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The Effects of a Directed Reading-Thinking Approach in the Teaching of Reading on the General Reading Comprehension Scores and Inferential Comprehension Scores of Third Grade Students

Sheila V. Slusser
The College at Brockport

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THE EFFECTS OF A DIRECTED READING-THINKING APPROACH
IN THE TEACHING OF READING ON THE GENERAL
READING COMPREHENSION SCORES AND
INFERENTIAL COMPREHENSION SCORES
OF THIRD GRADE STUDENTS

THESIS

Submitted to the Graduate Committee of the
Department of Curriculum and Instruction
Faculty of Education
State University College at Brockport
In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Education

by

Sheila V. Slusser
State University College at Brockport
Brockport, New York

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APPROVED BY:

F. Morney White 12/7/78
Graduate Advisor Date

Arthur E. Smith 12/7/78
Project Advisor Date

F. Morney White 12/7/78
Project Advisor Date

Joseph Jordan 12/8/78
Graduate Director Date

Abstract

The purpose of this research was to investigate the effects of a directed reading-thinking approach in the teaching of reading on the general and inferential comprehension scores of third grade students of average reading ability. The subjects consisted of 32 third grade students, 17 males and 15 females, of average reading ability. The subjects were divided into two comparable average reading groups. One group was assigned as the control group and followed a regular basal reading program. The other group was designated as the experimental group and was taught by this investigator using a directed reading-thinking approach in the teaching of reading. The experimental group received directed reading-thinking activities to help foster higher-order levels of thinking. General comprehension and inferential comprehension scores for both groups were obtained from the comprehension section of The Stanford Achievement Test. The mean raw scores for both groups in regard to general and inferential comprehension were tested for significance at the .05 level using an independent t-test of correlated means. The data failed to reject both null hypotheses. A directed reading-thinking approach did not significantly augment general and inferential comprehension. Despite the fact no significant

difference were achieved between the two groups, the experimental group did perform better than the control group. The findings suggest that perhaps under optimal testing conditions a directed reading-thinking approach could significantly help to increase general and inferential comprehension.

TABLE OF CONTENTS

	PAGE
LIST OF TABLES	iv
CHAPTER	
I. PROBLEM	1
Purpose	2
Need for the Study	3
Definition of Terms	4
Limitations	5
Summary	5
II. REVIEW OF THE LITERATURE	6
Purpose	6
Cognitive Development of Children at the Primary Grade Level	6
Development of a Directed Reading- Thinking Approach for Reading Group Instruction	12
Summary	18
III. DESIGN OF THE STUDY	20
Purpose	20
Hypotheses	20
Methodology	21
Statistical Analysis	23
Summary	24
IV. ANALYSIS AND INTERPRETATION OF THE DATA	26
Purpose	26
General Comprehension Growth	26
Interpretation of the Results of the First Null Hypothesis	27
Inferential Comprehension Growth	27
Interpretation of the Results of the Second Null Hypothesis	28
Summary	29

CHAPTER	PAGE
V. CONCLUSIONS AND IMPLICATIONS	31
Purpose	31
Conclusions	31
Limitations of the Study	33
Need for Further Research	33
Implications for Classroom Practice .	34
Summary	35
REFERENCES	37
APPENDICES	
A. Stanford Reading Achievement Test, Primary III, Forms A and B	40
B. Directed Reading-Thinking Lesson Plans .	43
C. Comparison of General Comprehension Raw Scores of the Experimental and Control Groups	74
D. Comparison of Inferential Comprehension Raw Scores of the Experimental and Control Groups	76

LIST OF TABLES

TABLE	PAGE
1. Comparison of 1977 SRA Grade Equivalent Scores and IQ Scores of Control and Experimental Groups	21

Chapter 1

Problem

Reading frequently is defined as a complex thinking process involving a hierarchy of cognitive skills closely related to reflective thinking (Stauffer, 1975). A discrepancy occurs in the fact that most reading group instruction does not place a concentration on the development of thinking skills as part of a reading program. This is especially true in the beginning years of reading where the focus is primarily on word recognition, oral reading and word attack skills (Gordon cited in Dawson, 1968).

Reading-thinking skills need to be taught during these beginning years of reading in order to lay the foundation for the development of more complex skills and to enable children to become more meaningful readers (Jenkinson cited in Dawson, 1968). The beginning years of reading instruction should incorporate both the teaching of decoding skills and thinking skills, for the acquisition and refinement of thinking skills along with reading skills make the process of reading a meaningful endeavor.

Purpose

The purpose of this investigation was to determine the effects a directed reading-thinking approach would have on the general comprehension and inferential comprehension scores of third grade students from two different average reading groups. The following questions constituted the primary objectives of the study:

1. Will directed reading-thinking activities increase the general comprehension abilities of third grade students of average reading ability?
2. Will directed reading-thinking activities increase the inferential comprehension scores of third grade students of average reading ability?

Two hypotheses were tested in the study:

1. There is no significant difference between the mean of the general comprehension posttest scores of third grade students instructed with a directed reading-thinking approach and the mean of the general comprehension posttest scores of third grade students instructed with only a basal reading program.

2. There is no significant difference between the mean of the inferential comprehension posttest scores of third grade students instructed with a directed reading-thinking approach and the mean of the inferential comprehension posttest scores of third grade students instructed with only a basal reading program.

Need For The Study

Several researchers have concluded that young children are capable of using reasoning skills and logic yet these facets of higher-order thinking are frequently overlooked during the primary years (Stauffer, 1975, Wolf, King, Huck, 1967, Russell, 1961). Teachers frequently place too great an emphasis on decoding skills such that meaning is lost. Critical and evaluative thinking are often pushed to the background and dealt with haphazardly during the primary years of reading instruction.

Thorndike in 1917 made an impact upon the field of reading with the publishing of his article, "Reading as Reasoning" (Thorndike cited in Otto, 1970). Thorndike stated that in order to read correctly the reader must first attach meaning to what he is reading and then

examine the resultant ideas to validate them in terms of the given text. Thorndike viewed reading as a combination of reading and thinking skills. Stauffer (1975) stated that it has taken almost half a century for reading practices to incorporate Thorndike's theories of reading as a thinking process and accept the fact that children can be trained to read critically and reflectively. An investigation into the reading-thinking skills of third grade students is therefore both viable and essential.

Definition of Terms

The terms used in this study included:

General comprehension. General comprehension focuses on ideas and information which are explicitly and implicitly stated in the text. It includes all comprehension skills.

Inferential comprehension. Inferential comprehension is demonstrated by the student when he uses ideas, his intuition, explicitly stated information, and his personal experiences as a basis for conjectures or hypotheses. Inferences drawn by the student may be convergent or divergent and the student may or may not be asked to verbalize the rationale underlying his inference. Inferential comprehension is stimulated

by different purposes and teacher's questioning which demand thinking and imagination beyond the printed page (Barrett cited in Robinson, 1968).

Directed reading-thinking approach. Reading group instruction involving the teaching of thinking skills along with the use of a basal in order to foster the development of more critical and creative readers (Stauffer, 1975).

Limitations

Certain limitations need to be recognized in the design of the study. The study involved a population of 32 third grade students from one school district and consisted of an eight week treatment period. There was no control for teacher influence in regard to higher-order questioning techniques and the development of thinking skills in content area instruction.

Summary

Research has indicated a need to investigate the development of reading-thinking skills at the primary grade level. A study was made of the effects a directed reading-thinking approach in the teaching of reading had on the general comprehension and inferential comprehension scores of third grade students of average reading abilities.

Chapter 2

Review of the Literature

Purpose

The major supposition of this study was that a directed reading-thinking approach in the teaching of reading will augment the general and inferential comprehension abilities of third grade students. Areas of research examined were:

Cognitive Development of Children at the
Primary Grade Level

Development of a Directed Reading-Thinking -
Approach for Reading Group Instruction

Cognitive Development of Children at the Primary Grade Level

Piaget, one of the first researchers to do extensive work on the reasoning abilities of young children, represented the child's intellectual growth through a series of maturational stages characterized by the acquisition of higher-order thinking skills. Piaget's preoperational stage and concrete operational stage characterize the primary grade child.

The preoperational stage (ages $1\frac{1}{2}$ to 7) represents the child's ability to use symbols. The child can treat objects as things other than themselves. For example,

the child may treat a block of wood as if it were a car (Mussen, Conger, and Kagan, 1974). The concrete operational stage (ages 7 to 12) represents the child's acquisition of rules that can be adapted. An example of the concrete operational stage is exhibited through Piaget's conservation experiments. The child now recognizes that length, mass, weight and number remain constant despite modifications to the external appearance (Mussen, Conger, and Kagan, 1974). Alward and Saxe (1975) suggested that conservation at the concrete operational stage results not from specific techniques or experiences but from a reorganization of the child's thought in general. By eight years of age, most children show dramatic changes in their thinking. This stage corresponds to the maturational level of the third grade students involved in this study.

Vygotsky also investigated children's thinking during the early part of this century. Although Piaget and Vygotsky developed similar concepts about the stages of development, their ideas were based upon divergent views of language (Smith, Goodman, and Meredith, 1970). Vygotsky suggested that words have a vague meaning for the child even before the child can speak and therefore language helps shape the child's first thinking. Vygotsky placed an emphasis upon adult dialogue and the child. Piaget, in contrast,

viewed language as an outside agent that the child uses to translate his personal symbols. Piaget stated that language serves to translate what is already understood (Smith, Goodman, and Meredith, 1970).

Although Piaget and Vygotsky used different data to delineate the stages in the development of thinking, there is a rough correlation between the two theories that can be combined to help teachers understand the thinking capacities of their students (Smith, Goodman, and Meredith, 1970). Children will move from one stage to the next depending upon their experiential background, quality of language and neurological development. It is important that teachers recognize these factors for if a child is deficient in any one area he may remain at one phase longer than necessary. Cognitive development is just as important during the early years as emotional and social development. Teachers may either underestimate the stage of development of their pupils thus never prompting thinking on the part of the children or overestimate the stage of development thus overwhelming the children resulting in perplexity (Smith, Goodman, and Meredith, 1970).

In contrast to Piaget and Vygotsky's theories, Russell (1961) stated that reasoning ability develops gradually with experience in language and that it develops continuously rather than appearing at fixed stages.

Russell (1961) also stated that children use the same thinking processes as adults except at a different maturational level.

The research by Piaget and Vygotsky has led to further investigations into cognitive development of young children. Wolf, King, and Huck (1967) concluded in their study, "The Critical Reading Abilities of Elementary School Children," that children can be taught to develop a questioning attitude of their own and to apply logical reasoning to printed materials. They also concluded that the teacher's method of questioning is a significant part of the child's reading program. Thought provoking and open-ended questions on the part of the teacher help to foster higher-order thinking on the part of the child. Tinker and McCullough (1975) stated that questions not only set and clarify purposes for reading, they help to determine what the pupil is reading, how he reads and the meaning obtained. Questioning should be used as a diagnostic and instructional tool to determine the depth of comprehension and modes of thinking. Stauffer (1975) also promotes higher-order questioning in order to stimulate the thinking abilities of the child and allow the child to take a more active part in his reading. Reading comprehension requires an active, attentive and selective reader who operates independently

of the text and is able to extract meaning (Golenkoff, 1975). Questioning techniques are one means for developing reading-thinking skills of the child.

Experiential background is also a significant factor in the child's cognitive development. Reading skills are effective when the student has acquired the ability to relate reading to his own experience and to interpret and associate the abstract in print with personal and vicarious experiences (Bush and Huebner, 1970). If the child's background is deficient in that he does not have certain experiences, he may not be able to attain a complete understanding of what he is reading. Almy cited in Frost (1967) stated that to neglect the provision of many and varied experiences especially during the period of preoperational thought may later hinder the adequate development of abstract thinking and may interfere with the development of reading comprehension. Almy, Chittenden, and Miller (1966) conjectured that the poverty of ideas encountered in some classes stemmed more from paucity of stimulation the children received rather than as a result of their inadequate or inept thinking abilities.

Wulff (1974) compared three groups of students: disadvantaged rural Appalachians, disadvantaged urban students, advantaged suburban students. The advantaged students

scored the highest in their ability to make generalizations and inferences. Wulff suggested that perhaps this occurred because the advantaged students through schooling and cultural exposure have acquired these skills. In contrast, the limited experiences of the disadvantaged students hindered their cognitive development. As evidenced from Wulff's study, social background is an influential component of cognitive development.

The child's cognitive level relies upon various external and internal factors. The teacher must take these factors into account in establishing expectations of the child. As the child matures and has additional experiences, his thinking skills should also become more mature. Cognitive growth is a continuous process. Reading-thinking skills should also be developed from the beginning as a sequential hierarchy of skills (Stauffer, 1975).

It is implied from all phases of the research reviewed that there is a need to develop cognitive skills and as early as possible. Wulff (1974) suggested that a commitment be established by educators to the fact that higher-order cognitive skills are important and should be taught. Spache and Spache (1973) stated that critical reading may never appear unless the student is specifically trained in the development of reading-thinking skills.

Development of a Directed Reading-Thinking Approach
for Reading Group Instruction

Several researchers have stated that the foremost responsibility of the educator is to train children to read with greater breadth and depth. This is accomplished by teaching reading as a thinking process (Bush and Huebner, 1970; Cutter cited in Dawson, 1968; Stauffer, 1975). Robbins (1977) stated that research in the area of reading-thinking skills has been relatively recent and that the adaptation of reading-thinking skills has been slow to become manifested in the classroom. There has been a recent concern for the adaptation of thinking skills as part of the reading program in order to ensure the development of cognizant readers.

