERENCE

55. Mr. Donald Holquist
    Mineola High School
    Garden City Park, New York 11040

56. Ms. Jane J. Leonard
    University School
    Florida State University
    Tallahassee, Florida 32306
55. Mathematics Objectives (P-SH) - Mineola High School, Garden City Park, New York

Description: A sequential listing of objectives, by unit, for a total mathematics curriculum, grades one to twelve. Each of the 67 topical units includes a listing of sub-topics, definitions, and specific objectives for each sub-topic.

Topics Included:

- Whole Numbers
- Decimals
- Ratio & Proportion
- Sets
- Percents
- Properties of Numbers
- Measurement
- Primes & Composites
- Geometry
- Integers
- Fractions
- Probability
- Statistics
- Flowcharts
- Rational Numbers
- Programma
- Scientific Notation
- Business Tables
- Squares & Square Roots
- Algebra
- Real Numbers
- Trigonometry
- Precision & Accuracy
- Slide Rule

56. Intermediate Math Continuum (I) - University School, Florida State University, Tallahassee, Florida

Description: A compilation of mathematics objectives which includes tasks, specific objectives, and sample test items.

Topics Included:

Grade 4
- Sets
- Place Value
- Numbers
- Whole Number Systems
- Place Value
- Computing
- Addition
- Number Theory
- Subtraction
- Fractions
- Multiplication
- Ratio
- Division
- Decimals
- Estimating
- Set Theory
- Fractions
- Numeration Systems
- Decimals
- Clock Arithmetic
- Measurement
- Logic
- Geometry
- Number Theory

Grade 5 not available as of March, 1972
SOURCE REFERENCE

57. Mr. Jerry Sullivan
   Associate Regional Manager
   CTB/McGraw-Hill
   1375 Peachtree Street, N. E.
   Atlanta, Georgia 30309

58. Dr. Raymond Bernabei
   Intermediate Unit #22
   Administration Building - 7th Floor
   Bucks County Public Schools
   Doylestown, Pennsylvania 18901
57. Prescriptive Mathematics Inventory - PMI (I-JH) - CTB/McGraw-Hill, Atlanta, Georgia (Specimen Set - $4.00)

Description: The PMI is designed to provide diagnostic and prescriptive information concerning specific objectives. The PMI is divided into three levels: Level A - grades 4 & 5, Level B - grades 5-7, Level C - grades 7 & 8. The items sample various levels of difficulty in each of the content categories represented. The Teacher's Guide gives a listing of the objectives upon which the PMI is based. Different levels have different numbers of items for any given objective.

Topics Included:
- Operations on the Number Line
- Whole Numbers - Add, Sub, Mult, Div
- Positive Fractions - Add, Sub, Mult, Div
- Decimal Numbers - Add, Sub, Mult, Div
- Negative Integers
- Negative Fractions
- Rounded Numbers
- Commutative Property
- Associative Property
- Distributive Property
- Identity Element
- Inverse Relation
- Closure
- Number Sequences
- Missing Addends & Factors
- Number Theory
- Mathematical Sentences
- Measurement
- Place Value
- Numeration Systems
- Non-Metric Geometry
- Percent
- Sets
- Functions & Graphs
- Statistics
- Probability
- Trigonometry
- Reasoning

58. Behavioral Objectives Curriculum Guide: Mathematics Grade Seven (JH) - Bucks County Public Schools, Doylestown, Pennsylvania ($3.00)

Description: Three manuals of objectives for mathematics: grade seven - below average, grade seven - average, and grade seven, above average. Concepts presented are part of the whole program and not unique to any subdivision. For each objective the guide contains: estimated time for student accomplishment, behavioral conditions, behavioral indicators, performance level outcomes, and suggested performance assessment.

Topics Included:
- Sets
- Non-Metric Geometry
- Numbers & Numerals
- Measurement & Geometry
- Equations
SOURCE REFERENCE

59. Educational and Industrial Testing Service
Box 7234
San Diego, California 92107
59. Individualized Mathematics Program - IMP: Individually Prescribed Instruction Based on Performance Objectives (JH) - Educational and Industrial Testing Service, San Diego, California ($98.00/class).

Description: The IMP provides for a continual assessment of student progress, diagnosis of learning difficulty, and prescription of instruction. The IMP contains preassessment instruments - Tests of Achievement in Basic Skills (TABS-IMP), Checklists of objectives, lesson units correlated with the objectives, and post assessment instruments (TAP-IMP).

Topics Included:

Arithmetic Skills
- Whole Numbers (Basic Operations)
- Integers (Basic Operations)
- Fractions
  - Basic Operations
  - Reduction
  - Proper
  - Improper
  - Mixed Numbers
- Rational Numbers (Definitions)
- Decimals (Basic Operations)
- Percent
- Irrational Numbers (Definitions)
- Literal Number
  - Combination
  - Multiplication
  - Division

Geometry - Measurement & Application
- Geometric Figures
- Perimeter
- Area
- Pythagorean Theorem
- Time Measurement
- Linear Measurement
- Volume Measurement
- Application of Measurement
- Proportion

Modern Concepts
- Prediction of Sequences
- Ordered Pairs - Linear Functions
- Intersection and Union of Sets
- Expanded Notation
- Other Number Bases
- Base Two Operations
- Inequalities
- Number Properties
- Divisibility Rules
- Primes
SOURCE REFERENCE

60. Dr. John A. Dow
    Research for Better Schools, Inc.
    1700 Market Street
    Philadelphia, Pennsylvania 19103

61. Mr. Reeves Gandy
    Senior Editor - Listen Look Learn
    Educational Development Laboratories, Inc.
    Huntington, New York 11743

62. Dr. Margaret Houlihan
    Division of Evaluation and Research
    St. Louis Public Schools
    St. Louis, Missouri
60. Individually Prescribed Instruction - Reading Objectives (K-I) - Research for Better Schools, Philadelphia, Pennsylvania

Description: A working paper listing student skills for eleven levels, with multiple skills listed within each major topic. Also included are sample test items for each skill.

Topics Included: Visual Discrimination  Related Reading
Auditory Discrimination  Vocabulary Development
Literal Comprehension  Reference Skills
Interpretive Comprehension  Structural Analysis
Evaluative Comprehension  Organizational Skills
Library Skills


Description: A bulletin which identifies the specific goals of the Listen Look Learn system in areas related to visual and auditory perception, vocabulary development, and reading fluency. Listen Look Learn is a non-graded multi-media, communications skills system emphasizing basic reading and related language arts skills.

62. Reading Comprehension: Primary and Middle Grades (K-I) - St. Louis Public Schools, St. Louis, Missouri

Description: A two volume set containing objectives adapted from the Instructional Objectives Exchange at U.C.L.A. Also included are sample test items, possible answers to the items, and references to sources of supplementary materials.

Topics Included:

<table>
<thead>
<tr>
<th>Primary</th>
<th>Related Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determining Story Facts</td>
<td>Personal Traits &amp; Emotional</td>
</tr>
<tr>
<td>Sequence</td>
<td>Reaction of Story Characters</td>
</tr>
<tr>
<td>Locating Specific Information</td>
<td>Comparing &amp; Contrasting</td>
</tr>
<tr>
<td>Main Idea</td>
<td>Predicting Outcomes</td>
</tr>
<tr>
<td></td>
<td>Fact &amp; Fantasy</td>
</tr>
</tbody>
</table>
63. Dr. Jeannette Jarecke  
Director of Reading K-12  
School Board of Broward County  
1320 Southwest Fourth Street  
Fort Lauderdale, Florida 33312  

64. Dr. Dale Wiezenecker  
Assistant Superintendent for Instruction  
Reading Skills Reference Guide  
Brevard County Schools  
P. O. Box 5  
Titusville, Florida
63. Reading Probes (K-I) - Broward County Public Schools, Ft. Lauderdale, Florida

Description: A skills booklet for elementary school reading; objectives, oral directions and pupil response sheets are included.

