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A study of the significance of certain factors of the home environment as related to the reading success of students in the first grade in an eastern Virginia school

Elaine Brinsfield Hughes

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A STUDY OF THE SIGNIFICANCE OF CERTAIN FACTORS OF THE HOME
ENVIRONMENT AS RELATED TO THE READING SUCCESS OF
STUDENTS IN THE FIRST GRADE IN AN
EASTERN VIRGINIA SCHOOL

A Thesis
Presented to
the Graduate Faculty of
University of Richmond

In Partial Fulfillment
of the Requirements for the Degree
Master of Science in Education

by
Elaine Brinsfield Hughes

August 1963

APPROVAL SHEET

The undersigned, appointed by the Department of Education, having examined this thesis by

Elaine Brinsfield Hughes, B.S.

candidate for the degree of Master of Science in Education, and hereby certify their approval of its acceptance.

Edward F. Overton

Edward F. Overton, Ph.D.
Professor of Education and
Dean of Summer School
University of Richmond

Franklin R. Jones

Franklin R. Jones, Ed.D.
Professor of Education
Randolph-Nacon College
Visiting Lecturer

Calvin H. Phipps

Calvin H. Phipps, Ph.D.
Professor of Education
Limestone College
Visiting Lecturer

W. Roland Galvin

W. Roland Galvin, M.A.
Principal
Westhampton Junior High School
Visiting Lecturer

Date August 5, 1963

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CHAPTER I

INTRODUCTION

In the American culture, learning to read holds as great a significance as learning to talk. It is generally expected that every child will be ready to read in the first grade of elementary school.

Reading readiness means different things to different people. Some regard it only as an expression of interest or purpose. Others describe it with emphasis upon either general or physical maturation. Still others believe that readiness depends upon information or abilities developed during educational experiences.

I. THE PROBLEM

Statement of the problem. In this study an attempt was made to reveal the possible relationship between certain factors in the home environment and success in beginning reading as measured by two criteria, the Metropolitan Readiness Test and the teacher's evaluation of the child's reading progress.

The purpose of the study. Reading instruction in American schools proceeds on the thesis that there are common experiences from which teaching can proceed. Since it is not safe to assume complete homogeneity of family backgrounds in any one community, many teachers believe that individualized instruction is of greater significance in the first grade than on any other grade level.

If a child has reached the chronological age to enter the first grade, but has not had the kinds of experiences believed necessary for reading readiness, it may be necessary for the school to offer individualized programs to compensate for this deficiency.

The purpose of this study was threefold:

1. To identify factors in the home environment which tend to promote a greater reading readiness.
2. To offer the findings as a factor in the development of a preschool program for mothers of five year olds.
3. To offer the findings as a factor in the development of more individualized readiness programs.

II. DEFINITIONS OF TERMS USED

Readiness. Readiness was interpreted to mean the optimum time for learning.

Nurture. Nurture was interpreted to mean the educational training given during a child's stages of development.

III. PROCEDURE

The group selected for the study consisted of twenty-five boys and thirty-four girls in the first grade classes of a school in eastern Virginia. The mean chronological age of the boys, as of September 1, was 76.1 months. The mean chronological age of the girls was 76.3 months. The Kuhlman-Anderson Test,¹ administered and scored by the

¹Personnel Press, Inc., Princeton, New Jersey, Copyright 1927,

classroom teachers during the first month of the second grade, revealed intelligence quotient scores ranging from 90-114 for the boys and from 95-120 for the girls. This narrow range of chronological age and intelligence quotient scores is relevant in considering the data.

Readiness for beginning reading was measured by the Metropolitan Readiness Test,² administered and scored by the classroom teachers during the first month of the school year. The raw scores for the individual reading sections plus the total score were tabulated on data sheets.

Even though individual teachers administered and scored the tests, care was taken to keep testing differences at a minimum. The tests were administered on the same day and at approximately the same hour. Standardized instructions were used with both tests.

Informal observation of the students was made by the writer during the school year. Discussions were held with the teachers concerning the general progress of the class.

In May 1962, a letter³ and questionnaire⁴ were sent to each family represented in the study requesting pertinent data. In addition, the teachers completed an information and evaluation form.⁵

The boys and girls were then separated for the purpose of observing possible sex differences. Numbers with the prefix of one

1940, 1942, F. Kuhlmann and Rose G. Anderson, Copyright 1952, Personnel Press, Inc.

²See Appendix A, p. 49.

³See Appendix B, p. 51.

⁴See Appendix C, pp. 53-56.

⁵See Appendix D, pp. 57-60.

hundred were assigned to the boys. Numbers with the prefix of two hundred were assigned to the girls.

Values were placed upon the four categories in which teachers rated the students:

- (1) personal and social development;
- (2) work and study skills;
- (3) reading progress;
- (4) home environment.

In each of these divisions, the category entitled superior rated five points, above average - four points, average - three points, below average - two points, and poor - one point.

The employment status of the father was recorded as P (Professional), M (Managerial), C (Clerical), S (Skilled), SS (Semi-skilled) or U (Unskilled).

The answer to the question, "Where does the light go when it gets dark?" was rated as G (Good) if the answer was scientifically correct and if reference was made as to demonstration of the principle or to further research. A rating of S (Satisfactory) was given if the answer was basically correct but not in detail. A rating of U (Unsatisfactory) was assigned if the answer was incorrect or unanswered. Numerical values were placed upon each rating. The best answer was valued at three points, a satisfactory answer was valued at two points, and an unsatisfactory answer was valued at one point.

A jury, consisting of four professors, a supervisor, two principals, two librarians and a teacher rated the educational level of the favorite magazines of the parents.⁶ An above average rating was given

⁶See Appendix B, p. 61.

three points, an average rating - two points and a below average rating - one point.

The value given to the sections of the magazines was as follows:

For women's magazines:

<u>7</u>	editorials	<u>3</u>	skims entire magazine
<u>6</u>	technical articles	<u>2</u>	enjoys pictures only
<u>5</u>	human interest articles	<u>1</u>	seldom reads at all
<u>4</u>	fiction		

For men's magazines:

<u>7</u>	editorials	<u>4</u>	fiction stories
<u>6</u>	technical articles	<u>3</u>	skims entire magazine
<u>5</u>	human interest articles	<u>2</u>	enjoys pictures only
<u>5</u>	sports	<u>1</u>	Seldom reads at all

In evaluating the parents' favorite pastime, a value of one point was given to each time reading was mentioned.

Percentages were calculated for each of the Metropolitan Reading Readiness categories with regard to:

- (1) the number of students.
- (2) the employment status of the father.
- (3) the employment of the mothers.
- (4) the emotional adjustment of the child.
- (5) the favorite pastime of the parents.

Means⁷, were calculated for each of the Metropolitan Reading Readiness categories with regard to:

- (1) the age of the child as of September 1.
- (2) the interest age for hearing stories, creating stories, and asking questions about his world.
- (3) the number of siblings.

⁷The mean formula is $M = \frac{\sum X}{N}$.

- (4) the number of playmates.
- (5) the number of years the mother was employed through the child's first year in school.
- (6) the responsibilities of the child.
- (7) the rating of the answer to the question, "where does the light go when it gets dark?"
- (8) the rating of the favorite magazines of the mother and father.
- (9) the rating of the sections enjoyed by the mother and father.
- (10) the number of reference materials in the home.
- (11) the number of organizations.
- (12) the number of family activities.
- (13) work and study skills scores.
- (14) personal and social development scores.

Chi square, $\chi^2 = \frac{(O-E)^2}{E}$,⁸ was used to determine the significant difference between groups falling within the reading readiness categories and groups based on:

- (1) the number of hours the child read weekly.
- (2) the number of hours the mother read weekly.
- (3) the number of hours the father read weekly.
- (4) the number of hours the child viewed television weekly.
- (5) the number of hours the mother viewed television weekly.
- (6) the number of hours the father viewed television weekly.

Chi square was also used as a test of independence for the

⁸See Appendix F, pp. 63-77.

teacher's estimation of the home environment and the child's reading success.

Rho, $1 - \frac{6\sum d^2}{N(N^2-1)}$,⁹ was used to show rank order coefficient correlation between the raw scores on the Metropolitan Reading Readiness section and:

- (1) the age of the child as of September 1.
- (2) personal and social development score.
- (3) work and study habits score.
- (4) the reading progress as of June.

Rho was also used to show the rank order coefficient correlation of the child's reading progress with:

- (1) the score in personal and social development.
- (2) the score in work and study habits.

The Fisher Exact Probability Test¹⁰ was used to determine whether the children who attended kindergarten and those who did not differed in proportion with which they fell into the two classifications, satisfactory and unsatisfactory readiness.

The data concerning attendance at nursery school or kindergarten were recorded as Y (Yes) or N (No). The information concerning the care of the child was recorded as (R) relative, (N) neighbor, (M) maid, and (Nu) nursery. The Metropolitan Readiness Test rating for the students was recorded as (S) superior, (HN) high normal, (A) average, (LN) low normal, and (PR) poor risk. The parents evaluation of the child's

⁹See Appendix G, pp. 78-90.