An important factor in developing a reading-thinking approach is the teacher. The attitudes and competency of the teacher are important in helping the child to develop thinking skills. A teacher's major role is to stimulate all students to react as thoughtfully as they can to the reading material (Karlin cited in King, Ellinger, and Wolf, 1967). Stauffer (1975) stated that the teacher must avoid an authoritarian image. Modern teachers must concede to the task of teaching children not what to think but how to think (Russell, 1961). Higher-order questioning becomes a major

role of the teacher. Questions such as: "What do you think?" "Why do you think so?" "Read the line that proves it" are directed at making the child think. Gordon cited in Dawson (1968) suggested that students should be encouraged to question ideas and that an emphasis should be placed on solving problems rather than the answers to the problems. He stated that it is the responsibility of the teacher to provide opportunities for discovery and also an atmosphere for questioning and conjecture. Learning through inquiry involves the use of logical structures and processes that are fundamental to science (Suchman cited in Mazurkiewicz, 1964). If a child is always given facts and principles, he is deprived of the experience of learning for himself and developing critical responses to what he is exposed to. Through questioning, teachers can either encourage or suppress inquiry and critical responses (Schaefer, 1975). The more meaningful and attainable goal in regard to thinking is to develop attitudes that are conducive to thinking rather than increase understanding and mastery of logical rules of principles (Hiram cited in King, Ellinger, and Wolf, 1967). Teachers should allow students to take an active part in learning in order to foster the development of thinking skills.

Smith cited in Dawson (1968) stated that one of the most productive ways of developing thinking skills during

the reading process was through discussion in which the teacher takes part and makes her special contribution by asking a question or making a statement which stimulates cause and effect reasoning, points out the necessity for making comparisons, drawing inferences, arriving at conclusions, or gathering generalizations. Spache and Spache (1973) stated that the development of the child's thinking efforts depends upon the direction given by teacher demands.

How children acquire the ability to read critically and creatively is dependent upon how they are taught and how early the cognitive processes are taught (Russell, 1961; Stauffer, 1969; Spache and Spache, 1973). The acquisition of basic reading skills depends upon the teacher and the processes s/he uses. Thinking abilities can exist at any level if the teacher is willing to encourage it (Russell, 1961). Research has shown that children can improve their critical reading abilities through systematic instruction in thinking (Wolf, King, and Huck, 1967).

The development of reading-thinking skills can be easily implemented in any reading program. Reading instruction can become more cogent through various teaching strategies: group directed reading-thinking activities, individualized reading-thinking activities, inquiry reading,

concept development, literary appreciation, higher-order questioning (Stauffer, 1975). This investigator's present study was primarily concerned with group directed activities. Stauffer (1975) outlined the distinguishing features of group directed reading-thinking activities (DR-TA):

1. Pupils are grouped according to reading levels.
2. The group should be limited to eight to ten pupils.
3. All pupils in the group read the same material at the same time. This permits each child to compare and contrast his predictions, inferences and evaluations with his peers.
4. Purposes for reading are stated by the pupils.
5. Answers to children's and teacher's questions are validated. Proof is found in the text of through group judgments.
6. A DR-TA involves provocative questions on the part of the teacher that require the children to interpret and make inferences. (p. 34)

The main objective of Stauffer's group DR-TA is to develop skill in reading critically. The teacher should concentrate on helping the child develop the art of questioning, the processing of information, the validating of answers. The processing of a DR-TA is outlined by Stauffer (1975) as follows:

1. Pupil actions (PRP)
 - A. Predict (set purposes)
 - B. Read (process ideas)
 - C. Prove (test answers)
2. Teacher actions (WWP)
 - A. What do you think? (activate thought)
 - B. Why do you think so? (agitate thought)
 - C. Prove it (require evidence) (p. 37)

The theories of Stauffer were supported in the research of Henderson cited in Stauffer (1975) and Petre (1971). Henderson examined the relationship between individual reading purposes and reading comprehension. The study involved two groups of 24 fifth grade pupils of average or above average intelligence. The groups were differentiated according to high or low reading achievement. Tape recordings were made of pupil responses concerning what he thought a story was about and what he would read to find out. Comprehension of three stories was measured by 12 open-ended questions. It was found that the good readers were those who achieved best in setting reading purposes. Henderson concluded that pupil purpose setting is a significant factor in reading achievement. Implications from Henderson's study include the need for further research to examine the impact training in purpose setting can have on reading achievement.

Petre (1971) compared two different group instructional approaches, a directed reading approach (DRA) and a directed reading-thinking approach (DR-TA). He noted that the DRA used a stimulus response with literal questions and preset answers. The DR-TA, in contrast, emphasized pupil thinking by using open-ended questioning and involving the student.

Students had to examine, hypothesize, judge and make decisions about the material being read. Petre used 120 fourth graders. There were two groups each above grade level, at grade level and below grade level. The experimenter taught 12 lessons during a two week period to each group. The groups were taped while instructed with a DRA as outlined in the 1967 edition of Scott Foresman Series. Similar groups with identical levels were taped using a DR-TA outlined in the 1960 edition of the Winston Basic Reader Series. Pupil responses were recorded in the Quality of Pupil Response Scale. From a statistical analysis, Petre concluded that:

1. A DRA and a DR-TA are two distinctly different group directed reading approaches.
2. A DR-TA appears to allow a higher quality and wider variety of pupil responses in a group directed instructional procedure.
3. Prior reading programs or instructional strategies appear to have little effect on the quality of pupil response because pupils will quickly improve in these areas when instructed with a DR-TA.
4. Pupils involved in a DR-TA become superior in their quality of responses.
5. A DR-TA allows pupils to think critically.
6. Both boys and girls do equally well when taught with a DR-TA.
7. The DR-TA as a group procedure may be used effectively with students of various reading levels. (p. 79)

The research findings of Petre and Henderson strongly advocate the implementation of a reading-thinking approach in the teaching of reading. The DR-TA appears superior to a DRA in the development of the critical and creative reader.

The implementation of a DR-TA is not necessarily costly or time consuming. Most reading materials are adaptable to the fundamental purposes of a group DR-TA (Stauffer, 1969). Some of the primary level stories are plotless or the plot is foreseen by the child through the illustrations. These materials would not be adaptable to a DR-TA. The majority of the newer basals usually provide high interest stories and well developed vocabulary that allow for a directed reading-thinking atmosphere. Updated reading manuals frequently provide both literal and inferential questioning to stimulate the child's thinking and help develop critical reading. As previously stated, the success of a DR-TA is also dependent upon the teacher. The attitudes and questioning techniques of the teacher play a significant role in the evolution and mastery of thinking skills on the part of the child.

Summary

Piaget's theories and research concerning the reasoning abilities of young children have become one of the bases for the recent promotion of thinking skills in the reading program. His maturational stages outlined the cognitive development of the child and prompted additional research in this area. Current research has shown that the cognitive development of the child is dependent upon

several external and internal factors. Teacher competency, questioning techniques and the child's experiential background are relative to his cognitive growth.

The literature and research examined emphasized the need for the development of thinking skills and advocated the implementation of a directed reading-thinking approach in the teaching of reading. The research findings indicated that a DR-TA was superior to the traditional reading approach in helping to increase the thinking abilities of students providing for the generation of more meaningful and mature readers.

Chapter 3

Design of the Study

Purpose

This study was designed to develop reading-thinking activities with third grade students of average reading ability and to investigate the effects a directed reading-thinking approach in the teaching of reading would have on the general and inferential comprehension abilities of these students.

Hypotheses

Two hypotheses were tested in this study:

1. There is no significant difference between the mean of the general comprehension posttest scores of third grade students exposed to a directed reading-thinking approach and the mean of the general comprehension scores of third grade students instructed with only a basal reading program.
2. There is no significant difference between the mean of the inferential comprehension posttest scores of third grade students exposed to a directed reading-thinking approach and the mean of the inferential comprehension posttest scores of third grade students instructed with only a basal reading program.

Methodology

Subjects

The subjects involved in this study were third grade students attending a suburban school in a predominately middle class neighborhood. A total of 32 students participated (17 males and 15 females). The subjects were all average readers as determined by the general reading achievement scores of the May 1977 Science Research Associates Test, Primary II, Form F, 1972.

The subjects were randomly divided into two reading groups of comparable reading abilities. One group was assigned as the control group. The other group was designated as the experimental group. A comparison of these two groups is represented in Table 1.

Table 1

Comparison of 1977 SRA Grade Equivalent Scores
And IQ Scores of Control and Experimental Groups

Group	Subjects		Mean Scores	
	Males	Females	SRA G.E.	Thorndike IQ
Control	8	8	3.58	108
Experimental	9	7	3.54	104

Procedures

The study involved an eight week treatment period from March 14, 1978 to May 23, 1978. A total of 30 lessons were taught. Both the control and the experimental groups received 30 minutes of reading instruction and 30 minutes of independent reading assignments four days a week. The experimental group was taught by this investigator using a directed reading-thinking approach (DR-TA). A DR-TA entails provocative questioning on the part of the teacher and requires students to examine, hypothesize and judge the material being read. Various materials and activities are used that will help foster higher-order thinking.

The control group was taught by a teacher of comparable experience. The control group followed the Allyn and Bacon Basal Reading Program (1973) using the grade three book, Story Caravan. The experimental group received directed reading-thinking activities. Both groups worked on the same independent reading assignments.

The comprehension section of Form A of The Stanford Achievement Test, Primary III, 1973 was administered as a pretest to both reading groups during the week of March 6, 1978 and Form B was administered to both groups as a posttest during the week of June 5, 1978 (see Appendix A).

Children were tested by their reading teacher in their regular reading group. The pretest and posttest scores on The Stanford Tests were scored by the present investigator. Raw scores were converted to grade equivalent scores using the table provided in the test manual. The test manual (Part III) listed those test items that were regarded as explicit, implicit and inferential. This enabled an inferential comprehension score to be assigned.

The directed reading-thinking activities for the experimental group were prepared by this investigator (see Appendix B). Reading-thinking activities for inferential comprehension were divided into these main skills: inferring main ideas, inferring comparisons, inferring cause and effect, inferring character traits, predicting outcomes, interpreting figurative language, making inferences. Several lessons using a variety of materials were prepared for the teaching of each of the inferential thinking skills. Materials included: worksheets, card games, pictures, basal, blackboard activities, transparencies and team games.

Statistical Analysis

The mean and standard deviation for the pretest and posttest scores of the experimental and control groups

were calculated using the raw scores from the reading comprehension section of The Stanford Achievement Test. The difference in the pretest and posttest mean raw scores in regard to general reading comprehension and inferential reading comprehension was tested for significance using an independent t-test of correlated means. The formula for the t-test was:

$$\underline{t} = \frac{X_1 - X_2}{\sqrt{\frac{S_1}{16} + \frac{S_2}{16}}}$$

Summary

The purpose of this study was to determine the effects a directed reading-thinking approach would have on the general and inferential comprehension scores of third grade students of average reading ability.

The subjects involved in this study were randomly divided into two average reading groups consisting of 16 students each. The control group was instructed with a basal reading program. The experimental group was instructed with a directed reading-thinking approach. Both the control and

the experimental groups received 30 minutes of reading instruction and 30 minutes of independent reading assignments four days a week. The study involved an eight week treatment period.

General comprehension and inferential comprehension were measured before and after the treatment period using parallel forms of the reading comprehension section of The Stanford Achievement Test. The difference in the posttest general comprehension mean scores and inferential mean scores of the two groups was tested for significance using a t-test of correlated means.

Chapter 4

Analysis and Interpretation of the Data

Purpose

The purpose of this study was to investigate the effects of a directed reading-thinking approach on the general and inferential comprehension scores of third grade students of average reading ability.

General Comprehension Growth

The means and standard deviations of the pretest and posttest were calculated using the raw scores of the comprehension section of The Stanford Achievement Test. The results are shown in Appendix C. The null hypothesis was that there was no significant difference between the mean of the general comprehension posttest scores of third grade students instructed with a directed reading-thinking approach and students instructed with only a basal reading program.

The calculated t value between the experimental and control group pretest mean raw scores was 1.70. For a two-tailed test at the .05 level of significance, the critical value for 30 degrees of freedom is 2.042. The data failed to reject the null hypothesis. It was concluded that there was not a significant difference between the posttest mean raw scores of the two groups.

Interpretation of the Results of the First Null Hypothesis

The data showed that the difference between the experimental and control groups was not significant at the .05 level. Although significant gains were not achieved, the experimental group did perform better than the control group. This indicated that there was a general trend for the experimental group to perform better than the control group in regard to general reading comprehension as a result of a directed reading-thinking approach.

This study suggested that the development of thinking skills in conjunction with reading skills may help to increase the student's general reading comprehension. Through the development of thinking skills, it appears that the student's ability to comprehend more complicated reading materials may be increased. This study also indicated that a directed reading-thinking approach may be successfully used with third grade students.

Inferential Comprehension Growth

The manual (Part III) of The Stanford Achievement Test listed those test items on the general reading

comprehension section that were regarded as explicit, implicit and inferential. This enabled an inferential raw score to be obtained.

The means and standard deviations of the pretest and posttest were calculated using the raw inferential comprehension scores. The results are shown in Appendix D. The null hypothesis was that there is no significant difference between the mean of the inferential comprehension posttest scores of third grade students of average reading ability instructed with a directed reading-thinking approach and students instructed with only a basal reading program.

The calculated t value for the posttest mean score was 1.21. For a two-tailed test, the critical value for 30 degrees of freedom is 2.042. The data failed to reject the null hypothesis. It was concluded that there was not a significant difference between the posttest inferential mean raw scores of the two groups.

Interpretation of the Results of the Second Null Hypothesis

Although the t value for the inferential comprehension posttest scores was not significant, the experimental group did perform better than the control group on the inferential questions of the comprehension section of

The Stanford Achievement Test. The performance of the experimental group suggested that teacher questioning techniques and the teaching of reading-thinking activities may enhance the inferential comprehension of students. Perhaps under a different testing situation with fewer limitations, a significant gain could have been achieved.

Summary

The purpose of this study was to investigate the effects a directed reading-thinking approach will have on the general reading comprehension and inferential comprehension scores of third grade students of average reading ability. The first hypothesis was that there was no significant difference between the mean of the general comprehension posttest scores of students instructed with a directed reading-thinking approach and students instructed with only a basal reading program. The difference in the general comprehension posttest mean raw scores was tested for significance using a t-test. The difference was not significant at the .05 level. The data failed to reject the first null hypothesis.

The second hypothesis was that there is no significant difference between the mean of the inferential comprehension posttest scores of students instructed with

a directed reading-thinking approach and students instructed with only a basal reading program. The application of a t-test of correlated means showed that there was no significant difference at the .05 level between the inferential comprehension posttest mean raw scores of the two groups. The data failed to reject the second null hypothesis.

Chapter 5

Conclusions and Implications

Purpose

This study investigated the effects of a directed reading-thinking approach on the general reading comprehension and inferential comprehension scores of third grade students of average reading ability.