Topics Included:
- Multisensory Readiness
- Vocabulary Skills
- Study Skills

64. Reading Skills Reference Guides - Primary and Intermediate (K-I) - Brevard County Schools, Titusville, Florida

Description: Each guide is a sequential presentation of skills (objectives) in the Scott Foresman Reading Series and developmental patterns of organization for using appropriate supportive materials. The zones of learning in the Guide are based upon the sequential development of skills as presented in the Scott Foresman Series. Each zone introduces new learnings appropriate to that level, and reinforces skills and understandings that have been introduced in previous zones. Each guide has a Basic program and an In-depth program.

Topics Included:

<table>
<thead>
<tr>
<th>Primary</th>
<th>Intermediate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentence Meaning</td>
<td>Word &amp; Phrase Meaning</td>
</tr>
<tr>
<td>Sensory Images</td>
<td>Sentence &amp; Paragraph</td>
</tr>
<tr>
<td>Emotional Reactions</td>
<td>Meaning</td>
</tr>
<tr>
<td>Motives</td>
<td>Main Idea</td>
</tr>
<tr>
<td>Relationships</td>
<td>Relationships</td>
</tr>
<tr>
<td>Visual Perception</td>
<td>Critical Reading</td>
</tr>
<tr>
<td>Auditory Perception</td>
<td>Locating Information</td>
</tr>
<tr>
<td>Scrutiny Context</td>
<td>Word Analysis</td>
</tr>
<tr>
<td>Phonetic Analysis</td>
<td>Dictionary</td>
</tr>
<tr>
<td>Structural Analysis</td>
<td></td>
</tr>
<tr>
<td>Dictionary Skills</td>
<td></td>
</tr>
</tbody>
</table>
SOURCE REFERENCE

65. Dr. Mark Shedd  
     Superintendent of Schools  
     School District of Philadelphia  
     Philadelphia, Pennsylvania 19103

66. Mr. Michael Fratella, Principal  
    Lake Forest Elementary School  
    427 Southeast 43rd Street  
    Gainesville, Florida
65. System for Reading Improvement for the 70's (K-I) - School District of Philadelphia, Philadelphia, Pennsylvania

Description: A progress report providing a description of the program, the philosophy, and the plan of operation for the system. An appendix contains an outline of reading competencies, with both pupil and teacher objectives stated. Five topics are dealt with at nine levels of difficulty, reflecting a spiral approach.

Topics Included: Mechanics of Handling Books
Word Recognition Skills
Comprehension
Study Skills
Appreciation of Literature

66. Systematic Study for Improving Reading Skills of Lake Forest Students (K-I) - Lake Forest Elementary School, Gainesville, Florida

Description: A two document set, the first of which contains an overall description of the program, including the philosophy, the student population, review of research, current methods, survey of current programs, survey of resources, and the student objectives and needs. The second contains activities, resources, and evaluation strategies for the student objectives.

Topics Included: Developing Reading Readiness
Physical Development
Emotional and Social Development
Educational Development

Develop Sight Vocabulary

Develops Phonic Analysis
Visual & Auditory Symbols

Develops Structural Analysis of Words
Compound Words
Prefixes, Suffixes & Roots
Syllabication
Accentuation

Learns to Use Context Clues to Recognize & Obtain Word Meanings

Vocabulary

Developing Skills in Comprehension
Information Skills
Study Skills
Interpretive Skills
Creative Skills

Learns Effective Use of the Dictionary
As an Aid to Pronunciation
SOURCE REFERENCE

67. Dr. Richard E. Schutz
    Executive Director
    Southwest Regional Laboratory
    11300 LaCienga Boulevard
    Inglewood, California  90304

68. Mr. Hilton F. Jones, Sr.
    Superintendent of Schools
    Dixie County Schools
    Cross City, Florida

69. Dr. Fred Phillips
    Assistant Superintendent
    Curriculum and Instruction
    Birmingham Board of Education
    P. O. Drawer 10007
    Birmingham, Alabama  35202

70. School Division
    The MacMillan Company
    255 Ottley Drive, N. E.
    Atlanta, Georgia  30324
67. The Learning Mastery System (K-P) - Southwest Regional Laboratory of Educational Research and Development, Inglewood, California

*Description:* A computer-based management system designed to facilitate the identification, reporting, and individual guidance of pupil progress with respect to specific instructional outcomes. It contains a Teachers Manual, Criterion Exercises, Practice Exercises, and Class Record sheets.

68. A Learning Design for Reading (K-SH) - Dixie County Schools, Cross City, Florida

**Description:** A document containing student objectives, suggested learning tasks, and instructional resources. Tasks and resources are given for each objective. An appendix contains sources of instructional materials.

**Topics Included:**
- Pre-Reading Background
- Experience
- Beginning Reading
- Vocabulary Development
- Word Recognition Skills
- Understanding Comprehension, & Critical Reading Skill
- Personal Development
- Through Reading
- Interpretation of Literary Content & Merit
- Reading Interest & Appraisations
- Work Study Skills
- Approaches to Outcomes of Reading

69. A Program Description (K-SH) - Birmingham Public Schools, Birmingham, Alabama

**Description:** Program objectives and assessment techniques for Title I children at four levels: Kindergarten, Early Elementary (1-3), Later Elementary (4-6), and Secondary (7-12).

70. Behavioral Objectives - The MacMillan Reading Program (P) - The MacMillan Company, Atlanta, Georgia

**Description:** The program includes objectives, mastery tests, workbook exercises, practice exercises and provisions for individual differences.
SOURCE REFERENCE

71. Mr. Charles Smyth, Vice-President
Random House
School Department
201 East 50th Street
New York, New York 10022
Topics Included:

Reading Readiness
Basic Behavioral Skills
General Language Skills
Visual Discrimination
Auditory Discrimination
General Reading Skills
Using Printed Material Appropriately
Silent Reading
Oral Reading

Comprehension
Words, Phrases, Sentences
& Paragraphs
Literal Comprehension
Inferential Comprehension
Attitudes, Interests, & Appreciation
Develops Interest in Reading
Improves & Refines Reading Interests

Word Identification
Using Phoneme-Grapheme Relationships
Using Context Clues to Identify Words
Using Minimal Variation
Knowing & Applying Phonic Generalizations
Using Kinesthetic Procedure to Reinforce Perception, Identification, & Recall
Practicing Good Word-Perception Habits
Using Self-Help Cues, Dictionary, or Glossary to Discover Pronunciation of New Words
Recognizing Learned Words Without Benefit of Context
Demonstrating a Growing Sight Vocabulary

Morphemic Analysis & Graphic Cues
Phonemic & Meaning Implications of Inflectional Endings
Compound Words in Which Components are Known Words
Phonemic & Meaning Implications of Affixes
Root Word in a Word with Prefixes and/or Suffixes
Combining Cues in Identifying Words
Meaning Implications of Graphic Clues

Study Skills
Self-Help Picture & Sentence Cues
Dictionary Identification of Words, Pronunciation & Meanings
Locating Needed Reading Material
Outlining & Summarizing Material Read

Description:
Identifies 488 intellectual skills arranged from the most simple to the complex. Within the performance-based, criterion-referenced system six areas of expected competencies are identified and sequenced in five levels of complexity. The identification of both outcome and process skills provides the basis for diagnosis, reading instruction, and student mastery.
SOURCE REFERENCE

72. Dr. Hazen Curtis
Department of Educational Research
Florida State University
Tallahassee, Florida 32306
Topics Included: Sensorimotor Skills  Structural Analysis Skills
Phonology Skills  Verbal Information Skills
Syntax Skills  Comprehension Skills

72. Florida Agricultural Migrant Right-to-Read Program: A Suggested Set of Objectives (P-I) - Florida State Department of Education, Tallahassee, Florida

Description: A set of suggested behavioral objectives, and examples, for the Florida Migrant Right-to-Read Program. Objectives are presented in outline form by topic and by level (12) within topic.