¹⁰See Appendix H, pp. 91-93.

emotional adjustment was recorded as (EH) especially happy, (NH) normally happy or (ED) easily dissatisfied. The remaining data were recorded by use of numbers, the number of hours, or ages.¹¹

An analysis of the Metropolitan Reading Readiness Test scores was made for the students who fell within the low normal and poor risk categories.

¹¹See Appendix I, pp. 94-96.

CHAPTER II

PREVIOUS RESEARCH IN THE FIELD

Much research has been done concerning the effect of environmental factors on reading readiness and reading progress. Studies have indicated factors which promote reading readiness as well as factors which seem detrimental.

The effect of informational background. Day, in a study of the language development of twins in relation to their language development, found that the frequency of reading stories had no relationship to mean length of language response but was related to the occupational status of the family.¹²

There are relatively few studies which suggest that the important element of a child's experience, so far as beginning reading is concerned, is the opportunity that he has experienced with reading materials.

Wilson has stressed that "reading readiness is reading progress". He found that naming letters, giving phonic combinations, giving letter sounds, and writing words are more related to reading progress than age and I. Q. ¹³

¹²Millie Corinne Almy, Children's Experiences Prior to the First Grade, (Teachers College, Columbia University, Contributions to Education, No. 954, Bureau of Publications, Teachers College, Columbia University, New York, 1949) p. 16, citing E. J. Day, "Development of Language in Twins," Child Development, 3: 179-199, 298-316, 1932.

¹³Frank T. Wilson, "Correlations of Information with Other

The effect of kindergarten. Goetch studied the reading progress of one thousand nine-hundred and thirty-six public school children, half of whom had had kindergarten experience. He found that the grade means of both reading scores and reading ages of children with kindergarten experience was significantly higher than those without the experience.¹⁴

Hilliard and Troxell studied the informational background of kindergarten children. On the first test, as measured by Gates Primary Reading Test, the group which had experienced a rich background were two months ahead of the group which had experienced a meager background. Using the same test nine months later, it was found that the rich background group was six months in advance of the meager background group.¹⁵

The effect of socio-economic backgrounds. Much research has been done to reveal the possible effect of differing environments of reading success. In one study Chester Bennett compared good readers with poor readers, using the matched pair technique. The data, compiled from the questionnaire to the parents, failed to indicate any

Abilities and Traits in Grade I," Elementary School Journal, 37: 295-301, December, 1936.

¹⁴Millie Corinne Almy, Children's Experiences Prior to the First Grade, (Teachers College, Columbia University, Contributions to Education, No. 954, Bureau of Publications, Teachers College, Columbia University, New York, 1949) p. 11, citing Edward William Goetch, "The Kindergarten as a Factor in Elementary School Achievement and Progress," (University of Iowa Studies in Child Welfare, 3: No. 4, April, 1926).

¹⁵George H. Hilliard and Eleanor Troxell, "Informational Background as a Factor in Reading Readiness and Reading Progress", Elementary School Journal, 38: 255-263, December, 1937.

type of home background favorable to progress in reading.¹⁶

Garrison paired one hundred and fifty-six children first with respect to chronological age, sex, and mental age, and then with respect to socio-cultural status rather than mental age. From the results of this study one would conclude that a superior socio-cultural status is more important in developing information in the preschool child than is mental development.¹⁷

Steinback equated forty pupils of the highest socio-economic status with forty having the lowest socio-economic status in her study in nine parochial schools. Equation was made on the basis of mental age, range of information, auditory discrimination ability, visual discriminative ability, and school attendance. Statistically, no reliable differences were found between the means or the measures of variability in reading grade scores of the two groups.¹⁸

Robinson conducted a study which included thirty poor readers ranging from six years and nine months to fifteen years and three months. The social workers who aided in the study found that in fifty-

¹⁶ Millie Corinne Almy, Children's Experiences Prior to the First Grade, (Teachers College, Columbia University, Contributions to Education, No. 954, Bureau of Publications, Teachers College, Columbia University, New York, 1949) p. 7, citing Chester Bennett, An Inquiry into the Genesis of Poor Reading, p. 74.

¹⁷ K. C. Garrison, "The Relative Influence of Intelligence and Socio-Cultural Status Upon the Information Possessed by First Grade Children," Journal of Social Psychology, 3: 362-367, August, 1932.

¹⁸ Millie Corinne Almy, Children's Experiences Prior to the First Grade, (Teachers College, Columbia University, Contributions to Education, No. 954, Bureau of Publications, Teachers College, Columbia University, New York, 1949) p. 7, citing Sister Mary Nila Steinback, "An Experimental Study of Progress in First Grade Reading," Catholic University of America, Educational Research Monographs, 12: No. 2, 79, June 15, 1940.

three per cent of the cases there was evidence of a social situation which was believed to disturb the child, while in fourteen per cent of the cases there was a question about existing relationships. However, from this study it was concluded that the education of the parents, occupations of the fathers, and number of books, magazines, or newspapers appeared to be unrelated to reading failure.¹⁹

The effect of reading experiences prior to the first grade.

Almy, in a study using one hundred and six children in five first grades in one school system, explored the possible relationship between success in beginning reading and reading experiences prior to the first grade. Composite reading scores were derived from the average of the standard scores received on the Word Recognition and Sentence Reading Tests of the 1942 revision of the Gates Primary Reading Tests and teacher ratings on interest and ability measured at the end of the year. At this same time, interviews were held with parents, who were asked to give information on the children's experiences in the year prior to the first grade. Interviews held with the children revealed the child's appraisal of his reading ability.

A significant, positive relationship existed between success in beginning reading and the child's responses to opportunities for reading prior to the first grade.

The intercorrelation between the reading criterion and the free mention responses before first grade was .26 which is significant at

¹⁹Millie Corinne Almy, Children's Experiences Prior to the First Grade, (Teachers College, Columbia University, Contributions to Education, No. 954, Bureau of Publications, Teachers College, Columbia University, New York, 1949) p. 9, Helen M. Robinson, Why Pupils Fail in Reading, p. 162.

the .01 level. The intercorrelation between the reading criterion and directed responses before first grade was .25 which is significant at the .05 level.

However, no relationship was found between the occupational level of the home and the reading criterion or with independent activities. Neither was there a significant relationship between occupational level and free mention responses before the first grade. However, correlation with directed mention responses was significant at the .05 level.

Correlation between mental age and the reading criterion showed little relationship as did the child's statement that he could read with the reading criterion.

An analysis of the findings reveals that nearly all correlations were positive. Therefore, it appears that the exposure to reading experiences prior to the first grade and encouragement of reading activities outside of school during the first grade are valuable.²⁰

²⁰Millie Corinne Almy, Children's Experiences Prior to the First Grade, (Teachers College, Columbia University, Contributions to Education, No. 954, Bureau of Publications, Teachers College, Columbia University, New York, 1949) pp. 49-65.

CHAPTER III

RESULTS AND INTERPRETATION OF DATA

Figures 1 and 2 on pages 15 and 16, respectively, reveal the differences in the percentage of girls and boys who fell within each of the divisions of the reading section of the Metropolitan Readiness Test. The girls had the greatest readiness with sixty-seven percent falling within the superior and high normal categories as opposed to thirty-six percent of the boys. No girls were considered as poor risks and only nine percent were categorized as low normal. In contrast, four percent of the boys were considered poor risks and twenty percent fell within the limits of low normal readiness. However, the boys' scores more nearly fitted a normal curve with forty percent of the cases considered as average.

Figures 3 and 4 on pages 17 and 18, respectively, reveal the employment status for the fathers of the children in each division of the reading section of the Metropolitan Readiness Test. Twenty percent of the fathers whose daughters received a superior readiness rating held managerial jobs, thirty percent held clerical jobs and fifty percent were skilled laborers. In contrast, no managerial jobs were held by the fathers of the boys who received a superior rating. However, thirty-three and one-third percent of these fathers held clerical jobs, and sixty-six and two-thirds percent were considered skilled laborers.