Conclusions

The first hypothesis tested in this study was:

There is no significant difference between the mean of the general comprehension post-test scores of third grade students instructed with a directed reading-thinking approach and the mean of the general comprehension scores of third grade students instructed with only a basal reading program.

The results of the analysis revealed that even though the experimental group scored higher, there was not a significant difference at the .05 level in the posttest general comprehension raw scores on the comprehension section of The Stanford Achievement Test. The data failed to reject the first null hypothesis.

The second hypothesis tested in this study was:

There is no significant difference between the mean of the inferential comprehension posttest scores of third grade students instructed with a directed reading-thinking approach and the mean of the inferential posttest scores of third grade students instructed with only a basal reading program.

An analysis of the data indicated that although the experimental group scored higher than the control group, the difference was not significant at the .05 level. The data failed to reject the second null hypothesis. The directed reading-thinking activities did not significantly increase the inferential comprehension scores of the experimental group as compared to the inferential comprehension scores of the control group.

Although the analysis of the data did not demonstrate significant differences between the experimental and control groups, the experimental group did perform better than the control group in regard to both general and inferential comprehension. This suggested that there is a positive trend for a directed reading-thinking approach to enhance

general and inferential comprehension. This study suggested that students as young as third grade may be able to grasp and perform higher levels of thinking and reasoning.

Limitations of the Study

Several components of the design of this study should be recognized when analyzing the results of the study. The use of a small, homogeneous population limited the application of the results. The short time span of the study confined the possibility that significant differences between the two groups would occur as a result of the treatment. There was no control for the development of thinking skills in content area instruction.

Researchers have not yet developed an accepted testing instrument for measuring the thinking skills and inferential comprehension of primary grade level children. Therefore, inferential comprehension was measured using designated inferential test questions from the general comprehension section of The Stanford Achievement Test.

Need for Further Research

There are several related areas of research that need to be explored. These areas include: the development of

an efficient inferential comprehension measurement device for primary level children, the relationship between reading-thinking skills and reading achievement using several different reading programs and levels, the relationship of teacher questioning on the development of thinking skills in the content areas, the relationship of reading-thinking skills and creativity.

Implications for Classroom Practice

While the statistics of this study did not show a significant difference between the experimental and control groups, there appears to be a trend for the experimental group to perform better than the control group. Perhaps under optimal testing circumstances a significant difference could have been achieved. The results of this study and the literature reviewed seem to suggest that the inclusion of reading-thinking activities in the reading program may help to enhance the reading comprehension of students.

One of the foremost factors in determining the success of thinking skills as part of the reading program is the teacher. The teacher must first have an understanding of the research and literature in order to successfully implement the development of reading-thinking skills as part of the reading program. Stauffer (1975) proposed that the

teacher's role must change. The teacher must structure the classroom atmosphere by providing materials and guidance that are appropriate for the needs and abilities of the child. Learning is facilitated through various classroom experiences, observations and questioning techniques. The child learns to express his own ideas and conjectures. The child should take an active part in his education. The teacher serves to pace the instruction according to the abilities of the child. These views need to be incorporated into beginning reading instruction.

Too often, beginning reading instruction focuses primarily on rote memorization and isolated skill exercises. It is important to develop reading-thinking skills during these beginning years in order to provide for the proper sequential and maturational development of thinking skills. The goal of reading is to obtain meaning from the given text and this can only be achieved through the appropriate synthesis of reading and thinking skills.

Summary

The data failed to reject the first null hypothesis. A treatment of directed reading-thinking activities did not

significantly increase the general reading comprehension of third grade students of average reading ability.

The data failed to reject the second null hypothesis. Directed reading-thinking activities did not significantly increase the inferential comprehension of third grade students.

The findings of this study suggest that additional research be conducted at the third grade level and below using a larger student population and longer treatment period. Students of various reading and intellectual levels should also be included in future research.

On the basis of this study, it is recommended that reading-thinking activities become incorporated into the reading program. It is essential that educators recognize the importance of developing reading-thinking skills. It is recommended that teachers not only acquaint themselves with the theories of reading as a thinking skill but also include reading-thinking approaches and activities as part of the daily reading instruction. Directed reading-thinking approaches need to be developed from the very beginning years of reading in order to ensure the maturation of more creative and critical readers.

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Appendix A
Stanford Reading Achievement Test
Primary III, Forms A and B

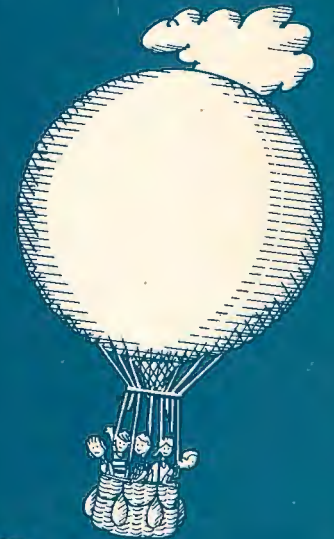
Primary Level III Complete Battery
Test Booklet


STANFORD Achievement Test

Hand-Scorable Edition

Richard Madden Eric F. Gardner Herbert C. Rudman

Bjorn Karlsen Jack C. Merwin



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1.
vocabulary

STEPS TO FOLLOW

Listen to each sentence your teacher reads to you.

Choose the word from those below that best completes the sentence.

Look at the answer spaces in your booklet or on your answer sheet (if you have one).

Fill in the space which has the same number as the word you have chosen.

EXAMPLES

- eggs
- ② milk
- ③ meat
- ④ hides

- ⑤ generous
- ⑥ confused
- ⑦ selfish
- ⑧ playful

- ① a contract
- ② a mistake
- ③ an exchange
- ④ a transmission

- ⑤ drowsy
- ⑥ watchful
- ⑦ stupid
- ⑧ itchy

- ① building
- ② bridge
- ③ rock
- ④ plant

- 4
- ⑤ melt them
 - ⑥ freeze them
 - ⑦ separate them
 - ⑧ mix them

- 5
- ① reproduction
 - ② creation
 - ③ duplicate
 - ④ habit

- 6
- ⑤ private
 - ⑥ public
 - ⑦ common
 - ⑧ plural

- 7
- ① accept
 - ② return
 - ③ stay
 - ④ leave

- 8
- ⑤ win
 - ⑥ cheer
 - ⑦ draw
 - ⑧ lose

- 9
- ① process
 - ② clue
 - ③ destination
 - ④ puzzle

- 10
- ⑤ liquid
 - ⑥ duster
 - ⑦ crust
 - ⑧ powder

- 11
- ① captain
 - ② commodore
 - ③ coach
 - ④ catcher

- 12
- ⑤ cautious
 - ⑥ guilty
 - ⑦ injured
 - ⑧ convinced

- 13
- ① fins
 - ② limbs
 - ③ flippers
 - ④ scales

- 14
- ⑤ container
 - ⑥ furniture
 - ⑦ motion
 - ⑧ game

- 15
- ① little
 - ② pretty
 - ③ valuable
 - ④ shiny

- 16
- ⑤ father
 - ⑥ house
 - ⑦ country
 - ⑧ enemies

- 17
- ① rude
 - ② proper
 - ③ awkward
 - ④ incorrect

- 18
- ⑤ sorry
 - ⑥ excited
 - ⑦ sleepy
 - ⑧ ready

- 19
- ① belittle
 - ② compliment
 - ③ comply
 - ④ complain

- 20
- ⑤ clumsy
 - ⑥ handsome
 - ⑦ skillful
 - ⑧ attractive

- 21
- ① released
 - ② empty
 - ③ detached
 - ④ enclosed

Reading Comprehension (Continued)

beaches are made when waves wear down rocks into pebbles and then into sand. Some of this sand is soft and is ground into clay or mud. Other sand takes a long time to wear down because it is very hard. The two kinds of sand make different kinds of beaches.

Beaches are first worn down into —

- 1) clay 7) pebbles
2) sand 8) mud;

As they become —

- 3) sand 3) beaches
4) mud 4) waves.

The sand which is soft becomes —

- 5) pebbles 7) stone
6) mud 8) rocks.

Some beaches are made smaller by —

- 1) waves 3) clay
2) wind 4) sun

Some beaches finally become sand on the —

- 3) dirt 7) waves
4) water 8) beaches.

Some beaches where the sand wears down more slowly because it is —

- 1) soft 3) mud
2) hard 4) stone.

Which is the best title for this paragraph?

- 5) A Good Swimming Beach
6) How Sand Is Made
7) From Sand to Rocks
8) The Ocean and Its Waves

A strange noise wakes me up. I am very quiet, listening. I hear the wind blowing the branches above the tent, and I can also hear footsteps. Some paper is rattled. All of a sudden a garbage can lid is tossed on the ground. I jump from my bed. My flashlight reflects two pairs of bears' eyes in the light beam, one from each trash can. This is so exciting to a city boy that I find it hard to go back to sleep in my sleeping bag.

Who is the story teller of this story?

- 43 1) a city boy 3) a girl scout
2) a hunter 4) a forest ranger

This story is about a —

- 44 5) motel room 7) plane trip
6) camping trip 8) visit to the zoo.

Whose footsteps are heard?

- 45 1) boys' 3) policemen's
2) bears' 4) girl scouts'

How does the person in this story feel?

- 46 5) amused 7) excited
6) bored 8) sleepy

The uninited guests arrived —

- 47 1) in the morning 3) at night
2) after lunch 4) in the afternoon.

ng Comprehension (Continued)

Mosaic is a picture made of colored stones. The first mosaics were probably made from slabs of alabaster, a stone soft enough to cut. Pictures of figures were carved on the slabs and then painted. These tiles or slabs were then put together to form a large picture. These pictures were used to decorate the palaces and temple walls of kings in the Near East. The artists used the pictures to tell stories about the kings and what they did.

Mosaic is made of —

- 1) pieces of rock
- 2) mud
- 3) photographs
- 4) sand.

The earliest mosaics were probably made from —

- 1) granite
- 2) alabaster
- 3) clay
- 4) walls.

The tiles used in early mosaics were made and then —

- 1) cut
- 2) formed
- 3) softened
- 4) painted.

The tiles were put together to make —

- 1) walls
- 2) frames
- 3) stones
- 4) pictures.

The mosaics were used to decorate —

- 1) schools
- 2) temples
- 3) theaters
- 4) museums.

The mosaics told stories about —

- 1) artists
- 2) rocks
- 3) kings
- 4) tiles.

These were our fields.
Now no flower blooms,
No grain grows here
Where earth moves in every wind.

No birds nest in these trees.
No fruit hangs
Where the boughs stretch bare
In the sun.

The dust sifts down—blows in.
Our mouths are filled.
The dust moves across,
And up and around the dust moves

In our waking—our sleeping—
In our dreams.

— Robert A. Davis

In this poem, birds do not build nests in the —

- 66 1) trees
- 2) flowers
- 3) fruit
- 4) grain.

This poem is —

- 67 1) sad
- 2) happy
- 3) dusty
- 4) sunny.

The writer of this poem says that the dust is —

- 68 1) disappearing
- 2) everywhere
- 3) on the ocean
- 4) on the moon.

The writer is probably a —

- 69 1) woman
- 2) farmer
- 3) doctor
- 4) fireman.

The area described used to be —

- 70 1) green
- 2) gray
- 3) sad
- 4) dusty.

5. Study Skills (Continued)

Part C

STEPS TO FOLLOW

Read each word with a line under it; then read the three words just below it. The sound with a line under it in the first word is like the sound in one of the other three words. Find the word that has the same sound. Look at the answer spaces in your booklet or on your answer sheet (if you have one). Mark the space that has the same number as the word you have chosen.

EXAMPLES

- side
 like
 fish
 will

- ago
 do
 no
 to

- by
 beside
 lady
 pay

- soap
 shook
 grown
 ground

- seen
 you
 buy
 believe

- wait
 air
 great
 want

- use
 few
 blew
 under

- bring
 fire
 cabbage
 home

- 31 model
 made
 chop
 more

- 32 dress
 easy
 tree
 egg

- 33 glad
 ahead
 grade
 flag

- 34 drum
 covered
 room
 music

- 35 eight
 they
 fall
 height

- 36 even
 every
 feet
 seven

- 37 sky
 tin
 sign
 silver

- 38 road
 snow
 song
 ride

- 39 caught
 loud
 crawl
 can't

- 40 cow
 slow
 sound
 moo

- 41 shoe
 wood
 shook
 choose

- 42 should
 woman
 story
 just

- 43 joy
 yes
 over
 boil

- 44 alone
 almost
 away
 all

- 45 small
 mail
 smoke
 thought

- 46 mouth
 town
 soup
 show

- 47 burn
 button
 dirt
 run

- 48 fish
 very
 path
 telephone

- 49 just
 get
 bag
 age

- 50 book
 cent
 know
 call

- 51 see
 bicycle
 clock
 match

- 52 gentle
 glad
 fudge
 angry

- 53 young
 try
 baby
 yard

- 54 child
 shop
 furniture
 push

- 55 sugar
 fresh
 question
 city



5.

Mathematics Computation: Part B

STEPS TO FOLLOW

Work each example.

Look for your answer at the right of the problem. Is your answer here?

Look at the answer spaces in your booklet or on your answer sheet (if you have one).

If your answer is here, fill in the space which has the same letter as your answer.

If your answer is Not Here, fill in the space for NH.