Topics Included: Oral-Aural Skills
- Listening
- Speaking
- Oral Interpretation
- Oral Language Structure

Vocabulary Development
- Sight Vocabulary
- Word Meaning

Word Analysis
- Phonetic Recognition
- Structural Recognition
- Context

Comprehension
- Main Ideas
- Specific Information
- Critical Reading

Attitudes & Appreciation
- Attitudes
- Children's Literature

Study Skills
- Alphabet Usage
- Outlining
- Read From Maps, Tables & Graphs
- Dictionary Skills
- Library Skills
- Abbreviations
- Parts of Books
- Reading Rate

Applications
- Vocabulary
- Oral-Aural Skills
- Word Analysis
- Comprehension
- Study Skills
SOURCE REFERENCE

73. Mr. Jerry Sullivan
Associate Regional Manager
CTB/McGraw-Hill
1375 Peachtree Street, N.E.
Atlanta, Georgia 30309

74. Dr. Wayne Otto
Wisconsin Research and Development Center for Cognitive Learning
The University of Wisconsin
Madison, Wisconsin

75. Mrs. Lois Tjaden
Supervisor of Reading and Elementary Language Arts
Sarasota County School District
2418 Hatton Street
Sarasota, Florida 33577
73. Prescriptive Reading Inventory - PRI (P-I) - CTB/McGraw-Hill, Atlanta, Georgia

Description: The PRI is designed to provide diagnostic and prescriptive information concerning specific objectives and is divided into levels. The items sample various levels of difficulty in each of the content categories represented. The Teacher's Guide gives a listing of the objectives upon which the PRI is based. Different levels have different numbers of items for any given objective.

The PRI is still under development. More specific information as to topics is not yet available.

74. The Wisconsin Design for Reading Skill Development (WDRSD) (P-I) - The University of Wisconsin, Madison, Wisconsin ($700.00)

*Description: WDRSD focuses on the skill development aspect of reading instruction in the elementary school. Explicit objectives are stated for the areas of word attack, comprehension, and study skills. Skills in Self-Directed Reading, Interpretive Reading, and Creative Reading are accompanied by general guidelines or "open" objectives. WDRSD is based on a collection of reading skills believed to be essential for competence in reading. The purpose of WDRSD is to expedite individually guided education in reading by providing the teachers with: means for assessing individual pupil's skill development with reference to criterion behavior, a comprehensive management system to guide grouping for, and planning of, skill development instructions, and a plan for monitoring each pupil's progress in the development of specific reading skills.

75. Sarasota County Objectives in Reading and English, SCORE (P-SH) - The School Board of Sarasota County, Sarasota, Florida

Description: A continuous hierarchy of goals and objectives for basic tasks and skills, ranging from simple prerequisite skills to advanced complex skills. Also includes evaluation and feedback procedures.

Topics Included: Motor Development & Motor Integration
Perceptual-Motor Symbolic Development
Word Recognition Skills
Comprehension Skills Study Skills
Creative Application Personal & Individual Reading
Life Skills
SOURCE REFERENCE

76. Research Press Company
   P. O. Box 3177
   Champaign, Illinois 61820
76. Pass Packet (I) - Research Press Company, Champaign, Illinois

Description: A systematic program for skill maintenance in 4th, 5th and 6th grade reading, math, and language arts through a series of 80 curriculum-centered sets of work materials for each grade.

Topics Included:*

- **Read & Think Skills**
  - Sequence & Specific Information
  - Interpreting Details and Main Ideas
  - Relationships
  - Identify Reasons for Writing
  - Distinguishing Fact from Fiction
  - Seeing Literary Style
  - Predicting Outcomes

- **Sentence Sense**
  - Recognizing Sentences
  - Sentence Structure
  - Capitalization
  - Adjectives
  - Alphabetical Order
  - Contractions
  - Punctuation
  - Possessives

- **Word Attack**
  - Root Words, Prefixes & Suffixes
  - Syllabication
  - Antonyms & Synonyms & Compound
  - Contractions
  - Word in Context Clues
  - Word in Glossaries

- **Math**
  - Reading Numbers
  - Add
  - Subtract
  - Multiply
  - Divide

- **Sight & Sound**
  - Consonants & Consonant Combinations
  - Vowels & Vowel Combinations

- **Using English**
  - Noun Forms
  - Irregular Verbs
  - Pronoun Forms
  - Homonyms
  - Difficult Adverbs

*4th grade topics only - 5th and 6th grade not reviewed
SOURCE REFERENCE

77. Xerox Education Division
    600 Madison Avenue
    New York, New York 10022

78. Mr. Jack Allen
    Director of Curriculum
    Multnomah County Intermediate
    Education District
    P. O. Box 16657
    Portland, Oregon 97216

79. Dr. George T. Gabriel, Director
    Office of Educational Research
    Board of Education of Baltimore County
    Towson, Maryland 21204
77. Science - A Process Approach (K-I) - Xerox Corporation, Carlstadt, New Jersey

Description: The AAAS, Science - A Process Approach, is a comprehensive program for teaching science in the elementary school. Each exercise is organized under a general topic heading and includes objectives, sequence, rationale, vocabulary, materials, instructional procedure, generalizing experience, appraisal, and competency measures. The objectives for the primary grades are classified as basic processes, while those for the intermediate grades are classified as integrated processes requiring the combination of two or more basic ones.

Topics Included:
- Primary
  - Observing
  - Using Space/Time Relationships
  - Classifying
  - Using Numbers
  - Measuring
  - Communicating
  - Predicting
  - Inferring
- Intermediate
  - Controlling Variables
  - Interpreting Data
  - Formulating Hypotheses
  - Defining Operationally
  - Experimenting

78. Tri-County Area Course Goal Collection in Biological and Physical Science (K-SH) - Multnomah County Intermediate Education District, Portland, Oregon

*Description: A collection of goal statements arranged in a hierarchical manner to reflect the need for greater specificity as one progresses from the district level, through the program level, down to the course level. A fourth level of goal statement is the teacher made goal statement. Goals at this level, however, are not specified by the district.

79. Summary Report of NSSA - Workshops on Behavioral Objectives - Science (P-SH) - Board of Education of Baltimore County, Towson, Maryland

Description: An outline of affective objectives for science. Also included are a list of behavioral verbs and examples of related behavior.
SOURCE REFERENCE

80. Mr. Lloyd Otterman
    General Manager
    Box 11607
    Santa Ana, California 92705

81. Mr. Charles R. Davis, Jr.
    Assistant Supervisor of Science
    State Department of Education
    Richmond, Virginia 23216
### Topics Included:

<table>
<thead>
<tr>
<th>Awareness of Conditions</th>
<th>Acceptance of Values</th>
<th>Preference for Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness of Conditions</td>
<td>People of Science</td>
<td>Considered Response</td>
</tr>
<tr>
<td>Relates to Science</td>
<td>Science Grows</td>
<td>Science as a Basic Part of Modern Living</td>
</tr>
<tr>
<td>The Interaction of Science &amp; Technology</td>
<td>Science Advances</td>
<td>Scientific Climate</td>
</tr>
<tr>
<td>The Interaction of Science &amp; The Arts</td>
<td>Mankind</td>
<td>Inquiry</td>
</tr>
<tr>
<td>Limitations of Science</td>
<td>Inquiry</td>
<td>Creativity</td>
</tr>
</tbody>
</table>

### Acceptance of Values

- Superstition
- Weighing Evidence

### Preference for Values

- Curiosity
- Patience
- Persistence
- Open-Mindedness
- Confidence in Scientific Method
- Intellectual Satisfaction
- Enjoyment from Science
- Creativity

---

**80. Independent Learning Program (I) - Doubleday Multimedia, Santa Ana, California**

**Description:** Multimedia packages containing filmloops, records and written materials. Objectives are embedded within the total learning package which also includes pre and post tests, learning activities, quest study activities and references. Five major topics are dealt with in this series. For each topic, four physical characteristics (color, body structure, locomotion, sense) and four behavior patterns (getting food and water, protection, reproduction, caring for young) are dealt with.