In reference to the fathers of the girls in the high normal group, eight and one-third percent held managerial jobs, fifty percent

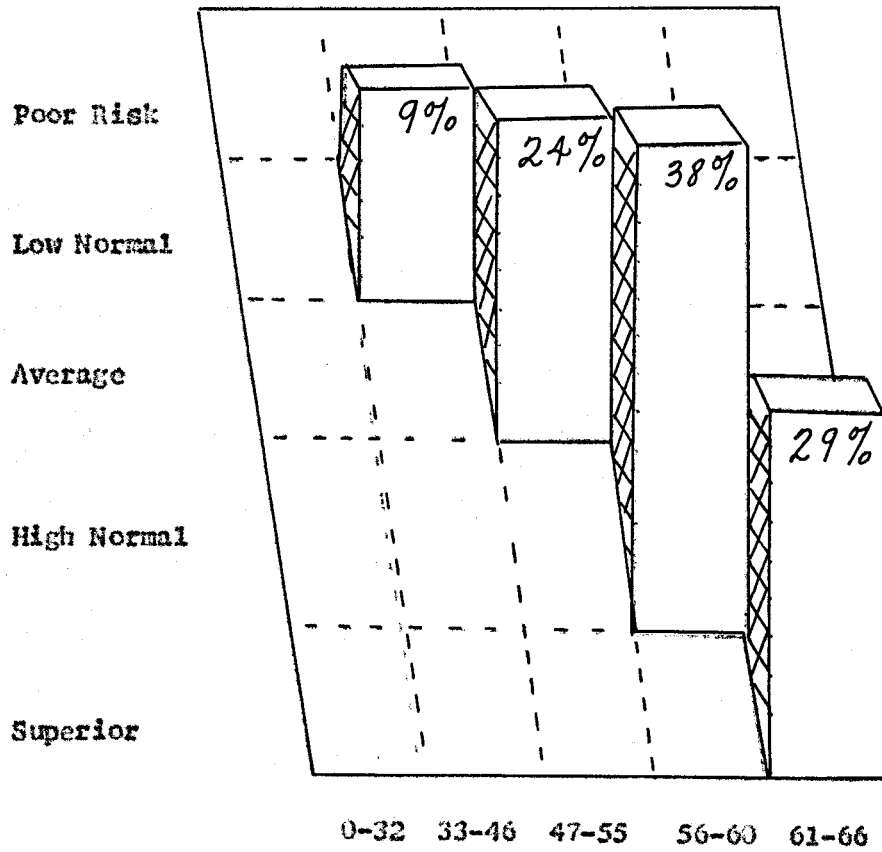


FIGURE 1

PERCENTAGE OF GIRLS IN EACH DIVISION OF THE READING
SECTION OF THE METROPOLITAN READINESS TEST
(READING)

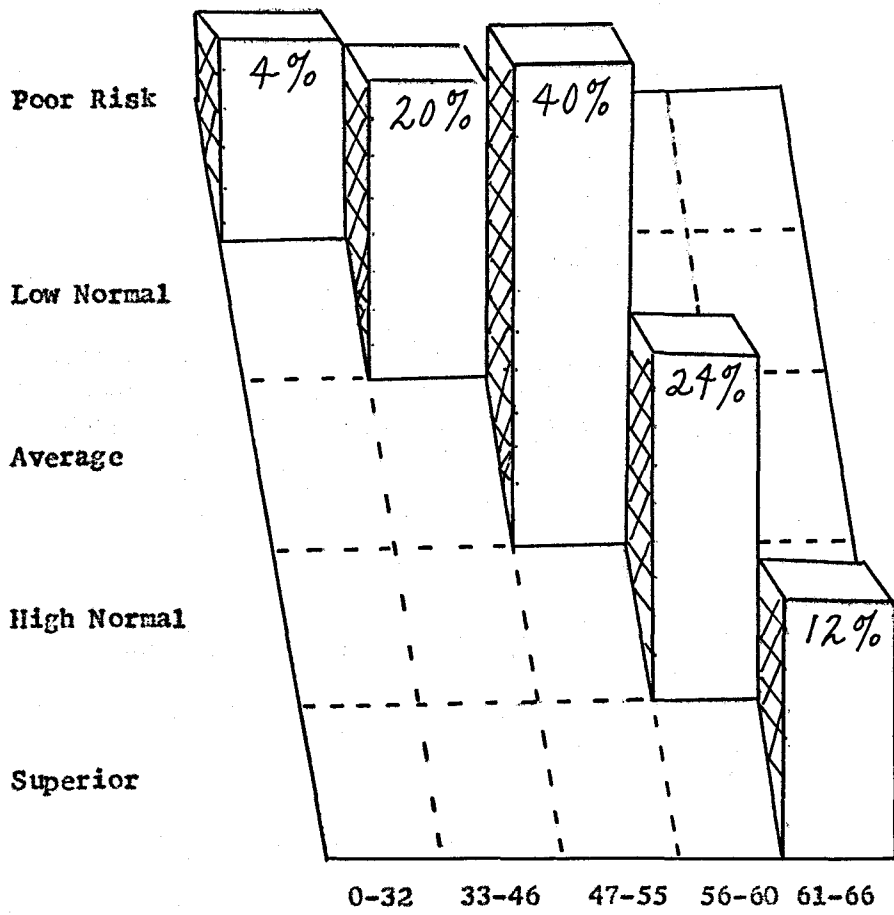


FIGURE 2

PERCENTAGE OF BOYS IN EACH DIVISION OF THE READING SECTION OF THE METROPOLITAN READINESS TEST (READING)