EXAMPLE

$$\begin{array}{r} 121 \\ + 31 \\ \hline \end{array}$$

A 52
 B 252
 C 152
 D 90
 E NH

27

$$\begin{array}{r} 479 \\ - 36 \\ \hline \end{array}$$

- A 43
 B 444
 C 433
 D 343
 E NH

32

$$\begin{array}{r} 42 \\ \times 4 \\ \hline \end{array}$$

- F 48
 G 166
 H 168
 J 424
 K NH

28

$$\begin{array}{r} 328 \\ - 56 \\ \hline \end{array}$$

- F 272
 G 372
 H 362
 J 262
 K NH

33

$$\begin{array}{r} 13 \\ \times 8 \\ \hline \end{array}$$

- A 824
 B 104
 C 84
 D 94
 E NH

29

$$\begin{array}{r} 755 \\ + 487 \\ \hline \end{array}$$

- A 1132
 B 1242
 C 1212
 D 1142
 E NH

34

$$3 \overline{)129}$$

- F 403
 G 123
 H 126
 J 43
 K NH

30

$$\begin{array}{r} 235 \\ + 64 \\ \hline \end{array}$$

- A 99
 B 399
 C 299
 D 294
 E NH

$$\begin{array}{r} 422 \\ - 136 \\ \hline \end{array}$$

- F 386
 G 296
 H 396
 J 286
 K NH

35

$$\begin{array}{r} 68 \\ \times 3 \\ \hline \end{array}$$

- A 184
 B 194
 C 196
 D 204
 E NH

31

$$\begin{array}{r} 234 \\ + 348 \\ \hline \end{array}$$

- F 574
 G 582
 H 282
 J 584
 K NH

$$8 \div \blacksquare = 2$$

- A 10
 B 18
 C 6
 D 424
 E NH

36

$$\begin{array}{r} 76 \\ \times 7 \\ \hline \end{array}$$

- F 522
 G 492
 H 532
 J 535
 K NH

STOP

6.

Mathematics Applications (Continued)

Mike needs 16 strips of wood to make a bird feeder. He has 8 strips cut and nailed together. He has 4 more strips cut out. How many more strips does he need to cut?

- 28 8 4 12 NH
 (F) (G) (H) (J) (K)



This stick measures 6 feet long. How many yards long is it?

- 6 1 3 2 NH
 (A) (B) (C) (D) (E)

One plant in our science experiment has grown to 10 inches tall. How many more inches must it grow to be one foot tall?

- 12 2 10 0 NH
 (F) (G) (H) (J) (K)

Grandmother gave Paul 5¢ each day for 4 days. Paul needs 29¢ to buy a toy car. How many cents more does he need?

- 19 20 49 9 NH
 (A) (B) (C) (D) (E)

We have 3 times as many children playing kickball since we bought more balls. We had 10 players before. Now how many do we have?

- 13 30 7 20 NH
 (F) (G) (H) (J) (K)

One quart of ice cream serves 6 children. How many children will 2 quarts serve?

- 3 8 12 7 NH
 (A) (B) (C) (D) (E)

A year ago Don was 48 inches tall. He is now 51 inches tall. How many inches did he grow in a year?

- 3 99 7 5 NH
 (F) (G) (H) (J) (K)

If halfway to school is 3 blocks, how many blocks is all the way?

- 3 6 $1\frac{1}{2}$ 2 NH
 (A) (B) (C) (D) (E)

Use these pictures to answer questions 22-24. There is no sales tax to figure.



22

The car costs how much more than the pen?

- 39¢ 49¢ \$1.09 40¢ NH
 (F) (G) (H) (J) (K)

23

What will 2 pens and 1 car cost?

- 60¢ \$1.09 79¢ \$1.39 NH
 (A) (B) (C) (D) (E)

24

If you want to buy 2 pens and have only 50¢, how much more do you need?

- 5¢ 20¢ 10¢ \$1.10 NH
 (F) (G) (H) (J) (K)

25

How long has Louise been playing with Ruth? It is now 4 o'clock. Before we can answer, what else must we know?

- (A) the time they started playing
 (B) when school closed
 (C) what they were playing
 (D) how many were playing

26

Gregg counted 8 pigeons eating on the street. Three flew away. Then 1 came back. How many were on the street then?

- 4 5 3 6 NH
 (F) (G) (H) (J) (K)

27

It takes 3 clips to put a book together. How many clips will be needed for 7 books?

- 21 10 4 6 NH
 (A) (B) (C) (D) (E)

28

Hank saw a toy boat that cost 75¢ and an airplane that cost 90¢. He has 50¢. How much more will he have to save to buy the airplane?

- \$1.15 25¢ \$1.40 40¢ NH
 (F) (G) (H) (J) (K)

7.
ing (Continued)

<ul style="list-style-type: none"> 5) seventh 6) monthley 7) leather 8) blanket 	<p>30</p> <ul style="list-style-type: none"> 5) careing 6) changes 7) smoking 8) skates 	<p>36</p> <ul style="list-style-type: none"> 5) kindly 6) awaken 7) blanks 8) flashes 	<p>42</p> <ul style="list-style-type: none"> 5) counted 6) dresses 7) billing 8) learnes
<ul style="list-style-type: none"> 5) chanse 6) everywhere 7) agree 8) young 	<p>31</p> <ul style="list-style-type: none"> 1) creem 2) airport 3) bush 4) forgive 	<p>37</p> <ul style="list-style-type: none"> 1) piece 2) nativ 3) liberty 4) pity 	<p>43</p> <ul style="list-style-type: none"> 1) reason 2) trunk 3) wonder 4) monky
<ul style="list-style-type: none"> 5) crossed 6) smiling 7) feelling 8) washes 	<p>32</p> <ul style="list-style-type: none"> 5) marbel 6) stocking 7) middle 8) prize 	<p>38</p> <ul style="list-style-type: none"> 5) slept 6) kitchen 7) music 8) travle 	<p>44</p> <ul style="list-style-type: none"> 5) fallen 6) cleared 7) wishes 8) foggy
<ul style="list-style-type: none"> 5) pond 6) river 7) shall 8) ownly 	<p>33</p> <ul style="list-style-type: none"> 1) dislike 2) doorway 3) return 4) foald 	<p>39</p> <ul style="list-style-type: none"> 1) bottome 2) arithmetic 3) giant 4) check 	<p>45</p> <ul style="list-style-type: none"> 1) blaze 2) afterwards 3) famly 4) thirty
<ul style="list-style-type: none"> 5) wagon 6) bottel 7) coal 8) fruit 	<p>34</p> <ul style="list-style-type: none"> 5) pushed 6) staying 7) puppys 8) mailed 	<p>40</p> <ul style="list-style-type: none"> 5) thankfull 6) sack 7) pillow 8) often 	<p>46</p> <ul style="list-style-type: none"> 5) saving 6) beans 7) farmes 8) hanging
<ul style="list-style-type: none"> 1) kick 2) fite 3) himself 4) airplane 	<p>35</p> <ul style="list-style-type: none"> 1) soil 2) evning 3) branch 4) watch 	<p>41</p> <ul style="list-style-type: none"> 1) turtle 2) touth 3) ocean 4) spoil 	<p>47</p> <ul style="list-style-type: none"> 1) straw 2) thanked 3) togather 4) silver

Page: Part A (Continued)

QUESTIONS TO FOLLOW

Read each sentence.

Look at the four different ways in which you can fill in the blank in the sentence.

Choose the best form to write on a school paper.

Look at the answer spaces in your booklet or on your answer sheet (if you have one).

Fill in the space which has the same number as your answer.

QUESTIONS

My teacher lives on _____

- Center street. center street.
 Center Street. center Street.

He moved there _____

- last January. last january.
 last. January. last January,

_____ teaches at our school.

- Miss berry miss Berry
 miss berry Miss Berry

_____ bus almost hit my friend.

- An A
 a an

Does your father work in the _____

- city?
 city. city,
 city!

Last year _____ gave a report in class.

- Mary and me Mary and I
 mary and I Me and Mary

_____ liked our report very much.

- Mrs. finn mrs. finn
 Mrs. Finn Mrs Finn

We planned to give our report on _____

- October 12, 1969.
 October, 12 1969.
 October 12 1969.
 october 12 1969.

We had forgotten the _____ vacation.

- columbus day Columbus Day
 Columbus day columbus Day

16 I asked, "Why can't we have _____

- school school?
 school?" school."

17 Mary _____ I was upset.

- knew had knowed
 knowed known

18 We had worked on our report _____

- monday, tuesday, and wednesday.
 Monday, tuesday, and wednesday.
 Monday Tuesday and Wednesday.
 Monday, Tuesday, and Wednesday.

19 Mary and I _____ worked so hard.

- we had never hadn't never
 had never we hadn't never

20 Both Mary and Mrs. Finn _____ when I said we had wasted our time.

- was hurt were hurt
 was hurted were hurted

21 Mrs. Finn said, "_____ I know that you don't want a holiday."

- , Sue, Sue
 Sue, , Sue

22 That statement _____ a smile to my lips.

- brought brung
 brang bringed

23 We were happy the holiday _____

- had came. had of come.
 had comed. had come.

24 Mrs. Finn _____ us to give our report later.

- telled told
 had telled have told

25 On the holiday, my Mother and I went to a movie based on American history. It _____ me a great deal.

- learned teached
 learnt taught

26 Mother _____ popcorn.

- didn't buy me no
 didn't buy me any
 didnt buy me any
 didnt buy me no

uage: Part B (Continued)

While he listened to the music, _____
tapped his foot.

- ⑤ Mary
- ⑥ Tom
- ⑦ she
- ⑧ they

because no one bought anything, the
storekeeper _____.

- ① smiled
- ② closed
- ③ opened
- ④ expanded

If Amy will read the directions, _____
won't have an accident.

- ⑤ they
- ⑥ she
- ⑦ he
- ⑧ Len

You can expect a good grade _____ you
studied hard.

- ① although
- ② before
- ③ because
- ④ maybe

Scott is not only too heavy, but he is
also _____ weight.

- ⑤ eating
- ⑥ gaining
- ⑦ losing
- ⑧ gained

The cat crept slowly through the grass
and _____ on its victim.

- ① smiled
- ② crunched
- ③ crashed
- ④ pounced

STEPS TO FOLLOW

- I. Read each group of words. Some groups are complete sentences; others are not. Punctuation and capitalization have been left out purposely.
- II. If the group is complete as printed, even though you might be able to add something else to it, the correct answer is "complete."
- III. If the group is not complete, decide which group of words you could add before or after the original group to make a complete sentence or question.
- IV. Look at the answer spaces in your booklet or on your answer sheet (if you have one).
- V. Fill in the space which has the same number as your answer.

50 sent to the store to get a pound of butter
and a dozen eggs

- ⑤ Thomas had been
- ⑥ even though he had been
- ⑦ Thomas along with his brother
- ⑧ complete

51 hoping that he might get a new bicycle

- ① Larry looked forward to his birthday
- ② for a long time he had
- ③ fearing that his parents didn't know
- ④ complete

52 at the end of the long dock

- ⑤ near the center of the harbor
- ⑥ Len kept his little boat
- ⑦ where the big boats are kept
- ⑧ complete

53 the parents' meeting was over at ten o'clock

- ① concerned with the school library
- ② it had been concerned with the school library
- ③ a late hour for Mr. Baggett
- ④ complete

54 to get to the bottom of the mystery

- ⑤ having sent a detective
- ⑥ which had bothered them for months
- ⑦ the police sent a detective
- ⑧ complete

55 the concrete road was cracked and broken

- ① where the frost had heaved the ground
- ② the frost had heaved the ground
- ③ the frost heaving the ground
- ④ complete

I Science (Continued)

prehistoric man made clothes from —

- ① wool ⑦ skins
 ② cotton ⑧ silk

Which one of these people does NOT work for a government?

- ① Secretary of State ③ Senator
 ② salesman ④ Governor

States build new highways to solve which of these problems?

- ① air pollution ⑦ crime in the streets
 ② traffic jams ⑧ housing shortages

When workers go on strike, it is usually because they want —

- ① new factories ③ longer workdays
 ② more work ④ more pay

Which of these look much the same today as they did when America was discovered?

- ① school buildings ⑦ farm machines
 ② redwood trees ⑧ ladies' dresses

The main job of a policeman is to —

- ① pass laws ③ protect people
 ② stop traffic ④ lead parades

The world's largest body of water is the —

- ① Indian Ocean ⑦ Mediterranean Sea
 ② Pacific Ocean ⑧ Mississippi River

In early Greece, people believed magic could cure sickness. A person who lived there would probably believe in magic —

- ① until he learned to read
 ② until he went to school
 ③ until he was 21
 ④ all his life

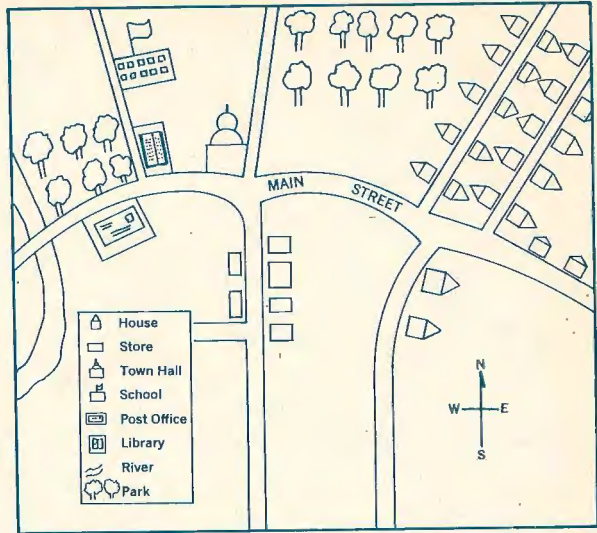
The following were used by some Indians a long time ago. Which one shows that they made clothing?

- ① tomahawk ⑦ needle
 ② arrowhead ⑧ clay pot

The money to pay for a new public school usually comes from —

- ① the President ③ gifts
 ② taxes ④ the pupils

Questions 26-30 are based on the map below.



26 The school is closest to which of these?

- ① houses ⑦ library
 ② post office ⑧ stores

27 How many parks does this town have?

- ① one ③ two
 ② three ④ five

28 In which part of town do most people live?

- ① northwest ⑦ southwest
 ② northeast ⑧ southeast

29 To go from the library to the town hall, a person would walk —

- ① west ③ east
 ② north ④ south

30 There is probably a bridge nearest to the —

- ① houses ⑦ school
 ② town hall ⑧ post office

31 One person whose main job is to protect people and property is a —

- ① salesman ③ bus driver
 ② fireman ④ teacher

32 A small town near a beautiful mountain lake would probably have many —

- ① vacationers ⑦ factories
 ② farmers ⑧ railroads

QUESTIONS TO FOLLOW

Read each question.

Choose the best answer.

Look at the answer spaces in your booklet or on your answer sheet (if you have one).

Fill in the space which has the same number as your answer.

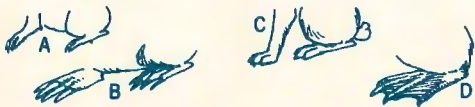
QUESTION 8

Which of these is an animal?