**Topics Included:**
- Animals Without Backbones
- Reptiles
- Mammals
- Fish
- Birds

---

**81. Earth and Space Science (JH) - Virginia State Department of Education, Richmond, Virginia**

**Description:** A curriculum guide outlined by significant ideas in earth and space science. The guide includes goals, specific objectives, suggested student investigation, activity references and reading references.
SOURCE REFERENCE

82. Mr. Charles R. Davis, Jr.
   Assistant Supervisor of Science
   State Department of Education
   Richmond, Virginia 23216
Topics Included:
The Land on Which We Live
The Earth's Structure
The Earth's Crust
Changes in Topography
Transfer of Energy
Rocks and Minerals
History of the Earth
Topographic & Geologic Maps

The Waters of the Earth
The Distribution of Land and Sea
Shoreline Evolution & Features
Vertical Structure of the Ocean
Sea Water
Topography of the Ocean Bottom
Energy Changes in the Ocean
Life in the Ocean
Ocean Resources

The Earth & Its Place in the Universe
Overview
Motions
The Solar System
Locating & Ranging
The Stars
Time
Origin of the Universe
Satellites & Space Travel

The Everchanging Atmosphere
The Sea of Air
Weather & Climate

82. Physical Science (JH) - Virginia State Department of Education, Richmond, Virginia

Description:
A curriculum guide outlined by significant ideas in earth and space science. The guide includes goals, specific objectives, suggested student investigations, and teacher notes and references.

Topics Included: Measurement of Matter
Classification of Matter
Properties of Matter
Physical Properties
Thermal Conversion Points
Organization of Components
Thermal Expansion
Structure of Matter
Specific Heat
Radioactivity
Solubility
Atomic Theory
Interaction of Energy With Matter
Energy, How it is Observed
Objects in Motion

SOURCE REFERENCE

83. Mid-Continent Regional Laboratory
104 East Independence Avenue
Kansas City, Missouri 64106
Description: A categorization of behavioral objectives, emphasizing inquiry processes as exemplified by content. There are representative examples of behaviors involving both inquiry processes and biological content. For each major topic there are inquiry factors and acceptable student performance.

Topics Included: Recognition & Differentiation
- Taxonomic Principle
- Antecedent - Consequent Principle
- Structure - Function Principle
- Regulation & Homeostasis Principle
- Self-Regulatory System Principle

Skills in Carrying out Principles of Inquiry
- Activities Characteristic of the Taxonomic Mode
- Activities Characteristic of the Antecedent - Consequent Mode
- Activities Characteristic of the Structure - Function Mode
- Activities Characteristic of the Regulation - Homeostasis Mode
- Activities Characteristic of the Self-Regulatory Mode

A Biological Problem Stated in Terms of the Five Guiding Principles

Major Factors in Inquiry
- Formulating a Problem
- Designing a Study
- Interpreting the Data or Findings
- Formulating Hypotheses
- Executing the Plan of Investigation
- Synthesizing Knowledge Gained from Investigation

Additional Specificity for Inquiry Factors
- Formulating a Problem
- Designing a Study
- Interpreting the Data or Findings
- Formulating Hypotheses
- Executing the Plan of Investigation
- Synthesizing Knowledge Gained from Investigation

Samples of Instructional Strategies to Bring About Desired Behaviors
- Formulating a Problem
- Designing a Study
- Interpreting the Data or Findings
- Formulating Hypotheses
- Executing the Plan of Investigation
- Synthesizing Knowledge Gained from Investigation
SOURCE REFERENCE

84. Mr. Timothy J. Westbrook
   Vice-President
   Ward's Natural Science Establishment, Inc.
   P. O. Box 1712
   Rochester, New York 14603
Affective or Attitudinal Qualities of Inquiry Behaviors

Curiosity          Confidence
Openness            Perserverance
Reality Orientation Satisfaction
Risk-taking         Respect for Theoretical
Precision           Structures
Responsibility      Concensus & Collaboration

Inquiry into Inquiry
Analyzing Research for its Basic Parts
Analyzing Relationships Among Basic Parts
Evaluating a Research Report
Comparing Scientific Papers
Applying Skills Gained from Analyzing Scientific Papers to Other Reports

84. Solo-Learn System (SH) - Ward's Natural Science Establishment, Inc., Monterey, California ($27.00/unit)

Description: A self-contained, individualized, multi-media system utilizing visual and audio aids, employing active participation by students. Each topical unit contains instructions, learning objectives, an audio cassette, a filmstrip, a package of 25 four-day student review sheets, and answer keys.

Topics Included:

Biological Measurements
Diffusion & Osmosis
The Animal Cell
Carbohydrates
Carbohydrate Structure & the Glycosidic Link
Amino Acid Structure & the Peptide Link
Proteins & Deamination
Biological Oxidation & ATP Oxidations: Fundamental Types
The KREBS Cycle
Mitosis
Meiosis
Gametogenesis
Probability
Sex Determination & Sex-Linkage
DNA

Photosynthesis
Photosynthesis Details I
Photosynthesis Details II
Fats
Amino Acids
Mutations & Chromosomal Modifications
Ecology
Homeostasis
The Energy Cycle & Trophic Levels
The Water Cycle
The Carbon Cycle
The Nitrogen Cycle
Malaria
Schistosomiasis
Mendelian Inheritance
Linkage, Crossing-Over & Chromosome Maps
The Nucleotides
SOURCE REFERENCE

85. Mr. Ron Caselli
Coordinator of Ethnic Studies
Sonoma County Office of Education
2555 Mindocino Avenue
Santa Rosa, California 95401

86. McGraw-Hill Book Company
330 West 42nd Street
New York, New York 10036
SOCIAL STUDIES

85. An Instructional Plan for Teaching Black History (P-A) - Sonoma County of Education, Santa Rosa, California

Description: Instructional objectives for Black History designed primarily for secondary social studies. Also includes a basic reading list and a basic film list.

Topics Included: Inferential Purposes of the Black History Program Basic Historical Content of the Black History Program Development of Skills Within the Black History Program


Description: Descriptions of content of films intended primarily for use in world history, world cultures, and European history courses. For each film, student objectives are listed as well as suggestions for discussion.

SOURCE REFERENCE

87. Dr. William E. Drake
Professor and Chairman,
Agricultural and Occupational Education
Department of Education
Stone Hall
Ithaca, New York 14850

88. Mr. Z. J. Hamlett
Automotive Staff
Daytona Beach Community College
P. O. Box 1111
Daytona Beach, Florida 32015

89. Mr. Z. J. Hamlett
Automotive Staff
Daytona Beach Community College
P. O. Box 1111
Daytona Beach, Florida 32015
87. Performance Goals for Occupational Education in Agriculture (JH-A) - State Education Department, Albany, New York

Description: Several hundred instructional modules, each containing specific objectives, content, teaching method, student application activities, evaluative procedures and resource materials.