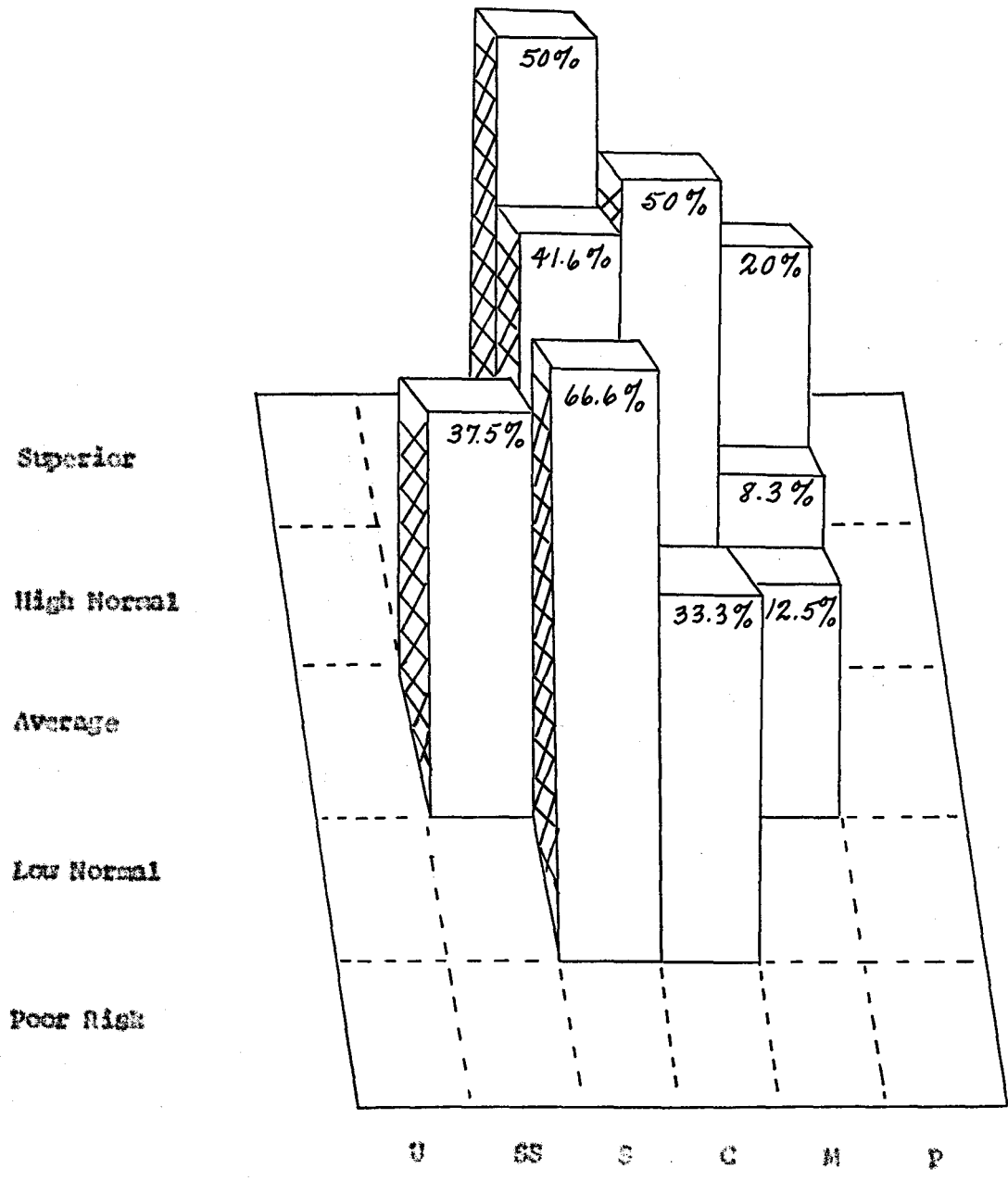


FIGURE 3

PERCENTAGE OF FATHERS IN OCCUPATIONAL CATEGORIES IN RELATION TO THE GIRLS' READING READINESS LEVEL

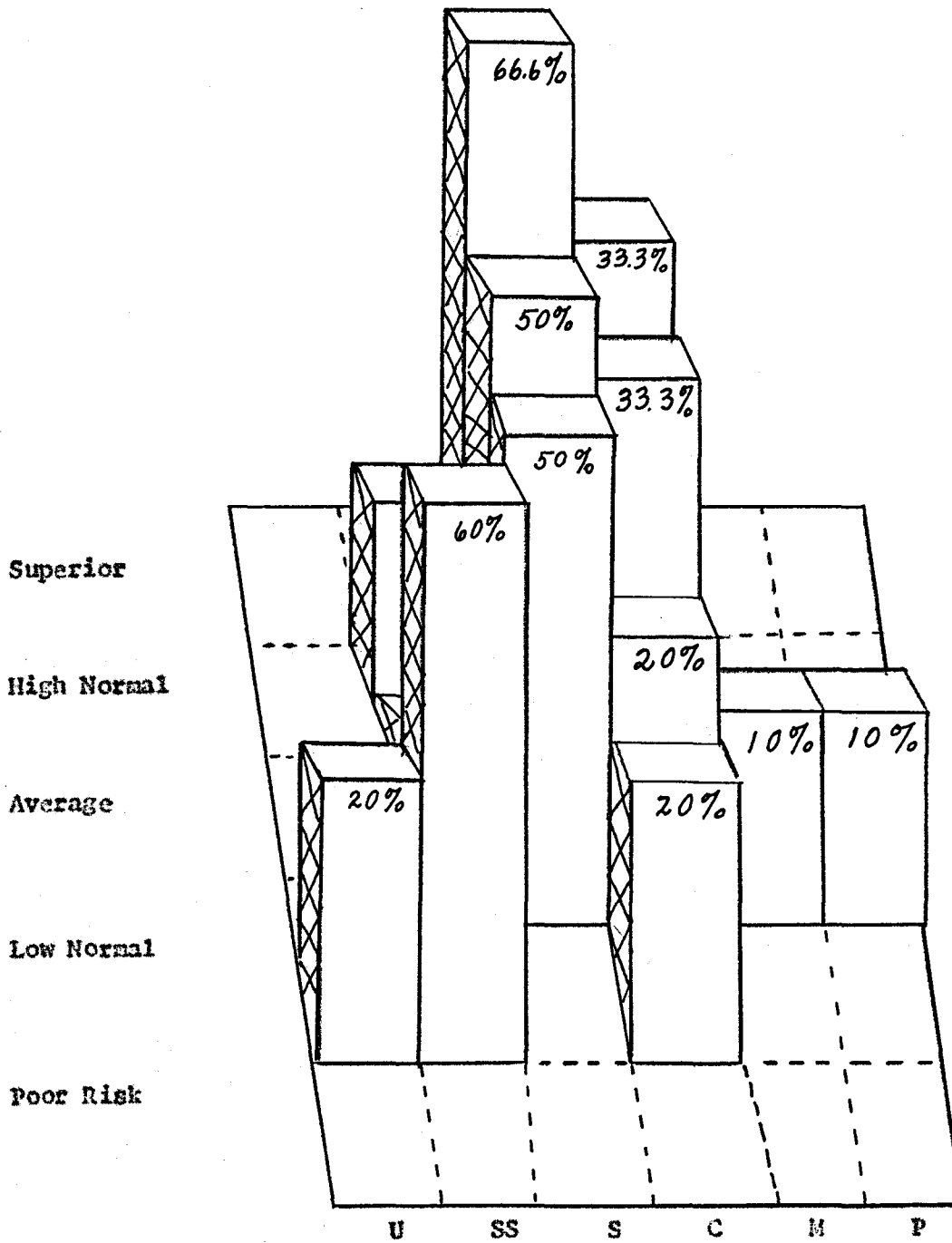


FIGURE 4

PERCENTAGE OF FATHERS IN OCCUPATIONAL CATEGORIES IN
RELATION TO THE BOYS' READING READINESS LEVEL

held clerical jobs, and forty-one and two-thirds percent were considered skilled labor. Again, there were no fathers of the boys in this group who held managerial jobs. However, thirty-three and one-third percent were holders of clerical jobs, fifty percent of skilled jobs, and sixteen and two-thirds percent were considered unskilled laborers.

In consideration of the employment of the fathers of the girls who were considered to have an average readiness, twelve and one-half percent held managerial jobs, twelve and one-half percent held clerical jobs, thirty-seven and one-half percent held skilled jobs, and thirty-seven and one-half percent were considered semi-skilled laborers. A change in the trend shows that ten percent of the fathers of the boys in this group were professional, ten percent held managerial jobs, twenty percent held clerical jobs, fifty percent were skilled, and ten percent were considered semi-skilled labor.

In the low normal category, thirty-three and one-third percent of the girls' fathers were holders of clerical jobs and sixty-six and two-thirds percent were skilled labor. In the case of the boys, twenty percent of the fathers held clerical jobs, sixty percent held semi-skilled jobs, and twenty percent were considered unskilled labor.

According to the replies on the parents questionnaire, both boys and girls began to worship at a very early age. The range was from six weeks to five years. The average was two years and six months for the girls and two years and five months for the boys.

Table I shows the comparison of the students who fell within the categories of the Metropolitan Readiness Test in relation to the mean

number of years the mother was employed from the birth of the child through the child's first year of school. For both the girls and boys the smallest means occurred in the high normal category and the largest means occurred in the average.

TABLE 1

MEAN NUMBER OF YEARS MOTHER WAS EMPLOYED

	Superior	High Normal	Average	Low Normal	Poor Risk
Girls	1.6	.15	2.1	1.7	-
Boys	1.0	.83	1.6	1.6	*

* 1 case

In the case of the girls, seventy percent of the mothers whose daughters fell within the superior and high normal group were not employed during the years in question whereas only forty-five percent of the mothers whose daughters fell within the divisions of average and low normal were not employed.

In contrast, fifty-six percent of the mothers who had sons who fell within the superior and high normal were not employed and likewise fifty-six percent of the mothers whose sons fell within the average, low normal and poor risk categories were not employed either.

In the case of the employed mother, it was reported that the child in question was cared for by a relative, a neighbor, a friend, a negro maid, or a nursery. The care of the child by a nursery was mentioned least frequently.

The data with regard to the mean interest ages of the girls and boys in relation to their readiness rating appears in Figures 5 and 6

on pages 22 and 23, respectively. The girls' mean interest ages for the three questions showed that the girls in the superior, the high normal, and the average sections were interested in hearing stories, creating stories, and asking questions about their world at an older age than were the boys in the corresponding sections.

The data reveal that regardless of the readiness category, the mean age for interest in hearing stories occurred earlier, whereas the mean age for creating stories and asking questions occurred at approximately the same age. Exceptions to the latter part of this statement occurred in the boys' low normal and poor risk categories. In each of these categories the mean interest ages for asking questions occurred an average of one year and seven months before the mean age for interest in creating stories.

Further analysis of the girls' mean interest ages reveal a greater parallel differences between the interest age for hearing stories and the mean age for creating stories and asking questions. An increase in the mean ages is noticed for the girls in the average readiness group followed by a decrease in age for the girls in the low normal group. A possible explanation for this pattern is found after a careful study of the reading progress of the children. Four of the girls who were in the average readiness section rated slightly below average in the reading progress during the year and one of the girls in the low normal readiness category was considered an average reader by the end of the first grade.

A similar analysis of the boys' mean interest ages reveals a general trend showing the relationship between higher readiness levels