- ① star ② flower ③ tree ● ④ cat

A new oak tree grows from —

- ① a seed ③ a flower
② a leaf ④ bark



Which of the animals shown most likely spends much time in the water?

- ① A ② B ③ D ④ C

Which of these animals does not lay eggs?

- ① an owl ③ a turtle
② a bear ④ a frog

A heavy box can be most easily moved on—

- ① wheels ③ sand
② concrete ④ carpet

The wool in a sweater comes from —

- ① an insect
② a factory making plastics
③ a mammal
④ a green plant



Starting with the eggs (A) in the drawing above, which order of letters best shows how an animal develops?

- ① A → B → C → D ③ A → B → C
② A → B → F ④ A → B → D → E

Elephants are not found in the desert because —

- ① they are too heavy
② the desert does not provide enough water
③ nobody brought them there
④ they are cold-blooded, and the desert would heat their blood

8 A scientist tests hypotheses to see if they are true or not true by —

- ① asking other scientists
② voting on the question
③ experimenting
④ reading a book

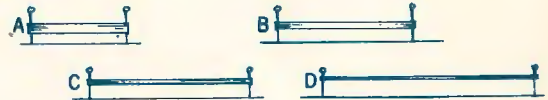
9 Stars are not seen in the daytime very often because —

- ① they are only on the right side of the earth
② the sky is too bright to see the stars
③ the air is too dirty
④ the clouds are too dense

10 Which of these animals is most like a rat?

- ① cat ③ snake
② squirrel ④ dog

Questions 11-12 are based on the pictures below. The rubber bands were the same length and thickness before they were stretched.



11 Which rubber band is pulling the hardest?

- ① D ② A ③ B ④ C

12 Which rubber band has the least energy?

- ① D ② B ③ C ④ A

13 Which of the following things would you most likely find living in the same area?

- ① frog and penguin
② cactus and rattlesnake
③ polar bear and rattlesnake
④ polar bear and cactus

14 When water is heated enough, it changes from a —

- ① gas to a liquid ③ liquid to a solid
② liquid to a gas ④ gas to a solid

15 Which of the following will move the most dirt, sand, and pebbles? Water in a —

- ① fast moving river ③ slow moving river
② small lake ④ large lake

16 Fish get air from the water by means of their —

- ① gills ③ fins
② mouths ④ skin

ce (Continued)

Green worms are more difficult to see on a green lawn than brown worms. If there were 100 green worms and 100 brown worms on a green lawn, the birds would most likely find and eat —

- Ⓐ more green worms
- Ⓑ more brown worms
- Ⓒ the same number of green and brown worms
- Ⓓ more brown worms in the morning and more green worms in the afternoon



Two burning candles are placed under a pinwheel. The pinwheel spins because of the motion of the —

- Ⓐ pin
- Ⓑ warm air
- Ⓒ wheel
- Ⓓ flame

Amphibians are animals that —

- Ⓐ always live in burrows
- Ⓑ can fly and climb
- Ⓒ live both on land and in water
- Ⓓ always live in oceans

What part of a tree does a wooden baseball bat come from?

- Ⓐ trunk
- Ⓑ root
- Ⓒ bark
- Ⓓ leaves

A small pan of water is made to boil by placing it over a lighted candle. A mirror placed above the rising steam is soon covered with moisture. This example can be compared with the water cycle. The lighted candle acts like the —

- Ⓐ warm earth
- Ⓑ sun
- Ⓒ rising air current
- Ⓓ gravity moving the rivers

Which member of this food chain makes its own food?

flower → moth → toad → snake → hawk

- Ⓐ toad
- Ⓑ snake
- Ⓒ moth
- Ⓓ flower

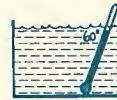
36 Which of the following is a large ball of gasses?

- Ⓐ earth
- Ⓑ sun
- Ⓒ moon
- Ⓓ planet

37 If an object causes a sound, it must —

- Ⓐ be metallic
- Ⓑ vibrate
- Ⓒ be stationary
- Ⓓ glow

38 One thermometer is put into a gallon of water. Another thermometer is put into a pint of water. Both thermometers read 60° F.



Which statement is correct?

- Ⓐ The gallon of water is warmer than the pint of water.
- Ⓑ Both the gallon and the pint of water are the same temperature.
- Ⓒ The pint of water is warmer than the gallon of water.
- Ⓓ The thermometers are probably wrong.

39 Animals living near the North Pole are often white in the wintertime since —

- Ⓐ white absorbs more heat than dark colors
- Ⓑ the cold temperature makes their color disappear
- Ⓒ the color helps guard them against enemies
- Ⓓ they are covered with frost and snow

40 When sunlight strikes the surface of the earth, most of it is reflected and changed into —

- Ⓐ mechanical energy
- Ⓑ electrical energy
- Ⓒ sound energy
- Ⓓ heat energy

41 What do the following have in common? pine tree, cow, crayfish, and jellyfish

- Ⓐ They have a backbone.
- Ⓑ They live on land.
- Ⓒ They are alive.
- Ⓓ They live in water.

42 If it took only 200 days for the earth to go around the sun, our year would —

- Ⓐ be shorter
- Ⓑ be longer
- Ⓒ have no seasons
- Ⓓ have shorter days

ing Comprehension (Continued)

★ 12 (E) (F) (G) (H)	32 (E) (F) (G) (H)
13 (A) (B) (C) (D)	33 (A) (B) (C) (D)
14 (E) (F) (G) (H)	34 (E) (F) (G) (H)
15 (A) (B) (C) (D)	35 (A) (B) (C) (D)
16 (E) (F) (G) (H)	36 (E) (F) (G) (H)
17 (A) (B) (C) (D)	37 (A) (B) (C) (D)
18 (E) (F) (G) (H)	38 (E) (F) (G) (H)
19 (A) (B) (C) (D)	39 (A) (B) (C) (D)
20 (E) (F) (G) (H)	40 (E) (F) (G) (H)
21 (A) (B) (C) (D)	41 (A) (B) (C) (D)
22 (E) (F) (G) (H)	42 (E) (F) (G) (H)
23 (A) (B) (C) (D)	43 (A) (B) (C) (D)
24 (E) (F) (G) (H)	44 (E) (F) (G) (H)
25 (A) (B) (C) (D)	45 (A) (B) (C) (D)
26 (E) (F) (G) (H)	46 (E) (F) (G) (H)
27 (A) (B) (C) (D)	47 (A) (B) (C) (D)
28 (E) (F) (G) (H)	48 (E) (F) (G) (H)
29 (A) (B) (C) (D)	49 (A) (B) (C) (D)
30 (E) (F) (G) (H)	50 (E) (F) (G) (H)
31 (A) (B) (C) (D)	

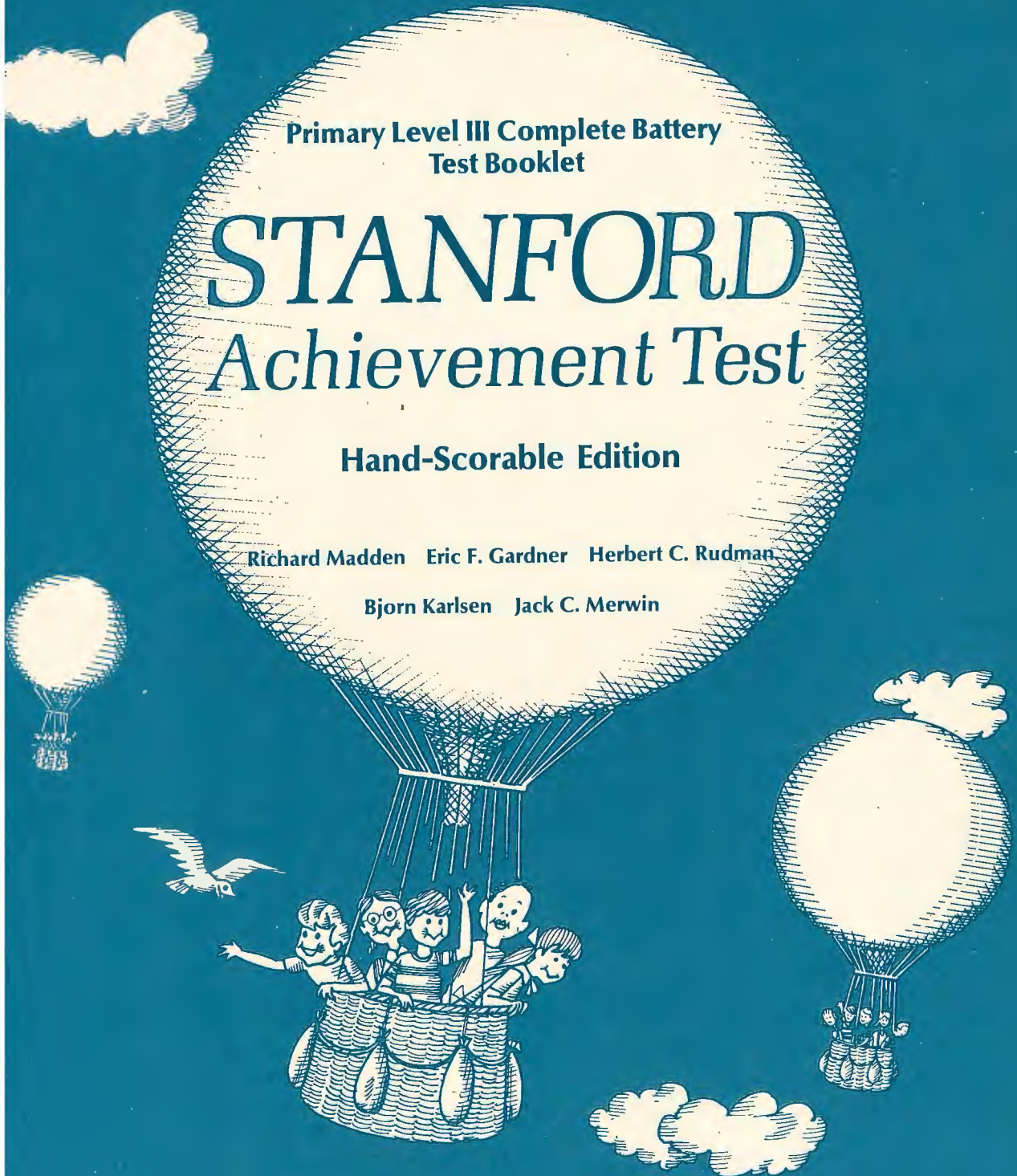
Primary Level III Complete Battery
Test Booklet


STANFORD Achievement Test

Hand-Scorable Edition

Richard Madden Eric F. Gardner Herbert C. Rudman

Bjorn Karlsen Jack C. Merwin



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1.
vocabulary

STEPS TO FOLLOW

Listen to each sentence your teacher reads and choose the word that best completes the sentence.

Choose the word from those below that best completes the sentence.

Look at the answer spaces in your booklet or on your answer sheet (if you have one).

Fill in the space which has the same number as the word you have chosen.

EXAMPLES

- 1 eggs
- 2 milk
- 3 meat
- 4 hides

- 5 generous
- 6 confused
- 7 selfish
- 8 playful

- 1 building
- 2 farming
- 3 fighting
- 4 washing

- 5 sandwich
- 6 candy
- 7 cloth
- 8 cheese

- 1 watchful
- 2 alert
- 3 sleepy
- 4 upset

- 4
- 5 better
 - 6 smaller
 - 7 further
 - 8 bigger

- 5
- 1 angry
 - 2 mixed up
 - 3 mean
 - 4 comical

- 6
- 5 index
 - 6 preface
 - 7 bibliography
 - 8 title

- 7
- 1 ache
 - 2 rest
 - 3 worry
 - 4 perspire

- 8
- 5 relatives
 - 6 children
 - 7 ribs
 - 8 husbands

- 9
- 1 teeth
 - 2 bristles
 - 3 beards
 - 4 fur

- 10
- 5 confident
 - 6 positive
 - 7 simple
 - 8 doubtful

- 11
- 1 an addition
 - 2 a reply
 - 3 a copy
 - 4 an original

- 12
- 5 saw
 - 6 file
 - 7 hammer
 - 8 flint

- 13
- 1 flower
 - 2 country
 - 3 automobile
 - 4 celebration

- 14
- 5 ice
 - 6 brick
 - 7 metal
 - 8 water

- 15
- 1 emphasize
 - 2 verify
 - 3 compare
 - 4 omit

- 16
- 5 happy
 - 6 outstanding
 - 7 beaten
 - 8 winning

- 17
- 1 color
 - 2 skin
 - 3 back
 - 4 leather

- 18
- 5 clothes
 - 6 furniture
 - 7 tools
 - 8 possessions

- 19
- 1 eat
 - 2 destroy
 - 3 waste
 - 4 wear

- 20
- 5 pharmacist
 - 6 florist
 - 7 foreman
 - 8 porter

- 21
- 1 lingers
 - 2 loses
 - 3 abides
 - 4 departs

ng Comprehension (Continued)

have been given five senses. They you learn about your world. You about sound with your —

- skin ③ hands
hearing ④ books,

ow things feel with your —

- ears ⑦ touch
lungs ⑧ hair.

five sense organs are a part of your —

- body ③ room
school ④ TV set,

different organs serving the different —

- people ⑦ seasons
senses ⑧ times.

ell is picked up by your —

- nose ③ food
ear ④ tongue,

le taste comes through taste buds
our —

- plate ⑦ head
flowers ⑧ tongue.

ich sense organ was not named above?

- ① nose ③ ear
② eye ④ tongue

Mike and his dad were taking peaches to the market. They had loaded their truck and left home before dawn to drive to the city. As they crossed a bridge over a wide river, Mike saw the many tall buildings of the city. "No farms or peach orchards among all those big buildings, are there, Mike?" said his dad. Mike shook his head. He felt sorry for all those city people who had no place to grow any of their own food.

According to the story, Mike's dad grows —

- 42 ⑤ corn ⑦ apples
 ⑥ peaches ⑧ ducks.

Mike went to the city in a —

- 43 ① truck ③ train
 ② bus ④ car.

To get to the city, they had to cross a —

- 44 ⑤ railroad ⑦ desert
 ⑥ river ⑧ park.

Almost all the food used by people living in the city had to be —

- 45 ① planted ③ made
 ② bought ④ fresh.