Topics Included: Agricultural Production, Agricultural Resources
Agricultural Supplies/Services, Forests
Agricultural Mechanics, Agriculture, Other
Ornamental Horticulture

Each topic encompasses a number of modules on specific topics.

88. Automotive Engines and Related Systems: Behavioral Objectives (JH-A) - Daytona Beach Community College, Daytona Beach, Florida

Description: A course outline which contains goals, general objectives, specific objectives, and evaluation procedures for both affective and performance objectives.

Topics Included: The Engine, Electrical System
Lubrication System, Cranking Motors
Cooling System, Charging System
Fuel System, Ignition System

89. Power Train and Chassis: Behavioral Objectives (JH-A) - Daytona Beach Community College, Daytona Beach, Florida

Description: A course outline which contains goals, general objectives, specific objectives, and evaluation procedures for both affective and performance objectives.

Topics Included: Clutch Assembly, Brake System
Three-Speed Transmission, Front Suspension & Steering
Propeller, Shaft, Universal Joints & Rear Suspension, Wheel Alignment & Adjustment Procedures
Rear Axle Assembly
SOURCE REFERENCE

90. Dr. Robert E. Collard
   Consultant, Industrial Education
   Division of Vocational, Technical
   and Adult Education
   State Department of Education
   Tallahassee, Florida 32304

91. Dr. Robert E. Collard
   Consultant, Industrial Education
   Division of Vocational, Technical
   and Adult Education
   State Department of Education
   Tallahassee, Florida 32304

92. Dr. Carl W. Proehl, Director
    State Department of Education
    Division of Vocational, Technical
    and Adult Education
    State Department of Education
    Tallahassee, Florida 32304
90. Report on Instructional Analysis Study of the Automotive Mechanic Occupation (SH-A) - State Department of Education, Tallahassee, Florida

Description: A course outline for the preparation of auto mechanics at the job entry level. Indicates knowledges and competencies to be achieved within each topic.

Topics Included:
- Engine
- Electrical System
- Fuel Systems
- Power Train
- Cooling System
- Steering System
- Braking System
- Suspension System
- Heating & Air Conditioning

91. Instructional Analysis of the Cosmetology Occupation (SH-A) - State Department of Education, Tallahassee, Florida

Description: A course outline for the preparation of cosmetologists at the job entry level. Indicates competencies to be achieved within each topic.

Topics Included:
- Permanent Waving
- Hair Cutting & Shaping
- Scalp Treatment
- Hair Coloring, Tinting & Bleaching
- Shampooing
- Finger Wave & Hair Style
- Facials, Massage, Make-up & Light Therapy
- Manicuring & Pedicuring
- Hair Straightening
- Wigs & Hair Pieces
- Charm & Poise
- Shop Management

92. Employability Skills Guide for Work Experience Programs (JH-A) - Division of Vocational, Technical & Adult Education - Florida Department of Education, Tallahassee, Florida

Description: A guide which classifies objectives in terms of major goals. Includes learning experiences, resources, and methods of evaluation, for each objective.

Topics Included:
- Attitudes about Work, School & Society
- Personal Appearance & Hygiene
- Connection Between World of Work & Study
- Personality Characteristics
- Personal Economics & the Economic System
- Recognition Through Successful Experiences
- Achievement in the School's Educational Program
SOURCE REFERENCE

93. Ms. Ruth Vaes, Editorial Manager
Published Products, Building 235-2N
3M Company
3M Center
St. Paul, Minnesota 55101

94. Mr. Joseph L. Boyd, Jr.
Educational Testing Service
Princeton, New Jersey 08540

95. Mrs. Marcia B. Garman
Research Analyst
San Mateo County Office of Education
Education Resources Center
590 Hamilton Street
Redwood City, California 94063
93. Units on Management (JH-A) - 3M Company, St. Paul, Minnesota

*Description:  A series of units on management, e.g., "Evaluating Advertising", each of which contains objectives, suggestions for the teacher, and a bibliography. Each topic in a unit is keyed to media produced by 3M.


Description: An extensive document offering a rationale for the use of performance tests, ways to plan for their use, and guidelines for the preparation and grading of such tests. It also contains an appendix of performance tests in the thirteen areas listed below.

Topics Included: Bench Woodwork
Operation of IBM 083 Sorter
Fabrication of a Rigid Tube Assembly
Fabrics Repair
Joining Ferrous & Nonferrous Metals
Metal Body Repair
Dental Hygiene
Offset Press Operation
Machinist
Automatic Clothes Washer Simulator
Transistor Receiver
Cosmetology
Plymouth Troubleshooting Contest

95. Vocational-Technical Education Programs (SH) - San Mateo County Office of Education, Redwood City, California

Description: Terminal performance objectives for several programs in the area of vocational-technical education. For each objective in each program there are explicit statements of the terminal performance, the expected student performance, the conditions under which the student will perform, and the extent to which the student will perform. All materials are available in microfiche format only.
SOURCE REFERENCE

96. Mr. Donald Gilman
   Alaska Skill Center
   P. O. Box 615
   Seward, Alaska 99664
### Topics Included:

- Terminal Performance Objectives for a Phased Typing Program in Business Education ($0.75)
- Calculating Machines 1, Terminal Performance Objectives ($0.25)
- Occupational Competence Unit Series 'Teachers' Resource Guides for Occupational Competence' ($1.25)
- Calculating Machines 2 ($0.25)
- Terminal Performance Objectives for Selected Programs in: Business Education, Distributive Education, Work Experience Education, Career Guidance ($0.50)
- Terminal Performance Objectives for a Phased Shorthand Program in Business Education ($0.75)

#### 96. Vocational-Technical Training Programs (SH-A) - Alaska Skill Center, Seward, Alaska

**Description:**
A compilation of objectives for trainees enrolled in various job-entry level training programs. A Trainee Progress Chart is provided for each skill area which lists tasks and subtasks (objectives) necessary for successful completion of the program. Evaluation is based upon instructor ratings of the student's capability.

<table>
<thead>
<tr>
<th>Topics Included:</th>
<th>Mechanical Cluster</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Clerical Cluster</strong></td>
</tr>
<tr>
<td></td>
<td>Office Safety</td>
</tr>
<tr>
<td></td>
<td>Delivery Services</td>
</tr>
<tr>
<td></td>
<td>Typing Principles</td>
</tr>
<tr>
<td></td>
<td>Business English</td>
</tr>
<tr>
<td></td>
<td>&amp; Communication</td>
</tr>
<tr>
<td></td>
<td>Business Mathematics</td>
</tr>
<tr>
<td></td>
<td>Record Keeping</td>
</tr>
<tr>
<td></td>
<td>Accounting</td>
</tr>
<tr>
<td></td>
<td>Shorthand</td>
</tr>
<tr>
<td></td>
<td>Office Procedures &amp; Machines</td>
</tr>
<tr>
<td></td>
<td>Mechanical Cluster</td>
</tr>
<tr>
<td></td>
<td>Mechanic Fundamentals</td>
</tr>
<tr>
<td></td>
<td>Gasoline Engine Repairman</td>
</tr>
<tr>
<td></td>
<td>Marine Diesel Mechanic</td>
</tr>
<tr>
<td></td>
<td>Helper</td>
</tr>
<tr>
<td></td>
<td>Automotive Mechanic</td>
</tr>
<tr>
<td></td>
<td>Helper</td>
</tr>
<tr>
<td></td>
<td>Heavy Equipment Mechanic</td>
</tr>
<tr>
<td></td>
<td>Helper</td>
</tr>
<tr>
<td></td>
<td>Power Plant Generation</td>
</tr>
<tr>
<td></td>
<td>Fundamentals</td>
</tr>
<tr>
<td></td>
<td>Maintenance Cluster</td>
</tr>
<tr>
<td></td>
<td>Porter I</td>
</tr>
<tr>
<td></td>
<td>Porter II</td>
</tr>
<tr>
<td></td>
<td>Janitor</td>
</tr>
<tr>
<td></td>
<td>Maintenance Man Helper</td>
</tr>
<tr>
<td></td>
<td>Building Maintenance Man I</td>
</tr>
<tr>
<td></td>
<td>Building Maintenance Man II</td>
</tr>
</tbody>
</table>