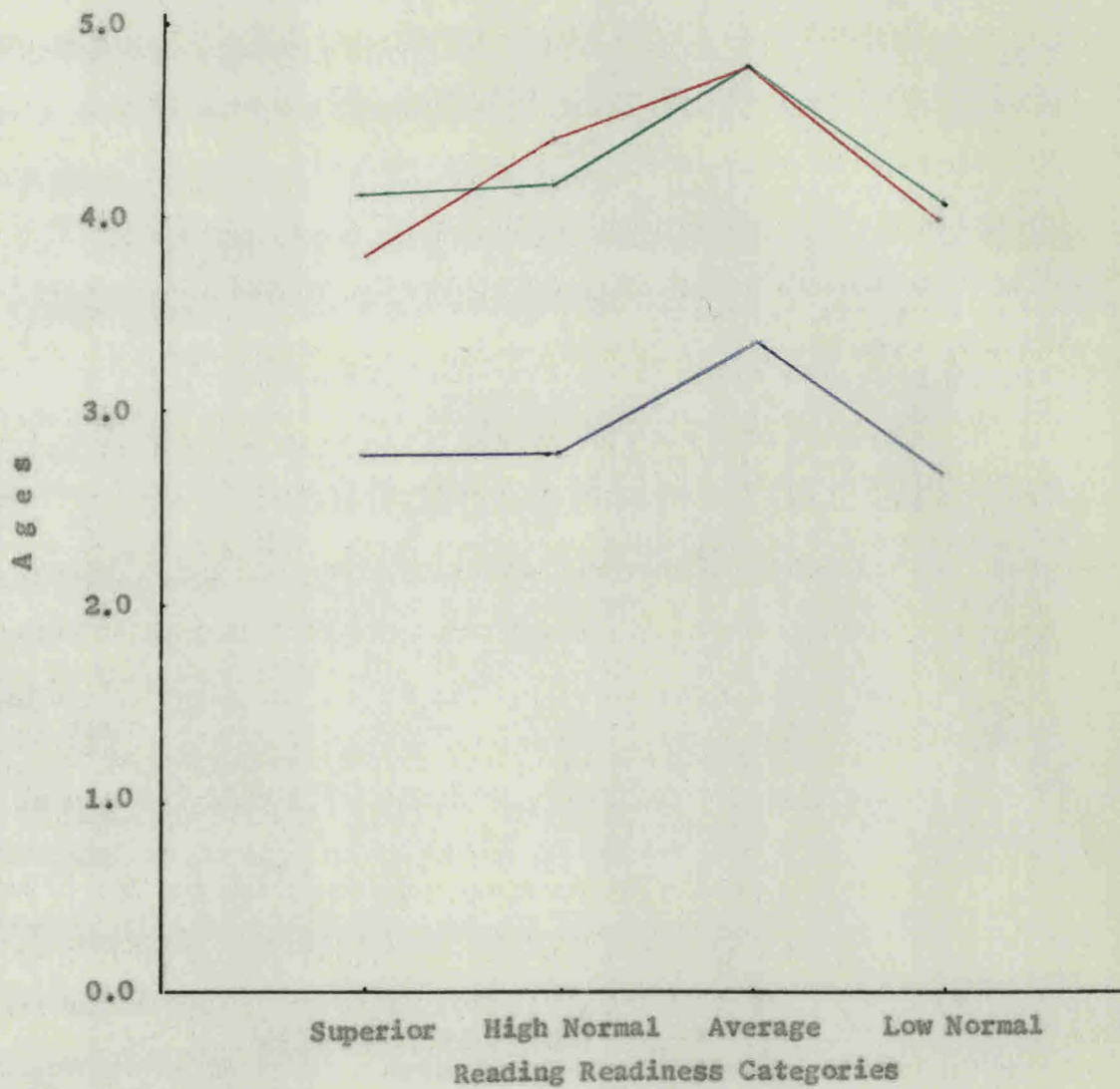


FIGURE 5

INTEREST AGES IN COMPARISON WITH READING READINESS
(GIRLS)

Interest in hearing stories ————

Interest in creating stories ————

Asking questions about "his world" ————

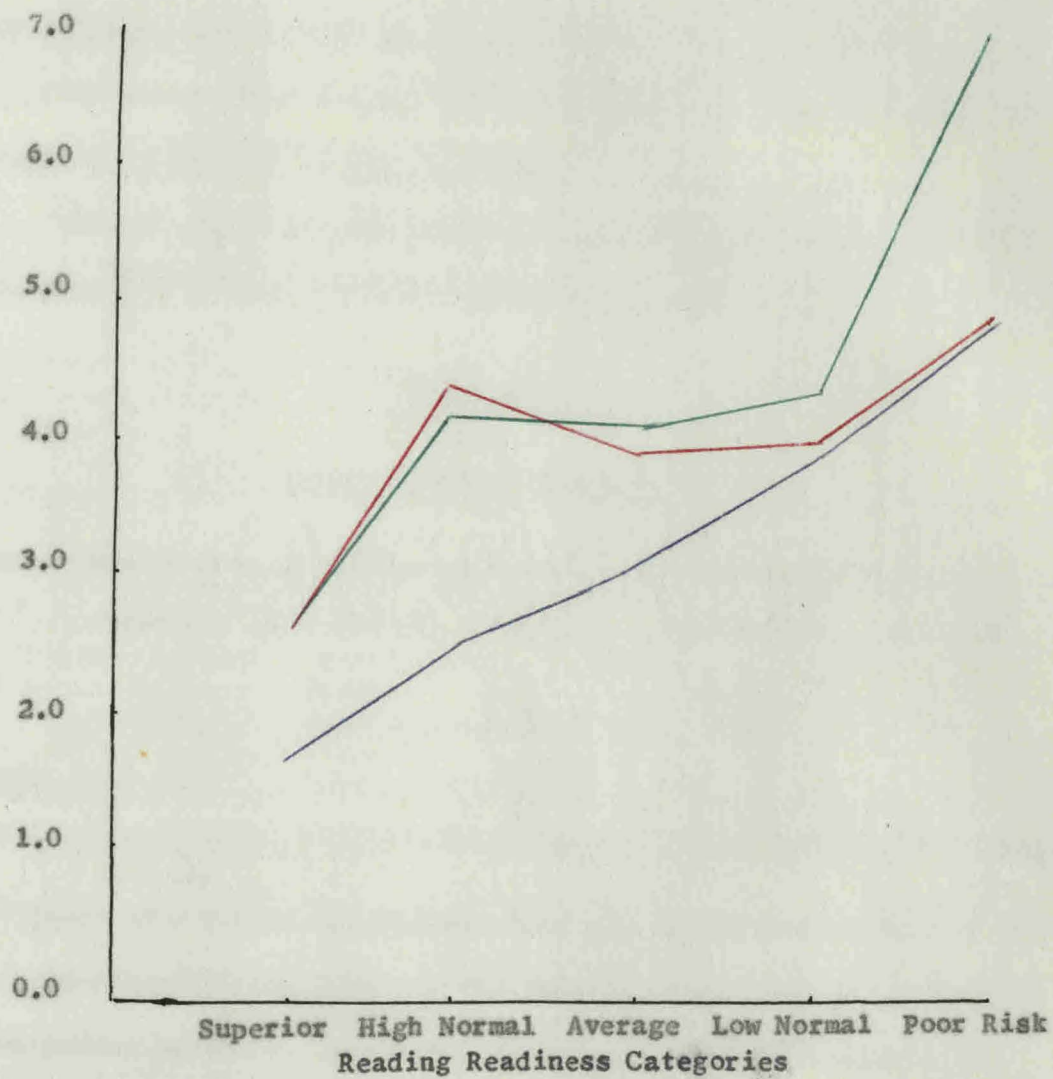


FIGURE 6

INTEREST AGES IN COMPARISON WITH READING READINESS
(BOYS)

Interest in hearing stories ————

Interest in creating stories ————

Asking questions about "his world" ————

with earlier mean interest ages. A slight deviation from this trend is shown in the case of the mean interest age for creating stories and asking questions. Again, a study of the reading scores of the boys in the high normal group reveals that three of these boys were rated as average readers by the end of the first grade.

Table II shows the mean number of siblings of the boys and girls in relationship to their reading readiness scores.

TABLE II

MEAN NUMBER OF SIBLINGS

	Superior	High Normal	Average	Low Normal	Poor Risk
Girls	1.70	1.76	1.75	2.00	-
Boys	.66	1.66	3.40	2.00	3*

* 1 case

There is a slight progressive increase in the mean number of siblings beginning with the girls in the superior group and proceeding to the low normal category. The boys' pattern represents a general increase, reaching the highest mean in the average group, followed by a decrease.

Again, in comparison with the mean number of playmates, a sex difference was observed. Table III reveals the highest mean for the girls in the superior group with a general decrease. A deviation in this pattern was observed in the low normal category. An increase of .2 was observed. The boys showed the highest mean in the high normal category, followed by a decrease in the means of both the higher and

lower readiness levels. Again, a deviation was found in the mean of the poor risk group which showed an increase of .6.

TABLE III

THE MEAN NUMBER OF PLAYMATES

	Superior	High Normal	Average	Low Normal	Poor Risk
Girls	5.4	4.3	3.8	4.0	-
Boys	3.7	4.8	4.3	2.4	3*

* 1 case

By employing Fisher's Exact Probability, it was found that in the case of the boys a significant difference in reading readiness occurred between those who attended kindergarten and those who did not attend. This difference was significant at the .01 level of confidence.

Likewise, in the case of the girls, a significant difference in reading readiness occurred between those who attended kindergarten and those who did not. The results were significant at the .02 level of confidence.

Table IV gives the mean value of the answers given to the question, "where does the light go when it gets dark?"

TABLE IV

THE MEAN VALUE OF GIVEN ANSWER

	Superior	High Normal	Average	Low Normal	Poor Risk
Girls	2.1	1.8	1.8	2.0	-
Boys	2.3	1.6	1.4	1.4	1*

* 1 case

Since the range of values was three to one, the differences in the means do not appear significant. However, there is a trend that shows the mothers of both the boys and girls in the superior group gave more acceptable answers than the mothers of the children in the high normal group.

Likewise, the mothers of the boys in the high normal group gave more acceptable answers than those in the average group. However, upon evaluation of the girls' mean in the low normal group a higher rating was received than in the previous category. Careful study of the students in this group revealed a situation in which a mother gave an answer which received the highest possible rating. Further analysis revealed the fact that by June the student in question was considered average.

Tables V and VI reveal the parent's evaluation of the child's emotional growth.