When Mike got up, it was still —

- 46 ⑤ light ⑦ dark
 ⑥ raining ⑧ sunny.

Which is the best title for this story?

- 47 ① Mike Gets Up Early
 ② Growing Peaches
 ③ Mike's Trip to the City Market
 ④ Food for City People

Reading Comprehension (Continued)

October, 1968, the first manned Apollo spaceship blasted off the pad at Cape Kennedy. It orbited into an earth orbit where it remained for 11½ days, preparing for a later flight designed to place men on the moon. In addition to other duties, the three-man crew operated a camera which sent live television pictures back to earth, so that millions of people learned what the earth looked like from hundreds of miles out in space.

Information gained on this flight helped the crew to —

- 1) swim better
- 2) get home sooner
- 3) reach the moon
- 4) eat less.

During the flight, from blastoff to splashdown, the crew was —

- 5) 11½ days
- 6) 3 weeks
- 7) 68 hours
- 8) a month.

According to this paragraph, the members of the crew spent some time in orbit —

- 1) landing on the moon
- 2) operating a television camera
- 3) looking at movies on TV
- 4) reading magazines.

The space flight of October, 1968, marked the first time the Apollo had carried —

- 5) rocket fuel
- 6) a camera
- 7) water
- 8) a crew.

During the flight, the ship and the crew —

- 1) lost their bearings
- 2) landed on Mars
- 3) circled the moon
- 4) circled the earth.

With button eyes and cotton skin,
How can a kitten sit and grin?
With skin of striped calico
And only thread between each toe—
I've looked and found out, so I know!

It must feel funny for a cat
To have its tail just painted flat.
But when we're in because of snow
I hold my toy at the window,
And I forget the button eyes
As we both watch the storm and skies.

— Effie Lee Newsome

Button eyes can —

- 64
- 5) really see
 - 6) see in make-believe
 - 7) feel happy
 - 8) watch the storm.

The cat's tail was —

- 65
- 1) stretched
 - 2) broken
 - 3) painted
 - 4) curled.

That cat's skin is made of —

- 66
- 5) cloth
 - 6) paint
 - 7) buttons
 - 8) thread.

On snowy days the kitten keeps the child —

- 67
- 1) company
 - 2) indoors
 - 3) at the window
 - 4) forgetful.

The kitten described is —

- 68
- 5) sad
 - 6) a toy
 - 7) frisky
 - 8) a pet.

The owner considered the cat a good —

- 69
- 1) runner
 - 2) companion
 - 3) listener
 - 4) eater.

Which would make the best title for this poem?

- 70
- 5) My Calico Cat
 - 6) A Funny Toy
 - 7) A Sad Kitten
 - 8) A Snowy Day

Study Skills (Continued)

Part C

STEPS TO FOLLOW

Underline each word with a line under it; then read the three words just below it. The sound with a line under it in the first word is like the sound in one of the other three words. Find the word that has the same sound. Look at the answer spaces in your booklet or on your answer sheet (if you have one). Mark the space that has the same number as the word you have chosen.

EXAMPLES

- bed
 like
 fish
 will

- do
 do
 no
 to

- right
 buy
 may
 ring

- alone
 one
 throw
 lost

- deep
 pie
 dent
 field

- they
 key
 paid
 the

- beauty
 huge
 run
 until

- lift
 life
 pin
 five

- 31 dollar
 lose
 spot
 door
- 32 best
 beside
 seat
 says

- 33 sad
 said
 safe
 half
- 34 come
 front
 more
 home

- 35 save
 great
 travel
 laugh

- 36 piece
 eight
 see
 few

- 37 tie
 sill
 eye
 their

- 38 hold
 though
 thought
 through

- 39 talk
 tack
 bought
 last

- 40 about
 moon
 crowd
 four

- 41 true
 much
 upon
 school

- 42 could
 wool
 south
 jump

- 43 boy
 tray
 yellow
 soil

- 44 polite
 touch
 tomorrow
 town

- 45 off
 over
 took
 tall

- 46 pound
 drown
 soup
 should

- 47 corn
 hurry
 coarse
 learn

- 48 four
 glove
 sharp
 calf

- 49 jar
 beg
 glad
 edge

- 50 kind
 receive
 know
 become

- 51 saw
 circle
 lunch
 rock

- 52 giant
 anger
 major
 good

- 53 you
 toy
 try
 yell

- 54 watch
 wash
 chair
 ship

- 55 push
 show
 catch
 bus

4. Mathematics Concepts (Continued)

$<$ (A) \div (B) $+$ (C) $-$ (D)





24 $12 \div n = 3$, if _____

(E) $3 \times n = 12$ (G) $n + 3 = 12$
 (F) $n \div 3 = 12$ (H) $n \times n = 12$

46020 (E) 4602 (F) 46002 (G) 40602 (H)

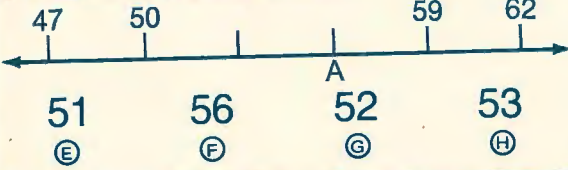
25

(A) {15, 9, 3, 21} (C) {11, 7, 4, 9}
 (B) {16, 13, 18, 12} (D) {5, 6, 9, 7}


(A) 
 (B) 
 (C) 
 (D) 

26


(E) minute second hour day week
 (F) second minute day hour week
 (G) second minute hour day week
 (H) second day minute hour week



27



(A) 19 (B) 89 (C) 101 (D)


$4 - 3 = 1$  (C) $4 + 3 = 7$
 $3 + 4 = 7$ (D) $7 - 3 = 4$

28

9357 (E) 8576 (G)
 6713 (F) 5438 (H)

8 (E) 1 (F) 3 (G) 4 (H)

29




4 (A) 8 (B) 6 (C) 12 (D)

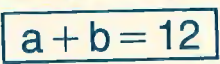
472 =

(A) $(4 + 10) + (7 \times 1) + 2$
 (B) $(4 \times 1000) + (7 \times 100) + (2 \times 10)$
 (C) $(4 \times 100) + (7 \times 10) + (2 \times 1)$
 (D) $(4 \times 30) + (7 \times 20) + (2 \times 10)$

30

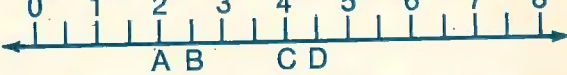


(E) parallel lines (G) an angle
 (F) two line segments (H) two lines



(E) $a = b$ (G) $12 + b = a$
 (F) $12 - b = a$ (H) $a - 12 = b$


31



(A) C (B) A (C) D (D) B

5 (A) 4 (B) 15 (C) 20 (D)

32



20 (E) 30 (F) 10 (G) 5 (H)



Mathematics Computation: Part B

STUDENTS TO FOLLOW
Work each example.

Look for your answer at the right of the problem. Is your answer here?

Look at the answer spaces in your booklet or on your answer sheet (if you have one).

If your answer is here, fill in the space which has the same letter as your answer.

If your answer is Not Here, fill in the space for NH.

EXAMPLE

$\begin{array}{r} 121 \\ + 31 \\ \hline \end{array}$	(A) 52 (B) 252 (C) 152 (D) 90 (E) NH
--	--

$\begin{array}{r} 389 \\ - 75 \\ \hline \end{array}$	(A) 43 (B) 342 (C) 242 (D) 333 (E) NH
--	---

$\begin{array}{r} 62 \\ \times 4 \\ \hline \end{array}$	(F) 66 (G) 126 (H) 248 (J) 68 (K) NH
---	--

$\begin{array}{r} 428 \\ - 75 \\ \hline \end{array}$	(F) 353 (G) 453 (H) 352 (J) 363 (K) NH
--	--

$\begin{array}{r} 13 \\ \times 5 \\ \hline \end{array}$	(A) 62 (B) 65 (C) 18 (D) 105 (E) NH
---	---

$\begin{array}{r} 579 \\ + 858 \\ \hline \end{array}$	(A) 1435 (B) 1437 (C) 1427 (D) 1337 (E) NH
---	--

$3 \overline{)189}$	(F) 33 (G) 603 (H) 53 (J) 63 (K) NH
---------------------	---

$\begin{array}{r} 1434 \\ - 836 \\ \hline \end{array}$	(F) 597 (G) 698 (H) 1598 (J) 598 (K) NH
--	---

$\begin{array}{r} 79 \\ \times 5 \\ \hline \end{array}$	(A) 355 (B) 405 (C) 390 (D) 395 (E) NH
---	--

$\square \div 3 = 7$	(A) $2\frac{1}{3}$ (B) 37 (C) $\frac{3}{7}$ (D) 24 (E) NH
----------------------	---

$\begin{array}{r} 58 \\ \times 4 \\ \hline \end{array}$	(F) 228 (G) 202 (H) 232 (J) 238 (K) NH
---	--

$\begin{array}{r} 734 \\ + 45 \\ \hline \end{array}$	(A) 79 (B) 778 (C) 779 (D) 769 (E) NH
--	---

$\begin{array}{r} 845 \\ + 736 \\ \hline \end{array}$	(F) 1570 (G) 1581 (H) 1781 (J) 1582 (K) NH
---	--



ematics Applications (Continued)

In the Jones family there are 3 boys and 4 girls. Each of the children has 2 pets. How many pets do all the children have?

- 4 5 10 6 NH
 (A) (B) (C) (D) (E)



The distance from R to T is 24 inches. How many feet is it from R to T?

- $\frac{1}{2}$ 3 8 2 NH
 (A) (B) (C) (D) (E)



Here is a picture of a board measured with a yardstick. About how many feet long is the board?

- 1 2 4 3
 (A) (B) (C) (D)

It takes 6 children to play ball on the street. Five children are here, but only 4 will play. How many more players do we need to have 6?

- 1 10 3 2 NH
 (A) (B) (C) (D) (E)

In the arithmetic club, there are 4 boys and twice as many girls. How many are in the group all together?

- 8 12 2 16 NH
 (A) (B) (C) (D) (E)

There are 6 places at the work table and 2 crayons at each place. How many crayons are on the table?

- 6 8 12 3 NH
 (A) (B) (C) (D) (E)

Last year our school had 500 pupils. This year we have 600. How many more do we have this year than last year?

- 100 500 600 1100 NH
 (A) (B) (C) (D) (E)

Marie paid Alice 10¢ for half of her balloons. At this rate, what would all of the balloons cost?

- 5¢ 20¢ 10¢ 12¢ NH
 (A) (B) (C) (D) (E)

Use these pictures to answer questions 22-24. There is no sales tax to figure.



- 22 A football costs how much more than a dart board?
 \$2.00 \$2.01 \$7.57 \$1.99 NH
 (A) (B) (C) (D) (E)

- 23 Ralph has a half dollar and a dime. How much more does he need to buy the car?
 8¢ 60¢ 40¢ 18¢ NH
 (A) (B) (C) (D) (E)

- 24 Which amount below will be nearest to the cost of 2 dart boards.
 \$5.00 \$6.00 \$5.50 \$4.50 \$4.75
 (A) (B) (C) (D) (E)

- 25 If each person eats 2 cupcakes at a party, and we want to know how many cupcakes will be needed, before we can tell, what else do we need to know?

- (A) the number of people
- (B) the size of the cupcakes
- (C) where we buy the cupcakes
- (D) the cost of each cupcake
- (E) the kind of party

- 26 Carl has 12 balloons in 3 different colors. Two are red and 3 are blue. What is the greatest number that could be yellow?

- 5 12 9 7 NH
 (A) (B) (C) (D) (E)

- 27 There are 30 children in the class. Each needs 2 pencils. How many pencils are needed all together?

- 60 32 28 15 NH
 (A) (B) (C) (D) (E)

- 28 Danny is looking at toys. A car costs 30¢, a boat is 40¢, and a plane is 50¢. He says he will buy the car and the plane. What will both cost?

- 70¢ 90¢ \$1.20 80¢ NH
 (A) (B) (C) (D) (E)

ng (Continued)

camping barnes noted meeting	30	<ul style="list-style-type: none"> ⑤ needed ⑥ sleepy ⑦ shortly ⑧ kisses 	36	<ul style="list-style-type: none"> ⑤ noisy ⑥ biggest ⑦ strangely ⑧ dreammed 	42	<ul style="list-style-type: none"> ⑤ trading ⑥ latest ⑦ badges ⑧ skateing
quik eleven mostly lighted	31	<ul style="list-style-type: none"> ① hungry ② middle ③ grounds ④ second 	37	<ul style="list-style-type: none"> ① bite ② another ③ scooter ④ used 	43	<ul style="list-style-type: none"> ① travel ② monthly ③ cleaned ④ leather
missed pleased reportted listed	32	<ul style="list-style-type: none"> ⑤ trainning ⑥ sixty ⑦ bases ⑧ teams 	38	<ul style="list-style-type: none"> ⑤ painting ⑥ feeling ⑦ gloves ⑧ cryed 	44	<ul style="list-style-type: none"> ⑤ stream ⑥ tube ⑦ suger ⑧ peanuts
spoil nurse broke bild	33	<ul style="list-style-type: none"> ① ocean ② weather ③ dollars ④ arithmetic 	39	<ul style="list-style-type: none"> ① meening ② hang ③ guess ④ pocket 	45	<ul style="list-style-type: none"> ① camel ② follow ③ reson ④ thick
riddle turtel finish clothes	34	<ul style="list-style-type: none"> ⑤ covered ⑥ pushes ⑦ sliping ⑧ rolling 	40	<ul style="list-style-type: none"> ⑤ careles ⑥ saddle ⑦ manage ⑧ reminded 	46	<ul style="list-style-type: none"> ⑤ clipping ⑥ scared ⑦ catches ⑧ admits
bridge afteward shelf raise	35	<ul style="list-style-type: none"> ① hid ② sheat ③ evening ④ window 	41	<ul style="list-style-type: none"> ① agree ② pleanty ③ candle ④ oak 	47	<ul style="list-style-type: none"> ① calm ② guide ③ delivry ④ difference

age: Part A (Continued)

5 TO FOLLOW

Read each sentence.
Look at the four different ways in which you can fill in the blank in the sentence.
Choose the best form to write on a school paper.
Look at the answer spaces in your booklet or on your answer sheet (if you have one).
Fill in the space which has the same number as your answer.