**Cooking Cluster**
- Cook's Helper
- Bull Cook
- Short Order Cook
- Mess Cook
- Cook (Hotel & Restaurant)
- Baker's Helper
- Pie Maker

- Maintenance Cluster
- Porter I
- Porter II
- Janitor
- Maintenance Man Helper
- Building Maintenance Man I
- Building Maintenance Man II
SOURCE REFERENCE

97. Mr. Donald F. Averill, Coordinator
    Work Experience Education
    Whittier Union High School District
    12102 East Washington Boulevard
    Whittier, California  90606
Description: A document which contains goals, selected program objectives, specific objectives, terminal objectives and evaluative criteria for students enrolled in California State programs of work experience education.

Topics Included: Exploratory Work Experience
General Work Experience
Vocational Work Experience

For each topic, objectives related to:
Relevancy
Self-development
Self-evaluation
Acculturation
Human Relations
SOURCE REFERENCE

98. Lockheed Educational Systems
     P. O. Box 504
     Sunnyvale, California  94088

99. Dr. B. Elgit Blanton
     Office of Reading and Language Studies
     207 Pine Hall
     School of Education
     Indiana University
     Bloomington, Indiana  47401

100. Dr. Raymond Bernabei
      Bucks County Public Schools
      Curriculum Resources Center
      80 East Court Street
      Doylestown, Pennsylvania  18901

101. Ms. Holly Smith
      Assistant to the Director
      National Clearinghouse on the
      Teaching of English
      1171 Kenyon Road
      Urbana, Illinois  61801

Description: Reports on nine new programs in American government which offer new approaches. Each report describes program goals and objectives, content and materials, classroom strategy, student and teacher prerequisites, implementation requirements and costs, program development and evaluation, and project history.

99. Behavioral Objectives - Office of Reading and Language Studies, Indiana University

Description: An annotated bibliography containing sources of behavioral objectives, articles about projects using objectives, and books on the use of objectives in instruction.

100. Behavioral Objectives: An Annotated Resource File - Raymond Bernabei, Bucks County Public Schools, Doylestown, Pennsylvania ($2.00)

Description: An annotated resource file which contains research studies, conference papers, and other documents on behavioral objectives.


Description: Two documents containing lists of books, articles, and reports on the writing of objectives, the potential uses of objectives, and projects which have developed or are utilizing objectives in the area of English and language arts.

Documents:
- An NCTE/ERIC Bibliography on Behavioral Objectives
- A Current Bibliography on Accountability, Performance Contracts, Behavioral Objectives and Assessment of Student Performance in Language Arts
SOURCE REFERENCE

102. Ms. Grace Patterson
Office of the Superintendent
Buffalo Public Schools
Buffalo, New York 14202

103. Dr. Bruce Joyce
Teachers College
Columbia University
New York, New York

104. Mr. John F. Reynolds
Director, Performance Objectives Program
Amherst-Pelham Schools
Amherst, Massachusetts 01002
102. Blueprint for Progress - Buffalo Public Schools, Buffalo, New York

Description: Reports on federal and state funded educational programs in the city of Buffalo. For each program listed there is included a general description of the project, project objectives, project activities, pupils served by the project, facilities to be used, the personnel participating, the evaluation design, and the total proposed budget.


Description: A book containing a collection, classification and analysis of sources of competency-oriented teacher programs and materials.

Topics Included:
- Basic Interactive Teaching Skills
- Instructional Planning & Design Skills
- Teaching Strategies
- Analysis of Classroom Activity
- Instructional Decision-Making
- Student Diagnosis & Evaluation
- Foundations of Education
- Content Areas
- Media & Instructional Technology
- Educational Staffing & Instructional Organization
- Staff Development

104. Sources of Information on Performance Objectives, POP Mini-paper #4 - Amherst-Pelham Schools, Amherst, Massachusetts

Description: An annotated bibliography containing sources of behavioral objectives, articles about projects using objectives, and books on the use of objectives in instruction.
SOURCE REFERENCE

105. Ms. Fay F. Davis
    Product Information
    Southwest Cooperative Educational Laboratory
    117 Richmond Drive, N. E.
    Albuquerque, New Mexico 87106

106. Mr. James B. Andrews
    Music Supervisor
    Department of Education
    Charleston, West Virginia 25305

107. Dr. E. Wayne Roberson
    EPIC Diversified Systems, Corp.
    P. O. Box 13052
    Tucson, Arizona 85711
105. Behavioral Objectives Package - Southwestern Cooperative Educational Laboratory, Albuquerque, New Mexico

*Description: An instructional package containing slide-tape presentations, and a workbook which consists of six lessons and the related pre and post tests. Also included in the workbook are an outline of goals and objectives, the instructional program, the three domains (cognitive, affective, and psychomotor), entering behaviors, components of a behavioral objective, and how to write a behavioral objective.

106. The CEP "Primer" for Writing Objectives (A) - West Virginia Department of Education, Charleston, West Virginia

Description: Pamphlet produced for use in workshops designed to teach instructional personnel the rationale for the production and utilization of objectives.

Topics Included: Glossary, Rudiments of Objective Writing, Curriculum Objective, Ideas for Implementation

Levels of Objectives: Policy Objective, Program Objective, Instructional Objective


Description: A series of publications designed to assist educators in developing skills for evaluating educational programs by utilizing goals and objectives in specifying learning outcomes.

Topics Included: A Scheme for Evaluation & Organizational Structure Variables, Developing & Writing Behavioral Objectives, Evaluation Design, Coding & Writing Test Items, Case Studies, Proposal Guidelines, Performance & Process Objectives, Needs Assessment
SOURCE REFERENCE

108. Mr. John F. Reynolds  
    Director, Performance Objectives Program  
    Amherst-Pelham Schools  
    Amherst, Massachusetts 01002

109. Ms. Fay F. Davis  
    Product Information  
    Southwestern Cooperative Educational Laboratory  
    117 Richmond Drive, N. E.  
    Albuquerque, New Mexico 87106

110. Dr. J. Marvin Cook  
    Associate Professor of Education  
    University of Maryland  
    Baltimore, Maryland 21228
Basic Teaching Skills Development Packet
A Format for Monitoring the Teaching-Learning Process
Developing Observation Systems
Hierarchy for Goals & Objectives
Educational Program Audit, Credibility of Education
A Sourcebook for Implementing Accountability
Viewpoints on Accountability

108. Performance Objective Program (POP) - Amherst - Pelham Schools, Amherst, Massachusetts

Description: POP is a system of managing instructional programs for effective individualization of learning. The project has produced an ILP entitled "How to Prepare Behavioral Objectives" which includes objectives, pre-assessment, instruction, and evaluation. The project has also produced a number of papers concerning the production and evaluation of performance objectives.

109. Systems Approach to Lesson Planning - Southwestern Cooperative Educational Laboratory, Albuquerque, New Mexico

*Description: A package containing a workbook with six behaviorally defined lessons keyed to be used with an accompanying slide/tape presentation. Included is a pre-test to determine teacher entry level. Other specific activities in the package include: utilization of terminology, and definition of parts, of a teaching systems matrix, identification of probable sources of teaching problems, and practice in the use of the matrix as a teaching tool.