TABLE V

RELATION OF GIRLS' ADJUSTMENT TO READING READINESS

	Superior	High Normal	Average	Low Normal	Poor Risk
Especially Happy	30%	8%	12½%	-	-
Normally Happy	70%	92%	87½%	66 2/3%	-
Easily Dissatisfied	-	-	-	33 1/3%	-

TABLE VI

RELATION OF BOYS' ADJUSTMENT TO READING READINESS

	Superior	High Normal	Average	Low Normal	Poor Risk
Especially Happy	-	-	30%	-	100%*
Normally Happy	100%	100%	70%	60%	-
Easily Dissatisfied	-	-	-	40%	-

* 1 case

The only cases reported of students being easily dissatisfied occurred in the low normal group. The girls' percentages reveal that thirty-three and one-third percent of the low normal group were considered easily dissatisfied, whereas, forty percent of the boys were placed in this same category.

The category, especially happy, received thirty percent of the girls in the superior category, eight percent in high normal and twelve and one-half percent in the average readiness rating. Only thirty percent of the boys in the average readiness category were considered as being especially happy. No other cases occurred.

The highest percentages in each of the categories for both the boys and girls was the normally happy classification.

In regard to the analysis of Tables VII and VIII, it is evident that a sex difference occurs. The mean scores for the work and study skills are considerably higher for the girls than the boys. In the same respect, the mean number of responsibilities is higher in the superior, high normal, and low normal categories.

With both the boys and the girls, it is observed that there is a relationship between the readiness and the mean score on the work and study skills. The students considered having the greatest reading readiness were also rated as having the best work and study skills.

The mean number of responsibilities for the girls in the upper two groups varies .1 of a point with the high normal group having the greatest mean number of responsibilities. There is a decrease for the average group followed by a noticeable increase in the low normal group.

The boys in the average group had the greatest mean number of responsibilities. In comparison, the one boy with the lowest reading readiness had no responsibilities.

TABLE VII

COMPARISON OF THE GIRLS' MEAN SCORE ON WORK AND STUDY SKILLS WITH MEAN NUMBER OF RESPONSIBILITIES

	Superior	High Normal	Average	Low Normal	Poor Risk
Mean Work and Study Skills	54.5	50.7	41.2	35.3	-
Mean Responsibilities	2.4	2.5	2.2	4.0	-

TABLE VIII

COMPARISON OF THE BOYS' MEAN SCORE ON WORK AND STUDY SKILLS WITH MEAN NUMBER OF RESPONSIBILITIES

	Superior	High Normal	Average	Low Normal	Poor Risk
Mean Work and Study Skills	50.3	39.5	36.7	36.0	29
Mean Responsibilities	2.3	2.0	3.3	2.0	0*

* 1 case

TABLE IX

COMPARISON OF THE GIRLS' MEAN NUMBER OF FAMILY ACTIVITIES WITH
THE MEAN SCORE ON PERSONAL AND SOCIAL DEVELOPMENT

	Superior	High Normal	Average	Low Normal	Poor Risk
Mean Number of Family Activities	3.2	2.4	3	3	-
Mean Score-Personal and Social De- velopment	21.5	17.3	16.7	15.6	-

TABLE X

COMPARISON OF THE BOYS' MEAN NUMBER OF FAMILY ACTIVITIES WITH
THE MEAN SCORE ON PERSONAL AND SOCIAL DEVELOPMENT

	Superior	High Normal	Average	Low Normal	Poor Risk
Mean Number of Family Activities	2.3	2.3	2.9	1.2	3*
Mean Score-Personal and Social De- velopment	16.6	16.6	15.2	14	14*

* 1 case

Comparison of Table IX and X indicates that the parents of the girls plan more family activities than the parents of the boys. It also shows a definite trend of relationship between a high readiness level, a high mean personal and social development score and a high mean number of family activities.

TABLE XI
MEAN NUMBER OF ORGANIZATIONS

	Superior	High Normal	Average	Low Normal	Poor Risk
Girls	3.4	2.5	2.4	3.1	-
Boys	3.3	2.2	2.5	1.6	3*

* 1 case

In reference to the parents of both the boys and the girls who rated as having superior reading readiness, it is observed that they belonged to the highest mean number of organizations. Analysis of the girls' means reveals a general decrease from the superior readiness group through the average group with an increase of .7 of a point in the mean of the low normal. In the case of the boys, the highest mean is held by the boys in the superior group with a 1.1 decrease in the high normal group. The average group shows an increase of .3 point with a noticeable decrease in the low normal group.

TABLE XII
PERCENTAGE OF PARENTS MENTIONING READING AS FAVORITE PASTIME

	Superior	High Normal	Average	Low Normal	Poor Risk
Girls	15%	23%	18%	33%	-
Boys	33%	25%	15%	10%	-

Some idea of the desire of parents to read as a favorite pastime is indicated by the percentages shown in Table XII. Although none of

the percentages are very high, a definite relationship can be seen in the boys' results. It appears that the greatest percentage of parents who read as a favorite pastime have sons who had superior readiness and the second highest percentage represented parents whose sons were in the high normal readiness group. This parallel comparison continues until we have the smallest percentage of parents who desire to read as a favorite pastime have sons who are in the lowest readiness group.

An unusual distribution occurs in the girls' percentages. The highest percentage of parents who mentioned reading as a favorite pastime occurred in the low normal group. An analysis of the parents in this group offers possible reasons. The second highest percentage was reported in the high normal group, the third highest in the superior group and the lowest in the average readiness group.

TABLE XIII

MEAN SCORE OF MAGAZINE RATING IN COMPARISON WITH
GIRLS' READING READINESS

	Superior	High Normal	Average	Low Normal	Poor Risk
Father	5.7	4.3	2.8	5.0	-
Mother	4.7	4.7	5.8	7.0	-

TABLE XIV

MEAN SCORE OF SECTION RATING IN COMPARISON WITH
GIRLS' READING READINESS

	Superior	High Normal	Average	Low Normal	Poor Risk
Father	18.0	18.1	14.1	24.3	-
Mother	11.6	14.3	10.9	15.3	-

A relationship between the reading readiness of the girls and the fathers' mean score on magazine rating and the mean score on a section rating appears evident. In every category except the mean score of magazine rating for the low normal, the higher the mean score on magazine rating, the higher the corresponding score on section rating.

An analysis of the mothers' mean scores on magazine rating fails to reveal a trend with relation to the readiness rating. The mean magazine rating score was smallest for the superior and high normal categories and largest for low normal.

Analysis of the mean score on section rating does not reveal any positive relationship between section rating and reading readiness. However, there is a definite relationship between the section rating means for the mothers and fathers of each category. The highest means for both parents occurred in the low normal group, the second highest in the high normal group, the third highest in the superior group, and the lowest in the average group.

TABLE XV

MEAN SCORE OF MAGAZINE RATING IN COMPARISON WITH
BOYS' READING READINESS

	Superior	High Normal	Average	Low Normal	Poor Risk
Father	3.3	3.7	4.0	1.4	-
Mother	3.5	5.0	5.8	1.8	6*

* 1 case

TABLE XVI

MEAN SCORE OF SECTION RATING IN COMPARISON WITH
BOYS' READING READINESS

	Superior	High Normal	Average	Low Normal	Poor Risk
Father	17.0	16.0	13.2	8.2	-
Mother	12.5	9.7	11.0	9.2	1*

* 1 case

Table XV gives an idea of the number and rating of magazines that were considered favorites by the parents of the boys. It appears from the mean ratings that the mothers and fathers of the boys in the average readiness category had the highest combination of rating and number. The lowest mean rating was recorded for both the fathers and the mothers of the boys in the low normal group.

Careful comparison of Tables XV and XVI reveals the fact that although the parents of the boys in the average readiness section had the highest mean for the magazine rating, the fathers of the same boys rated third in the mean value of the sections read, whereas the mothers rated second.

The fathers and mothers of the boys who were in the superior readiness section had the highest mean for the section read. The fathers' mean was larger than any other calculated mean.

As in the case of the magazine rating, the parents of the boys in the low normal group had the lowest mean rating for the sections read.

In summarizing the trend for the section rating, a relationship between a high readiness rating and the father's high mean score on section rating is observed.

TABLE XVII
MEAN NUMBER OF REFERENCE MATERIALS

	Superior	High Normal	Average	Low Normal	Poor Risk
Girls	2.6	2.8	2.7	2.3	-
Boys	2.7	3.1	3.0	1.8	2*

* 1 case

There appears a slight, but general tendency for the boys to possess the greatest mean number of reference materials. The group reported having the largest mean number both for the girls and boys, was the high normal group. The group having the smallest mean number of reference books was the low normal group. There were just two cases where encyclopedias were not found in the homes.

TABLE XVIII
THE RELATION OF TELEVISION VIEWING TO READING READINESS
AS JUDGED BY THE CHI SQUARE TEST OF INDEPENDENCE *

	A Child	B Mother	C Father
Girls	6.022 (.50)+	10.598 (.10)-	4.065 (.70)+
Boys	7.306 (.50)-	13.538 (.10)+	1.876 (.70)+

* The first numbers represent chi square values. The numbers in brackets are levels of confidence.

In this study, confidence levels of .20, .10, .05 and .01 are accepted.

In order to determine if there exists any relation between the students who fell within the five readiness categories and the number of hours the student, the mother and the father viewed television each week, the statistical procedure, chi square, was employed.