QUESTIONS

My teacher lives on _____

- 1) Center street. 3) center street.
2) Center Street. 4) center Street.

We moved there _____

- 1) last January. 7) last january.
2) last. January. 8) last January,

Mary Smith's initials are _____

- 1) m.s. 3) ms
2) MS 4) M.S.

_____ is my grandfather.

- 1) George brown 7) George Brown
2) george brown 8) george Brown

_____ soon be older.

- 1) You'll 3) youll
2) you'll 4) Youll

Have you ever been on a _____

- 1) horse, 7) horse?
2) horse. 8) horse!

_____ animal ran into the street.

- 1) A 3) a
2) An 4) an

go to _____

- 1) Eagle Elementary School.
2) Eagle elementary School.
3) Eagle elementary school.
4) eagle elementary school.

_____ is in Texas, where we have lived since we left Iowa. If I mention the trip, my parents shout, "Never _____

- 1) again." 3) again!"
2) again?" 4) again.

16 "Do you remember how far we _____ Mother asks.

- 1) drove," 7) drove?
2) drove?" 8) drove."

17 At first, we thought we could move in _____

- 1) summer, probably in July or August.
2) summer, probably in july or august.
3) Summer, probably in July or August.
4) Summer, probably in july or august.

18 But we couldn't. We drove all day _____

- 1) tuesday wednesday and thursday.
2) Tuesday, wednesday, and thursday.
3) tuesday, wednesday, and thursday.
4) Tuesday, Wednesday, and Thursday.

19 The weather had _____ worse.

- 1) grew 3) grow
2) grown 4) grewed

20 We had _____ everything with us.

- 1) brung 7) brought
2) brang 8) bringed

21 _____ rode in the front seat of the moving truck.

- 1) Mother and me 3) I and Mother
2) Mother and I 4) Me and Mother

22 While my father drove, I read the map. Only once did I have to say, "This _____ the road."

- 1) isn't 7) ain't
2) ai'nt 8) is'nt

23 Have you ever driven in a _____ no fun.

- 1) storm. It's 3) storm, its
2) storm its 4) storm? It's

24 In Texas, we were met by our new neighbor. He and his son had _____ a present.

- 1) given me and Dad
2) gave me and Dad
3) given Dad and me
4) gave Dad and me

25 I feel sorry for anyone who _____ people here.

- 1) don't know no 3) doesn't know no
2) don't know any 4) doesn't know any

26 At first, my dog _____ away from the house.

- 1) he runned 7) he ran
2) ran 8) runned

When school begins tomorrow, we _____
telling first.

- ⑤ had
- ⑥ shall have
- ⑦ has
- ⑧ have had

When Karen took care of Betty last night,
Betty _____ very good.

- ① is
- ② was
- ③ has been
- ④ will be

The rock shattered the window and _____
into the room.

- ⑤ smiled
- ⑥ crashed
- ⑦ crept
- ⑧ strode

Because everyone likes Marie, she _____
lected.

- ① wasn't
- ② couldn't be
- ③ was
- ④ are

He wanted very much to hear the concert,
_____ he hoped to be in the band.

- ⑤ if
- ⑥ because
- ⑦ maybe
- ⑧ after

Having written the letter, I _____
nailed it.

- ① than
- ② the
- ③ last
- ④ then

STEPS TO FOLLOW

- I. Read each group of words. Some groups are complete sentences; others are not. Punctuation and capitalization have been left out purposely.
- II. If the group is complete as printed, even though you might be able to add something else to it, the correct answer is "complete."
- III. If the group is not complete, decide which group of words you could add before or after the original group to make a complete sentence or question.
- IV. Look at the answer spaces in your booklet or on your answer sheet (if you have one).
- V. Fill in the space which has the same number as your answer.

50 to go into her room and listen to the radio alone

- ⑤ Ellen likes very much
- ⑥ without being interrupted
- ⑦ do you like to listen to the radio
- ⑧ complete

51 weakened by the sudden flood, the old bridge

- ① fell into the swollen creek
- ② it was
- ③ shaking as the chunks of ice hit it
- ④ complete

52 carried by the wind many miles from its parent plant

- ⑤ and deposited in a brand new spot
- ⑥ a milkweed seed takes a long trip
- ⑦ soon beginning a whole new colony
- ⑧ complete

53 Marco Polo was the first western man to reach China

- ① he was a great explorer
- ② was placed in prison for many years
- ③ writing a book about his trip
- ④ complete

54 into the bed and under the covers

- ⑤ because he feared the dark
- ⑥ fearing the dark
- ⑦ went the frightened boy
- ⑧ complete

55 Americans live in almost every country in the world

- ① where they are permitted to live
- ② trying to help other nations
- ③ since World War II
- ④ complete

Science (Continued)

ences were built around forts in colonial
nes to keep —

- snow from piling up
- enemies away
- forts attractive
- soldiers from running away

ong ago people believed the earth was
at because —

- no one studied navigation
- it looked that way to them
- there were no schools
- there were no books

hich of these ways of traveling is
e cheapest?

- car
- airplane
- train
- bicycle

any people who live in the Sahara Desert
ve in —

- stone houses
- tents
- wood huts
- log cabins

he best reason to vote for a man for
ayor is that he —

- wants to win
- gives many speeches
- wants good government
- has important friends

hich one of these workers produces
oods?

- repairman
- baker
- nurse
- pilot

ne way that groups of people all over
e world are alike is that they —

- live in a democracy
- have a navy
- elect all their leaders
- have rules that they live by

his summer Mary wants to sell lemonade.
he can probably sell her lemonade at the
ighest price when —

- other children also sell lemonade
- the weather is cool
- the weather is hot
- she hires others to help her

Questions 25-29 are based on the ad below.




- A We have the happiest customers in town!
- B Free air in your tires!
- C We sell the best bikes at the lowest cost!
- D A free horn with every new bike!
- E Open noon to 9 P.M. Monday through Friday

Ed's Bicycle Shop

54 W. Main 332-3101

25 Which line in this ad gives the BEST reason for buying at Ed's Bicycle Shop?
○ 1 A ○ 2 C ○ 3 B ○ 4 E

26 Which line shows that Ed gives customers something extra when they buy bikes?
○ 5 C ○ 6 A ○ 7 D ○ 8 B

27 Which line tells about something a person can get without buying a new bike?
○ 1 A ○ 2 D ○ 3 B ○ 4 E

28 Ed's bicycle shop is NOT open on —
○ 5 Thursday afternoon
○ 6 Saturday morning
○ 7 Monday evening
○ 8 Tuesdays

29 Which line says something that would be hard for Ed to prove?
○ 1 D ○ 2 B ○ 3 A ○ 4 E

30 A bank can do all of these things, EXCEPT —
○ 5 lend money ○ 7 keep things safe
○ 6 cash checks ○ 8 print money

31 When someone is part of the student government, he should vote the way —
○ 1 the teacher tells him to
○ 2 he thinks best after listening to others
○ 3 other officers tell him to
○ 4 his best friends tell him to

QUESTIONS TO FOLLOW

Read each question. Choose the best answer. Look at the answer spaces in your booklet or on your answer sheet (if you have one). Fill in the space which has the same number as your answer.

QUESTION 1

Which of these is an animal?

- ① star ② flower ③ tree ● cat

How much heat does the earth get from the —

- ① sun ③ moon
② comets ④ planets

Each of 4 boys pulled the same loaded wagon a different distance, as follows: Joe, 5 feet; George, 6 feet; John, 8 feet; and David, 10 feet. Which boy did the most work?

- ① Joe ② George ③ David ④ John

Which of these animals cannot be seen alive?

- ① polar bear ③ penguin
② dinosaur ④ whale

Why do not many plants grow in the desert because it is —

- ① too dry ③ difficult to plow
② too hot ④ not fertile enough

Which of the following best describes the way that fish are like each other? They all —

- ① eat meat ③ breathe with gills
② have a tail ④ are animals

Which animal would you find nearest the South Pole?

- ① bear ③ reindeer
② wolf ④ penguin



If the length of A is the measure, then B's length is about —

- ① 4 A's ② 3 A's ③ 5 A's ④ 6 A's

8 The blood in your body gets oxygen from the —

- ⑤ stomach ⑦ lungs
⑥ brain ⑧ heart

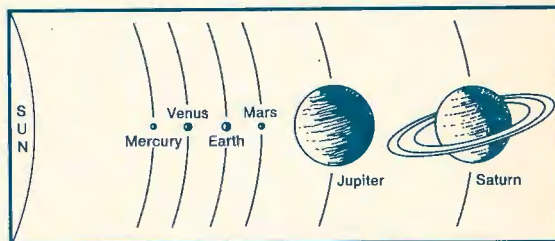
9 If you collect seeds from a watermelon and plant them, they should sprout and grow into a plant that will produce —

- ① musk melons ③ no plants
② watermelons ④ no flowers

10 Which animal would you expect to find in the desert?

- ⑤ bear ⑦ elephant
⑥ lizard ⑧ starfish

Questions 11-12 are based on the diagram below.



11 Which planet is farthest away from the earth?

- ① Saturn ③ Mercury
② Venus ④ Jupiter

12 Which planets have lower temperatures than the earth?

- ⑤ Mercury and Venus
⑥ Jupiter and Venus
⑦ Mercury and Saturn
⑧ Jupiter and Saturn

13 Plants need minerals in order to grow. They get these minerals from —

- ① the air ③ photosynthesis
② the soil ④ reproduction

14



Which of the animals' feet shown above would be best for quickly digging a burrow?

- ⑤ webbed feet (duck)
⑥ long claws (mole)
⑦ short claws (squirrel)
⑧ strong legs (rabbit)

Which of these animals is most like a cat?

- dog
- rat
- ③ squirrel
- ④ lion

Questions 30-31 are based on the figures below.



What property is observed on all members of Fig. 3? They all wear —

- boots
- glasses
- ⑦ light skirts
- ⑧ dark skirts

What property is observed in all members of Fig. 1? They all wear —

- glasses
- boots
- ③ dark skirts
- ④ light skirts

Which of the following does not need to eat other things that were once alive?

- fish
- ⑥ dog
- ⑦ tree
- ⑧ bee

Questions 33-34 are based on the picture below.



Observe the pencil carefully. Look only at the top part of the pencil as circled in the diagram. How many different kinds of material can you see on the top part of this pencil?

- two
- one
- ③ three
- ④ more than three

Now look at the entire pencil. Of how many different kinds of material is the pencil made?

- two
- more than three
- ⑦ three
- ⑧ one

The cotton from a cotton plant is part of the —

- root
- ② leaf
- ③ stem
- ④ seed

36 Which one of the following is NOT like the other three?

- ⑤ aluminum
- ⑥ steel
- ⑦ wood
- ⑧ brass

37



If you hear sound coming from the rubber band, you know that it is —

- ① stretched
- ② vibrating rapidly
- ③ long and thin
- ④ made of strong rubber

38 If only one hole is punched into a tomato juice can, the juice does not pour easily. This is because the —

- ⑤ can has too much juice in it
- ⑥ air cannot get in as the juice goes out
- ⑦ air cannot get out with the juice
- ⑧ hole is on the wrong side of the can

39 Electricity causes a light bulb to get hot and give off light. In this case the electrical energy is changed to —

- ① mechanical energy only
- ② light energy only
- ③ heat and light energy
- ④ heat and mechanical energy

40 Cells are the units that make up —

- ⑤ all animals and some plants
- ⑥ some animals and all plants
- ⑦ some animals and some plants
- ⑧ all animals and all plants










41 In the United States the most daylight of the year is in —

- ① March
- ② August
- ③ June
- ④ September

42 A magnet picks up small steel nails but will not pick up small screws. This suggests that —

- ⑤ the screws are not made of steel
- ⑥ magnets don't pick up screws
- ⑦ the screws are not made of metal
- ⑧ the screws are made of brass

ing Comprehension (Continued)

12	E	F	G	H		32	E	F	G	H
13	A	B	C	D		33	A	B	C	D
14	E	F	G	H		34	E	F	G	H
15	A	B	C	D		35	A	B	C	D
16	E	F	G	H		36	E	F	G	H
17	A	B	C	D		37	A	B	C	D
18	E	F	G	H		38	E	F	G	H
19	A	B	C	D		39	A	B	C	D
20	E	F	G	H		40	E	F	G	H
21	A	B	C	D		41	A	B	C	D
22	E	F	G	H		42	E	F	G	H
23	A	B	C	D		43	A	B	C	D
24	E	F	G	H		44	E	F	G	H
25	A	B	C	D		45	A	B	C	D
26	E	F	G	H		46	E	F	G	H
27	A	B	C	D		47	A	B	C	D
28	E	F	G	H		48	E	F	G	H
29	A	B	C	D		49	A	B	C	D
30	E	F	G	H		50	E	F	G	H
31	A	B	C	D						

Appendix B

Directed Reading-Thinking Lesson Plans

Lesson 1

General Aim

Students will be able to distinguish inferred main ideas.

Specific Objective

Students will be able to match the correct inferred main ideas with the corresponding paragraph.

Materials

Worksheets "Hobbies Are Fun" and "Understanding the Main Idea."

Procedures

1. Discuss what is meant by main idea.
2. Have children silently read three paragraphs on worksheet "Hobbies Are Fun."
3. Have children select the sentences that represent the main idea of each paragraph.
4. Have children silently read each paragraph on worksheet "Understanding the Main Idea."
5. Have children select the sentences that represent the main idea of each paragraph.
6. Discuss student answer choices and why or why not they are acceptable.

Lesson 2

General Aim

Students will be able to distinguish inferred main ideas.

Specific Objective

Students will be able to select the correct main idea for four corresponding short stories.

Materials

Worksheet "What Does the Story Teach ?"

Procedures

1. Discuss what is meant by main idea.
2. Introduce terms theme or author's purpose.
3. Have children silently read one story at a time and discuss which sentence at the bottom of the sheet is the main idea or theme of each story.

Lesson 3

General Aim

Students will be able to distinguish inferred main ideas.

Specific Objective

Students will be able to write in their own words the main idea of a paragraph they have read.

Materials

Use an overhead projector, transparencies and worksheets on "Central Idea of a Paragraph" and "Sentence Cores."