110. Teaching with Behavioral Objectives (Books 1-5) - University of Maryland, Baltimore, Maryland

Description: Manuals for in-service workshops, seminars, college and university courses, and conferences. The books are entitled:
- Constructing Behavioral Objectives
- Constructing Learning Hierarchies
- Examples of Learning Hierarchies in Language Arts/Reading, Social Studies, Science, Mathematics & Literature
- Evaluation with Behavioral Objectives
- Classroom Management with Behavioral Objectives
SOURCE REFERENCE

111. Dr. George E. Parsons
704 Teachers College
School of Education
University of Cincinnati
Cincinnati, Ohio

112. Dr. Robert A. Roth, Coordinator
Performance Evaluation Project
Rutgers University
222 Van Dyck Hall
New Brunswick, New Jersey 08903

113. Dr. Stanley Delidow
College of Human Resources and Education
West Virginia University
Morgantown, West Virginia 26506
Counseling

111. Course Descriptions (Counseling) - University of Cincinnati, Cincinnati, Ohio

Description:
Two courses in the area of counseling are described. Each includes an introduction, course outline, evaluation procedures, and student objectives.
Course titles are:
- Group Counseling
- Counseling & Urban Problems

Curriculum Areas


Description:
A collection of cognitive and affective performance goal statements for teachers.

Topics Included:
- Art
- Math
- Vocational Teaching
- Business & Distributive Education
- Elementary Education
- Foreign Language
- Exceptional Children
- Health Education
- Home Economics
- Industrial Arts
- Music
- Nursery School Education
- Science
- Physical Education
- Social Studies

Educational Psychology

113. Educational Psychology 105 - Individualized Teacher Training Modules - West Virginia University, Morgantown, Virginia

Description:
Nine individualized units on topics in Educational Psychology. Each module contains instructions to participants, pretests, objectives, a study guide, and posttests.

Topics Included:
- Teaching As Changing Behavior
- How We Learn
- Generalization, Discrimination, & Concept Formation
- Behavioral Objectives
- Designing Instructional Sequences
- Motivation & Discipline
- Punishment
- Individualizing Mass Education
- Measurement
SOURCE REFERENCE

114. Dr. John E. Rhetts
    Psychological Foundations of Education
    330 Burton Hall
    University of Minnesota
    Minneapolis, Minnesota

115. Dr. N. M. McMillan, Director
    College of Education
    Shaw University
    Raleigh, North Carolina

116. Mrs. Carolyn Anderson
    Center for the Teaching Professions
    2000 Sheridan Road
    Northwestern University
    Evanston, Illinois 60201
114. Substantive Domains for Educational Psychological Performance by Undergraduate Teachers-in-Training - University of Minnesota, Minneapolis, Minnesota

Description: A compilation of objectives, for an undergraduate teacher training program. Nine training modules have been developed based on the objectives.

Topics Included: Communications Skills & Group Process
Value Clarification
Self-Management & Goal Setting
Risk-Taking & Scientific Method
Evaluation, Measurement, & Testing
Precision Teaching
Inquiry & Other Teaching Strategies
Organizational Development & Institutional Change
Human Relations, Especially Racism

Elementary Education

115. A Model for a Performance-Based Elementary Teacher Education Program at Shaw University - Shaw University, Raleigh, North Carolina

Description: A final report on a project to improve teacher education at Shaw University. A committee reviewed the programs of nine other universities and from the data designed a model for the program at Shaw. Included in the model are a rationale for the use of objectives, a procedure for writing objectives and illustrative objectives in six areas.

Topics Included: Elementary Science       Physical Education
Language Arts                           Mathematics
Health Education                        Social Studies

Evaluation & Research

116. Self-Instructional Units on Evaluation & Research - Northwestern University, Evanston, Illinois

Description: Eleven self-instructional units, on evaluation and research, each containing objectives, an overview, instruction, a mastery test, and test feedback.
SOURCE REFERENCE

117. Mr. Gilbert F. Shearron
427 Aderhold Hall
University of Georgia
Athens, Georgia 30601
Topics Included:
Overview
Experiments & Testing Statistical Hypotheses
Avoiding Common Errors in Evaluation & Research
Questionnaire Construction
Selecting & Using Standardized Tests
Technical Issues in Testing
Data Collection by Interview
Data Presentation Techniques
A Layman's Introduction to Computer Applications
Hints for Project Evaluators
Specifying Behavioral Objectives

Generic Skills

117. Competency-Based Teacher Education Modules - The University of Georgia, Athens, Georgia ($25.00/complete set)

Description: A series of competency-based teacher education modules for major curriculum areas. Modules contain objectives, activities, and evaluation procedures. Bulletins, summaries and research and development reports are also available.

Topics Included:

- Reading
  - Word Recognition Skills
  - Word Recognition: Phonetics
  - Comprehension Skills
  - Teaching A Directed Reading Lesson
  - Classroom Management for Reading Instruction

- Mathematics
  - Teacher Concepts of Fractional Numbers
  - Teaching Multiplication & Division of Fractional Numbers
  - Teaching Additions & Subtraction of Fractional Numbers
  - Using Drill Activities

- Language Arts
  - Listening
  - Spelling
  - Creative Dramatics

- Child Development
  - ...With Implications for Working With Disadvantaged Children & Their Families

- Physical Education
  - Science Education
  - Elementary Science Methods
  - Utilization of Science Equipment

- Classroom Management
  - Planning to Avoid Individual & Classroom Management Problems
  - Coping With Individual & Classroom Management Problems
SOURCE REFERENCE

118. Dr. L. W. Dean
     318 Erickson Hall
     Michigan State University
     East Lansing, Michigan

119. Mr. Lester Kitching
     Panhandle Area Educational Cooperative
     P. O. Drawer 190
     Chipley, Florida 32428

Description: Four units designed to foster the development of skills and competencies in diagnosing and responding to student concerns. Each unit includes an introductory description, student teacher objectives, presentation of concepts, practice exercises, and carrel booklets to be used in conjunction with tapes and slides.

Topics Included: Assessment, Strategies, Objectives, Evaluation

119. Florida Teacher Education Modules - Panhandle Area Educational Cooperative, Chipley, Florida

Description: Clusters of individualized instructional modules for preservice and inservice teacher education. Each module contains general objectives, specific objectives, instructions to participants, instructions for administering the module, pre-assessment, an overview, materials and equipment, activities for each objective, and evaluation.

Topics Included: Teacher Aide Training
Defining the Role of the Teacher Aide
Recognizing How Children Develop
Promoting Appropriate Language Patterns
Utilizing Phonics & Word Attack Skills
Demonstrating Legible Handwriting
Developing Map & Globe Skills
Using the Library
Constructing a Resource File
Preparing the Physical Environment for Learning
Completing State & County Forms
Planning Skills for Teachers
Using Behavioral Objectives
Designing a Learning Activity
Selecting an Instructional Mode
Planning Creative Activities for Independent Learning
Selecting Commercial Materials
Compiling & Using Instructional Games
Developing an Instructional Package
Organizing Learning Stations for the Language Arts
Presentation Skills for Teachers
Using Examples & Illustrations
Using Lecture Techniques to Present Information
Using Planned Repetition
Establishing Appropriate Frames of Reference
Increasing Participation
Feedback
Nonverbal Behavior
Stimulus Variations

Classroom Procedures
Mini-Pak for Making Assignments
Monitoring In-Class Assignments
Achieving Classroom Transitions
Achieving Closure
Reinforcement
Classroom Management
Recognizing & Obtaining Attending Behavior
Set Induction