Table XVIII gives the values of chi square and the levels of confidence for the girls and the boys in three areas. Column A refers to the relationship between the readiness categories and the number of hours the child viewed television each week. Column B refers to the relationship between the child's readiness rating and the number of hours the mother viewed television weekly. Column C refers to the relationship between the child's readiness rating and the number of hours the father viewed television weekly.

The hypothesis of independence between the readiness rating and the number of hours of weekly television viewing done by the child or the father is accepted.

However, at approximately the ten percent level of confidence, we reject the hypothesis of independence between the reading readiness of the boys and girls and the number of hours of weekly television viewing done by the mother.

TABLE XIX

THE RELATION OF READING READINESS TO THE AMOUNT OF TIME SPENT
READING AS JUDGED BY THE CHI SQUARE TEST OF INDEPENDENCE

	A Child	B Mother	C Father
Girls	3.750 (.80)+	5.668 (.50)+	5.768 (.50)+
Boys	10.400 (.20)-	6.947 (.50)-	4.097 (.70)+

In order to determine if there exists any relation between the students who fell within the five readiness categories and the number of hours read weekly by the mother, the father, and the child, the statistical procedure, chi square, was again employed.

Table XIX gives the values of chi square and the level of confidence for the boys and the girls in the three areas. Column A refers to the relationship between the readiness categories and the number of hours read weekly by the child. Column B refers to the relationship between the readiness categories and the number of hours read weekly by the mother and Column C refers to the relationship between the readiness rating and the number of hours read weekly by the father.

The hypothesis of independence between the girls' reading readiness and the number of hours read by the girls, their mothers and fathers is accepted. However, the hypothesis of independence is rejected at approximately the twenty percent level of confidence for the relationship of the amount of time spent reading and the boys' reading readiness. The hypothesis of independence between the boys' reading readiness and the amount of time spent reading by the mothers and fathers is accepted.

TABLE XX

THE RELATION OF READING PROGRESS TO HOME ENVIRONMENT
AS JUDGED BY THE CHI SQUARE TEST OF INDEPENDENCE

Girls	1.326 (.30)+	Boys	9.45 (.01)
-------	--------------	------	------------

Table XX reveals the relationship between the teacher's estimation of the child's reading progress and the teacher's estimation of the total home environment. In the case of the girls, the hypothesis of independence is accepted. However, in the case of the boys, the hypothesis of independence is rejected at the one percent level of confidence.

TABLE XXI

COMPARISON OF AGE, READING PROGRESS, WORK AND STUDY SKILLS,
AND PERSONAL AND SOCIAL DEVELOPMENT WITH READING
READINESS AS JUDGED BY RHO CORRELATIONS

	Readiness Age	Readiness Reading Score	Readiness Work and Study Skills	Readiness Personal and Social Development
Girls	-.04	.587 (.01)	.431 (.01)	.335 (.05)
Boys	-.23	.578 (.01)	.528 (.01)	.464 (.05)

Since it seemed desirable to assign ranks to the reading readiness scores obtained from the results of the Metropolitan Readiness Test and the scores obtained from the teachers evaluation of the students' work and study skills and the scores for personal and social development, the rank order correlation coefficient was calculated.

The hypothesis of no relationship between reading readiness, reading progress, and work and study skills is rejected at the one percent level. The hypothesis of no relationship between reading readiness and personal and social development is rejected at the five percent level.

However, the null hypothesis is accepted stating no relationship between readiness rating and the age of the students included the sam-

ple population.

The rank order correlation coefficient was also calculated for the significance of the relationship between the teacher's estimation of reading progress and the teacher's estimation of work and study habits and personal and social development. Table XXII shows the values and confidence levels of rho for these calculations.

TABLE XXII

COMPARISON OF WORK AND STUDY SKILLS AND PERSONAL
AND SOCIAL DEVELOPMENT WITH READING PROGRESS
AS JUDGED BY RHO CORRELATIONS

	Work and Study Skills	Personal and Social Development
Girls693 (.01)	.668 (.01)
Boys724 (.01)	.746 (.01)

For each of the above calculations the hypothesis of no relationship is rejected at the one percent level.

Analysis of low readiness. An analysis of the scores of the low normal readiness students reveals low scores in the two subtests, sentences and matching. The one poor risk case showed weakness in all four subtests.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study was designed to determine the possible relationship between certain factors in the home environment and success in beginning reading. Two criteria, the Metropolitan Reading Readiness Score, a segment of the Metropolitan Reading Readiness Test, and the teacher's evaluation of the child's progress in reading were employed.

A group of fifty-nine students: twenty-five boys and thirty-four girls in grade one in an elementary school in eastern Virginia constituted the sample.

Data were collected from questionnaires sent to the parents and from a form completed by the classroom teachers.

Means, percentages, rank order correlation coefficients, exact probabilities, and the tests of independence revealed the results.

The limitations of this study included a small sample size, a narrow range of ability, inadequate sample techniques, and a great similarity in the home environments.

Conclusions

Seldom does a research student culminate the study with defined cause and effect relationships of the factors in question. Instead the research student often finds trends or possible factors which appeared to be significant in the tested sample population.

Analysis of the students reveals cases within the girls' low

normal category and one case in the boys' poor risk category that require special consideration when the results of the data are discussed.

The significant findings of this study include:

- (1) A general sex difference is noted in the tested areas.
- (2) According to the results of the Metropolitan Readiness Test, the girls had the greater readiness for reading.
- (3) The employment status of the girls' fathers was generally higher than that of the boys' fathers in relation to the reading readiness categories.
- (4) A larger percentage of the mothers who had daughters in the superior and high normal readiness categories were not employed as opposed to a higher percent of employed mothers in the last three readiness categories.
- (5) The mothers of the girls in the average readiness category were employed the greatest mean number of years.
- (6) The mothers of the boys in the average and low normal readiness categories were employed the greatest mean number of years.
- (7) The mothers of both the boys and girls in the high normal category were employed the fewest mean number of years.
- (8) Girls in the low normal category had a greater mean number of siblings followed by a general decrease to the girls in the superior category who had the smallest mean number of siblings.
- (9) Parents of both boys and girls in the superior readiness category gave answers of the highest mean value to a

given question with a parallel decrease to the parent in the low risk category whose answer rated the lowest mean value. A deviation from this trend appears in the low normal category of both the boys and the girls.

- (10) Emotional adjustment and average to superior reading readiness are positively related.
- (11) The girls in the superior category had the greatest mean number of playmates with a decrease to the girls in the average readiness group who had the smallest mean number.
- (12) The girls had a higher mean score on work and study skills than did the boys.
- (13) A high positive relationship exists between reading readiness and work and study skills.
- (14) The category which had the lowest score on work and study skills reported no responsibilities.
- (15) No relationship exists between the reported number of responsibilities and the mean score on work and study skills.
- (16) The parents of the girls reported more family activities than the parents of the boys.
- (17) The highest mean number of family activities occurred in the girls' superior category. The lowest mean number of family activities occurred in the boys' low normal category.
- (18) The parents of the boys and girls in the superior readiness group belonged to the greatest mean number of

organizations.

- (19) The lowest mean number of organizations occurred in the boys' low normal group.
- (20) In the case of the boys, a relationship is noticed between a high percentage of parents mentioning reading as a favorite pastime and a high reading readiness.
- (21) For the boys, the fathers had a higher mean score on section rating than did the mothers.
- (22) For the fathers of the boys, a relationship between high readiness and a high mean score on section rating occurred. A parallel decrease is noted showing the lowest readiness group and the lowest mean score on section rating.
- (23) The mean number of reference materials was greater for the boys than the girls.
- (24) Students rated in the high normal category had the largest mean number of reference materials.
- (25) Students rated in the low normal category had the smallest mean number of reference books.
- (26) A relationship, significant at the one percent level of confidence for the boys and at the two percent level of confidence for the girls, existed between the child's readiness and attendance at kindergarten.
- (27) A positive relationship exists between the reading ability of a child and the child's personal and social development and the child's work and study habits as evaluated by the

teacher.

- (28) No significant correlation occurred between reading readiness and the range of seventy-one to eighty-two months of age.
- (29) No significant relationship was found between the child's readiness level and the number of hours of weekly television viewing done by the child or the father.
- (30) A relationship, significant at the .10 level of confidence, was noted between the readiness scores of the boys and the girls and the number of hours of television viewing done by the mother.
- (31) No significant relationship was found between the child's readiness and the amount of reading done by the father or mother. However, there is a relationship, approaching the .20 level of confidence, between the readiness score and the number of hours read weekly by the boy.
- (32) A relationship, significant at the .01 level of confidence, existed between the boys' reading progress and the teacher's estimate of the total home environment.
- (33) An evaluation of the cases falling in the low normal category revealed weakness in two subtests on the Metropolitan Reading Readiness Test: (1) Sentences and (2) Matching.
- (34) The student considered a poor risk was weak in all four subtests: (1) Word Meaning, (2) Sentences, (3) Information, and (4) Matching.
- (35) Scores on the Metropolitan Readiness Test are good pre-

dictive measures for reading success, work and study habits and social and personal development.