Procedures

1. Compare the core of an apple and main idea.
2. Display transparency and worksheet on "Sentence Cores."
3. Have children write the core parts of the sentences on the worksheet.
4. Display transparency and worksheet on "The Central Idea of Paragraphs."
5. Have children read each paragraph and write in their own words the central or main idea.
6. Call on students to share their answers.

Lesson 4

General Aim

Students will be able to distinguish inferred main ideas.

Specific Objective

Students will be able to restate in their own words the main ideas of tape-recorded sentences.

Materials

Tape recorder.

Procedures

1. Discuss the game "Gossip" and how we listen then try to restate as closely as possible what was first stated.
2. Have children listen to ten sentences recorded on tape. For example: Is it raining outside?
3. Stop the tape after each sentence and call on a student to restate in their own words what the sentence was about.

Lesson 5

General Aim

Students will be able to select inferred supporting details.

Specific Objective

Students will be able to conjecture about additional story events that could have happened using the details in the text.

Materials

Story familiar to all the children; blackboard.

Procedures

1. Discuss the outcome that did happen in the story.
2. Have children pretend they are the author and list different outcomes they would have included on the blackboard.

Lesson 6

General Aim

Students will be able to select inferred supporting details.

Specific Objective

Students will be able to suggest new story details using details already expressed in a story.

Materials

Story familiar to all the children; blackboard.

Procedures

1. Have children devise a new problem a character from a familiar story might have had.
2. Ask for a plan to solve the new problems.
3. List children's solutions on the blackboard.

Lesson 7

General Aim

Students will be able to select inferred supporting details.

Specific Objective

Students will be able to complete sentences about a person, place or thing with details the author could have included in the story.

Materials

Story familiar to all the children; blackboard.

Procedures

1. Write an incomplete sentence on the blackboard about a person, place or thing from a familiar story.
2. Have students complete the sentence with information the author could have added to the story.
3. See which child has the most ideas.

Lesson 8

General Aim

Students will be able to state the inferred sequence of picture cards.

Specific Objective

Students will be able to arrange picture cards into a logical time order.

Materials

Time-ordered sequence picture cards.

Procedures

1. Each child is given a set of picture cards involving a time order.
2. Students are asked to arrange their cards into the proper sequence.
3. Ask why they think their arrangements are correct.
4. Have children trade their set of cards with classmates.

Lesson 9

General Aim

Students will be able to recognize the inferred sequence of stories presented through a filmstrip.

Specific Objective

Students will be able to state the sequence of stories presented in a filmstrip and to recognize the need for proper order and sequence.

Materials

Sound filmstrip, "Proper Order and Sequence," Troll Associates Thinking Skills, Education Direction, Inc., 1973.

Procedures

1. Discuss what is meant by proper order and sequence and the effect it has on our daily lives.
2. Display filmstrip and ask children to state the sequence of events listed in the stories presented in the filmstrip.

Lesson 10

General Aim

Students will be able to restate a sequence of events.

Specific Objective

When presented with two story events, the students will be able to state what happened between the two events.

Materials

List of detail questions about a story all the children have read.

Procedures

1. Divide the students into two teams and have them stand in two lines and face each other.
2. Teacher asks a question about what happened in between two story events.
3. Teams take turns answering the question. If the student answers correctly, he gets to stay in line; if he misses, he must sit down. The winning team is the one with someone left standing.

Lesson 11

General Aim

Students will be able to state comparisons that are inferred by the author.

Specific Objective

Students will be able to list the inferred character traits of two characters and tell whether they are alike or different.

Materials

Story familiar to all the students; chalkboard.

Procedures

1. Discuss what is meant by character traits.
2. Review the details and outcomes of a story the children have all read.
3. Put the names of two characters from the story on the board and ask children for character traits.
4. List the character traits under the character.
5. Discuss whether the characters are alike or different and why.
6. Ask children for their reactions to the characters.

Lesson 12

General Aim

Students will be able to state their reaction to a story.

Specific Objective

After reading a story silently, students will write their reaction to the story and compare their reactions with classmates.

Materials

Paper and pencil.

Procedures

1. Have each students write a short paragraph about a story all the children have read telling why or why not they liked it.
2. Read the paragraphs to the class and note the different reactions.
3. Discuss why there might be different reactions.

Lesson 13

General Aim

Students will be able to list comparisons of two objects or places.

Specific Objective

Students will be able to state and list the advantages and disadvantages of four different things.

Materials

Transparency and worksheet on "Paragraphs That Compare and Contrast," Better Comprehension in Reading, California: Visual Materials, Inc., 1972.

Procedures

1. Display transparency on overhead projector.
2. Use follow-along worksheet to discuss the advantages and disadvantages to living at the seashore or mountains.
3. List children's ideas on the board.
4. Ask children to think of advantages and disadvantages to owning a small car and a large car.
5. Have children write their ideas down on their worksheet.

Lesson 14

General Aim

Students will be able to list inferred comparisons.

Specific Objective

Students will be able to list on paper the differences and similarities they would expect of a story happening in two different time periods.

Materials

Paper and pencil.

Procedures

1. On the blackboard write the name of a story that happened in the past that all the children are familiar with.
2. Have each child write on paper as many ways as possible that the story might have been different had it occurred in modern day times.
3. Discuss children's comparisons.

Lesson 15

General Aim

Students will be able to state inferred cause and effect relationships.

Specific Objective

When given the first part of a sentence, students will be able to write a conclusion showing a logical order.

Materials

Worksheet with incomplete sentences.

Procedures

1. Children are given a worksheet on which part of a sentence is given and they must write a conclusion explaining what could happen next in a logical progression of events.
2. Have students read their completed sentences.

Lesson 16

General Aim

Students will be able to draw conclusions using stated causes.

Specific Objective

Students will be able to state what caused a particular character's actions.

Procedures

1. Discuss character feeling and why a particular character acted the way he did.
2. Have children use story events to explain why a character acted the way he did.
3. Have children imagine that certain events did not happen and conjecture about what different actions the character might have taken.

Lesson 17

General Aim

Students will be able to recognize inferred cause and effect relationships.

Specific Objective

Students will state what they think the causes and effects of a newspaper headline are.

Materials

Newspaper headline.

Procedures

1. Clip out an interesting newspaper headline and read it to the class.
2. Ask children what they suppose happened to cause the headline.
3. Ask children what do they suppose will happen as a result of the headline.

Lesson 18

General Aim

Students will be able to determine cause and effect relationships.

Specific Objective

Students will be able to state what happened before and after a sentence.

Materials

Worksheet "What Happened Before and After," Creative Activities for Language Arts, Hayes, 1968.

Procedures

1. Pass out worksheet and read the first sentence to the class.
2. Ask children what might have happened before the sentence. List ideas on the board then have children write their own idea on paper.
3. Using the same first sentence, ask the children what might have happened after that sentence. List ideas on the board then have children write their own on the paper.
4. Follow the same format for two more sentences.

Lesson 19

General Aim

Students will be able to select inferred character traits.

Specific Objective

Students will be able to select words from a particular story that give information or clues about a particular character.

Procedures

1. Choose a character from a story all the children have read.
2. Ask children to look back in the story and find words and phrases that the author used to describe that character.
3. Ask children for their reactions to the character and how they would describe him.

Lesson 20

General Aim

Students will be able to describe a character from inferred character traits.

Specific Objective

After reading a paragraph about the life style of a character, students will be able to write a paragraph describing that character.

Materials

Worksheet "Meet Ted of Australia," Meet Your Friends in Other Lands, Evelyn Riddle and Kathleen Wahl, Milliken Publishing Co., Grade Three, 1968.

Procedures

1. Have children read a paragraph about a character from a different country.
2. Have children write a paragraph describing that character.
3. Read the paragraphs to the class to show the different reactions and traits that were listed.

Lesson 21

General Aim

Students will be able to list new character traits for new situations of the character.

Specific Objective

Students will be able to list new character traits for three different characters when supposing that they have acquired unusual characteristics.

Materials

Blackboard.

Procedures

1. On the blackboard write a question for three different characters the class has read about and ask what he or she would do if they suddenly acquired unusual characteristics (ex. could fly)
2. Remind the children to keep the character's original personality in mind.

Lesson 22

General Aim

Students will be able to predict outcomes to a story.

Specific Objective

After listening to the first part of a story record, students will be able to write their own conclusions.

Materials

Story record.

Procedures

1. Have children listen to the first part of a high interest story record (ex. "Alfred Hitchcock's Ghost Stories").
2. Have children write their own ending for the story.
3. Read the different endings to the class.
4. Finish listening to the record to see how close their predictions were.

Lesson 23

General Aim

Students will be able to predict outcomes for a story.

Specific Objective

After reading the first part of a story, students will be able to predict what happenings or outcomes may take place.

Procedures

1. Have children silently read the first part of a story.
2. Ask children what they think might happen and why.
3. Finish reading the story silently and discuss whether the outcome was a good one or not.

Lesson 24

General Aim

Students will be able to determine how to predict outcomes.

Specific Objective

Through discussion and the use of a sound filmstrip, students will be able to select clue words that help to predict outcomes.

Materials

Sound filmstrip, "What You Can't Figure Out," Troll Associates Thinking Skills, Educational Direction, Inc., 1973.

Procedures

1. Show sound filmstrip.
2. Discuss how one must use clue words and story events to arrive at the proper conclusions.

Lesson 25

General Aim

Students will be able to predict outcomes to hypothetical situations.

Specific Objective

Students will be able to state logical predictions for hypothetical situations.

Materials

Slips of paper with a thought provoking, hypothetical question on each (ex. "What would happen if there was no daytime?").

Procedures

1. Put slips of papers with questions on them into a container.
2. Have each child select a piece of paper.
3. Call on students to read their question and state as many answers to the question as they can.
4. Allow other students to suggest their ideas.

Lesson 26

General Aim

Students will be able to interpret figurative language.

Specific Objective

Students will be able to solve riddles which use similes and metaphors for clues.

Materials

Riddle worksheet.

Procedures

1. Discuss what is meant by figurative language.
2. Introduce terms "simile" and "metaphor."
3. Read a riddle to the group and see who can solve it.
4. Pass out a worksheet with four riddles on it. Read one at a time and ask children if they can guess the answer by using the clues and figurative language presented.

Lesson 27

General Aim

Students will be able to interpret figurative language.

Specific Objective

Students will be able to determine the main idea of a poem through the poet's description.

Materials

Worksheet with Carl Sandburg's poem "Fog" written on it and the title and word "fog" deleted from the poem.

Procedures

1. Pass out worksheet and explain that the title and one word from the poem have been deleted.
2. Explain to the children that the poet is describing something and that he is using metaphors and comparing it to a cat.
3. Ask children for the descriptive phrases the poet uses.
4. Ask children to conjecture about what the poet is writing about.
5. List student ideas on the board.

Lesson 28

General Aim

Students will be able to interpret figurative language.

Specific Objective

Students will be able to solve a crossword puzzle using similes.

Materials

Worksheet on similes "As Easy As Pie," Word Puzzles
Level 3A, Milliken Publishing Co., 1974.

Procedures

1. Explain that a simile is a comparison of two things using like or as. Give examples.
2. Distribute simile crossword puzzle and have students read one question at a time and think of a word that fits in the incomplete simile and also in the puzzle.
3. Write the answers on the board.
4. After finishing the puzzle, ask children for similes that they have heard before and what they mean.

Lesson 29

General Aim

Students will be able to interpret character feelings and motives of short paragraphs.

Specific Objective

Students will be able to select the correct word for a paragraph that interprets character feelings and motives.

Materials

Worksheet "The Scarlet Apple".

Procedures

1. Discuss what is meant by an inference.
2. Use worksheet and have students silently read each paragraph and fill in the blank with the correct word.
3. Remind children to look for clue words and descriptive phrases that give a hint toward what word should be used.

Lesson 30

General Aim

Students will be able to determine how to draw inferences.

Specific Objective

Through discussion and a sound filmstrip, students will be able to examine and draw inferences.

Materials

Sound filmstrip, "Deduction and Inferences," Troll Associates Thinking Skills, Educational Direction, Inc., 1973.

Procedures

1. Show sound filmstrip.
2. Discuss how important it is to get all the facts before drawing a conclusion or making an inference.

Appendix C

Comparison of General Comprehension Raw Scores
of the Experimental and Control Groups

Table A

Comparison of General Comprehension Raw Scores
of the Experimental and Control Groups

Experimental			Control		
Subjects	Pretest X_1	Posttest X_2	Subjects	Pretest Y_1	Posttest Y_2
1	44	47	17	57	56
2	37	52	18	50	56
3	59	57	19	63	60
4	66	59	20	52	49
5	50	53	21	57	52
6	62	62	22	43	49
7	62	58	23	51	44
8	33	52	24	61	62
9	51	55	25	63	54
10	58	61	26	34	36
11	54	57	27	51	59
12	55	45	28	49	41
13	65	59	29	49	45
14	59	64	30	54	58
15	59	54	31	38	48
16	54	55	32	65	64
N = 16	$X_1 = 54.25$		N = 16	$Y_1 = 52.31$	
	$S_1 = 9.22$			$S_1 = 8.83$	
	$X_2 = 55.62$			$Y_2 = 51.93$	
	$S_2 = 4.98$			$S_2 = 7.27$	

Appendix D

Comparison of Inferential Comprehension Raw Scores
of the Experimental and Control Groups

Table B

Comparison of Inferential Comprehension Raw Scores
of the Experimental and Control Groups

Experimental			Control		
Subjects	Pretest X_1	Posttest X_2	Subjects	Pretest Y_1	Posttest Y_2
1	22	27	17	24	31
2	22	26	18	25	30
3	27	31	19	29	32
4	29	31	20	24	25
5	27	28	21	26	28
6	29	33	22	22	26
7	26	32	23	25	27
8	18	31	24	29	30
9	25	31	25	28	30
10	25	32	26	16	24
11	24	29	27	28	32
12	26	22	28	22	22
13	30	32	29	24	24
14	25	36	30	23	33
15	28	31	31	20	29
16	29	26	32	29	34
N = 16	$X_1 = 24.50$		N = 16	$Y_1 = 23.62$	
	$S_1 = 3.31$			$S_1 = 3.64$	
	$X_2 = 29.88$			$Y_2 = 28.56$	
	$S_2 = 2.62$			$S_2 = 3.46$	