Questioning Skills
Question Upgrading Improvement Package
Using High Order Questions
Inducing Student-Initiated Questions
Inquiry Techniques: Using Probing Questions
Pre-Queing

Assessment
Evaluating Learning & Instruction
Diagnosing Arithmetic Skills
Using Informal Diagnostic Tests of Reading Skills

Special Skills
Developing an Art Activities File
Teaching Songs & Rhythms
Fostering Creativity
Utilizing the Comprehensive Readiness Program
Methods of Introducing & Summarizing a Unit
Developing Listening Skills
Utilizing Field Trips for Learning

Assessing Educational Personnel
Introduction to Diagnosis Prescription System for Staff Development
Diagnosis Prescription System for Staff Development
Building a Diagnosis Prescription System for Staff Development
SOURCE REFERENCE

120. Dr. Robert L. Arends
Program Development Specialist
The Center for the Study of Teaching
117 Bacon Hall
1300 Elmwood Avenue
Buffalo, New York 14222
120. Objectives for Teacher Education - State University College at Buffalo, Buffalo, New York

Description: A collection of objectives and post-assessment criteria abstracted from teacher education module clusters developed and implemented at State University College at Buffalo. Also available is a cluster of modules on "The Concept of a Competency-Based Teacher Education Program".

Topics Included:
- Content & Concepts of Elementary School Mathematics
- Strategies/Approaches in Teaching Elementary Mathematics
- Management Essentials in Mathematics
- Terminology & Laws of Mathematics
- Diagnosing in Mathematics
- Approach to Teaching Mathematics
- Social Studies Content
- Evaluation Techniques (Mathematics & Social Studies)
- Behavioral Objectives in Math/Science
- New Curriculum Projects in Math/Science
- Methods of Delivery (Science)
- Science/Math Workshops
- Diagnosis & Evaluation
- Supervision
- Systematic Observation & Analysis of Teaching Behavior
- Personal Communications
- Learning Models
- Concept Formation & Maintenance
- Prejudice
- Education & Race
- Poverty & Education
- Heredity & Environment
- Teacher Expectations
- Sociology of the Inner City
- Sociology of the Urban Community
- The School System as an Institution
- Race, Ethnicity, Poverty & Urban School
- Statistics
- Reference Format & Style
- Research Instruments
- Types of Studies
- Oral Language
- Teaching Language-Arts Phases I & II
- Understanding the Reading Process as Precursor to Analysis of Reading Ability
- Identification of the Symptoms & Causality of Reading Difficulty & Failure
- Diagnosing Reading Ability
- Language & Culture Phonology
- Aspectual Linguistic Analysis
- Differentiated Staffing
SOURCE REFERENCE

121. Dr. William Engel
Teacher Education Committee
College of Education
University of South Florida
Tampa, Florida  33620

122. Dr. Dwight W. Allen
Dean, College of Education
University of Massachusetts
Amherst, Massachusetts

or

Dr. Frank Sobol
College of Education
Florida International University
Tamiami Trail
Miami, Florida
121. Performance-Based Teacher Education Modules - University of South Florida, Tampa, Florida

Description: A series of Individualized Teacher Education Modules. The modules contain an introduction, general directions, prerequisites, preassessment, primary objectives, secondary objectives, activities, evaluation procedures, resources, and references.

Topics Included:

- Approaches to Teaching
- Planning for Teaching
- Teaching
- Curriculum Projects
- Primary Processes
- The Nature of Science
- Educational Psychology
- The Teaching of Pre-Secondary School
- Geometry
- Designing an Experiment

- Piaget in Science
- Periodicals for Teachers
- Of Science in the Elementary School
- Ecology
- Science for the Child
- Responsibilities of Classroom Teachers in Relation to Total School Health
- Program

122. A Task Analysis of Educational Positions - University of Massachusetts, Amherst, Massachusetts

Description: A listing of over 9,000 objectives developed for implementation of differentiated staffing. Objectives are coded to indicate the type of personnel and the situation for which they are intended.

Topics Included:

- Master Teacher
- Senior Teacher
- Staff Teacher
- Associate Teacher
- Lecturer
- Intern
- Extern
- Student Teacher
- Resource Teacher
- Parent
- Vice Principal
- Instructor
- Advisor

- Research Teacher
- Team Leader
- Team Teacher
- Teaching Assistant
- Instructional Aide
- Department Head
- Administrator
- Curriculum Developer
- Counselor
- Student
- Superintendent

- Media Specialist
- Graphic Specialist
- Source Aide
- Librarian
- Technician
- Secretary
- Clerical Aide
- Community Resource
- Volunteer
- Principal
- Supervisor
- Consultant
SOURCE REFERENCE

123. Dr. Elizabeth Taylor
   Assistant Professor of Education
   School of Education
   Teacher Corps
   University of Louisville
   Louisville, Kentucky 40208

124. Dr. Carey Southall
   215 Hill Hall
   University of Missouri
   Columbia, Missouri 65201
123. Intern Evaluation - University of Louisville, Louisville, Kentucky

Description: Objectives, criteria and methods for evaluation of intern performance prior to, and during, student teaching.

124. Student Teaching: General Guidelines; Tri-Level Student Teacher Competencies - University of Missouri, Columbia, Missouri

Description: Objectives for cooperating teachers and for student teachers. Student teacher objectives are classified by levels, level three denoting that time when the student teacher takes complete charge of a teaching situation.

Topics Included: Cooperating Teachers
Student Teacher Assignment
Relationship to the College Supervisor
Orientation
Introduction of the Student
Observation, Participation & Teaching
Delegation of Instructional Responsibilities
Noninstructional Arrangements
Evaluation

Student Teachers
Level I - Orientation & Observation
Level II - Assumption of Routine Duties
Level III - Assumption of Complete Responsibility for Teaching Class
SOURCE REFERENCE

125. Dr. Morris A. Shirts, Dean
     School of Education
     Southern Utah State College
     Cedar City, Utah 84720

126. Mr. William H. Kendrick
     Vice President Educational Services
     Croft Educational Services, Inc.
     100 Garfield Avenue
     New London, Connecticut 06320

127. Dr. Carson W. Bryan
     Wheeling College
     Wheeling, West, Virginia 26003
Media

125. Behavioral Objectives for Education 316 (Media Preparation) - Southern Utah State College, Cedar City, Utah

Description: A listing of objectives for the preparation of various types of media for use in the elementary or secondary school classroom.

Topics Included: Overhead Transparencies Matting
Lamination Duplication
Drawing Commercial Production

Reading

126. Inservice Programs for Teachers (Reading) - Croft Educational Services, Inc., New London, Connecticut ($250.00-300.00/15 teachers)

Description: Inservice Reading Program: A Systems Approach to Word-Attack Skills - A program designed to train teachers in building student skills using a phonics or linguistic based system.

Reading Comprehension Skills: A Systems Approach - Materials designed to help a school staff organize inservice workshops to improve the methods of teaching comprehension skills. Closely parallels the Inservice Reading Program.

Specific objectives in reading form the basis for workshop sessions in both programs.

Secondary Education

127. Secondary Teacher Preparation at Wheeling College: A Model Based Upon Person, Performance and Partnership - Wheeling College, Wheeling, West Virginia

Description: A description of the philosophy of the program, student-teacher goals, student-teacher activities and evaluation techniques.
SOURCE REFERENCE

128. Dr. James L. Hoerner, Supervisor
Vocational Teacher Education Service
Division of Vocational, Technical
and Adult Education
Dade County Public Schools
1410 Northeast Second Avenue
Miami, Florida 33132
Vocational Education

128. Vocational Teacher Education - Dade County Public Schools, Miami, Florida

Description: A listing of 25 cognitive and affective objectives for a performance-based vocational teacher education program.