Recommendations

Since a study of the relationship of factors in the home environment represents a recall of factors over a period of years, the unreliability of the retrospective errors is of great concern.

According to the results of this investigation, a long-range study by a team of educators, psychologists, sociologists, and statisticians would be beneficial. A sample population of four to five hundred students from various sociological levels would be included. The study would commence when the subjects have reached one year of age and would continue through their first year in school.

Visits to the home would serve the purpose of establishing rapport between the members of the families and the interviewer as well as a regularly scheduled time to record pertinent data.

Detailed forms would be devised by the team of research workers. Items such as the language spoken between the child and the members of the family at various age levels, the description of the toys, early childhood associations, interest ages of the child, attempts at teaching the child to read the kinds of stories read to the child, the amount of time spent in reading to the child, the parents' attitude towards books, the kind and number of books found in the home, the type of television programs enjoyed by the parents, the amount of time spent in viewing television and other related items would be included.

In such a proposed study, a more valid evaluation of the home

environment could be acquired.

A second recommendation is a follow-up of this study. The following improvements would be necessary:

- (1) a larger sample population.
- (2) a greater diversity in socio-economic levels.
- (3) more valid criteria for evaluating the child's reading progress.
- (4) information gained by interviews at the home.
- (5) amount of reading to include magazine and newspaper articles.
- (6) amount of televiewing to be determined by a check list of favorite television programs.
- (7) titles of the books read to the child.
- (8) development of categories for responsibilities and family activities.

The third and fourth recommendations include further research concerning the development of a preschool program for the parents of five year olds and the development of an individualized reading readiness program based on the results of the Metropolitan Readiness Test.

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APPENDIX A

Metropolitan Readiness Tests

BY GERTRUDE H. HILDRETH, Ph.D., AND NELLIE L. GRIFFITHS, M.A.

TEST : FORM S



NAME _____ BOY _____ GIRL _____ DATE OF TESTING _____
Year Month Day

TEACHER _____ SCHOOL _____ DATE OF BIRTH _____
Year Month Day

CITY _____ COUNTY _____ STATE _____ PUPIL'S AGE Yrs. _____ Mos. _____

GRADE _____ NUMBER OF MONTHS KINDERGARTEN TRAINING _____

TEST	RAW SCORE
1. WORD MEANING	X
2. SENTENCES	
3. INFORMATION	
4. MATCHING	
Total Tests 1-4	
5. NUMBERS	
6. COPYING	
Total Tests 1-6	

This space is to be used for drawing a man.

READING READINESS

SUM OF SCORES TESTS 1-4	LETTER RATING	READING READINESS STATUS

NUMBER READINESS

SCORE TEST 5	LETTER RATING	NUMBER READINESS STATUS

TOTAL READINESS

SUM OF SCORES TESTS 1-6	LETTER RATING	TOTAL READINESS STATUS	PERCENTILE RANK

DRAWING A MAN
TEST

RATING

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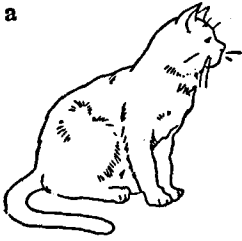
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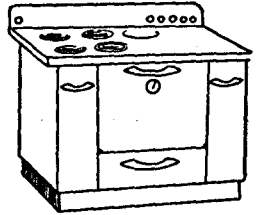
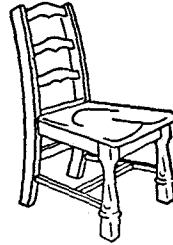
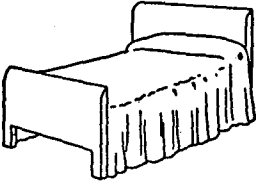
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TEST 1. WORD MEANING

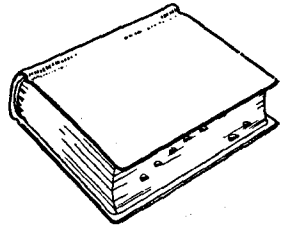
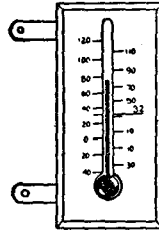
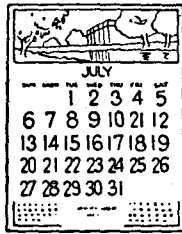
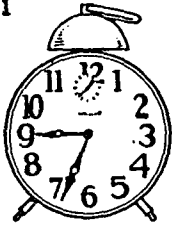
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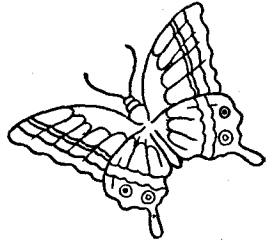
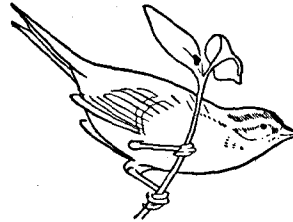
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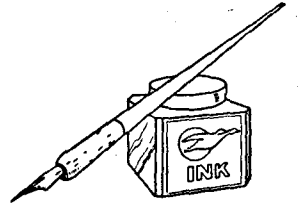
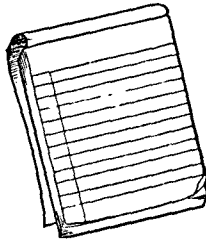
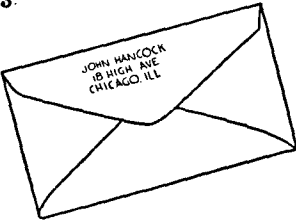
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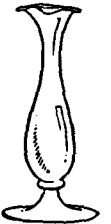
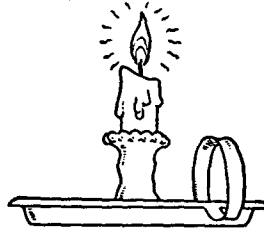
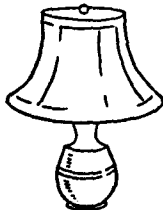
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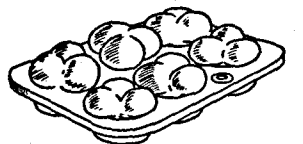
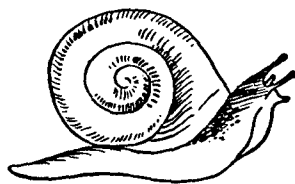
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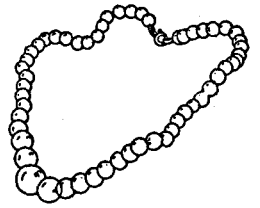
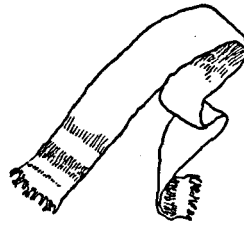
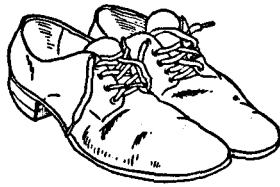
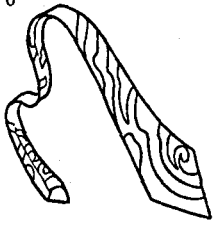
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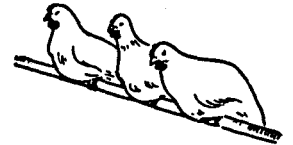
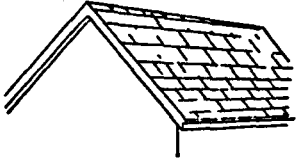
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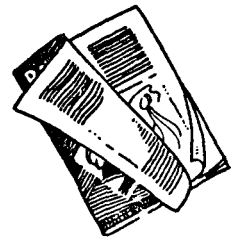
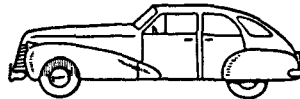
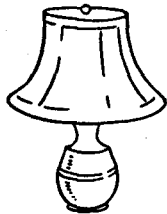
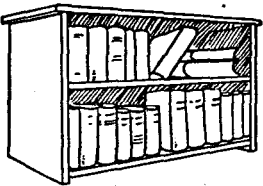
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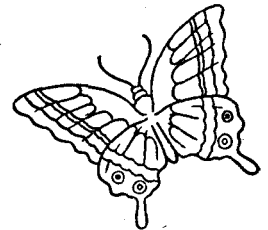
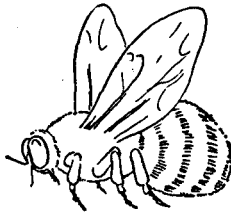
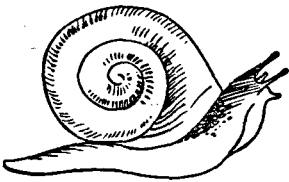
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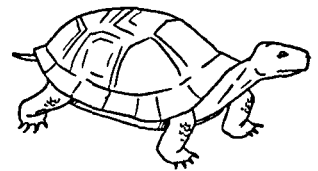
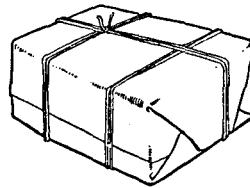
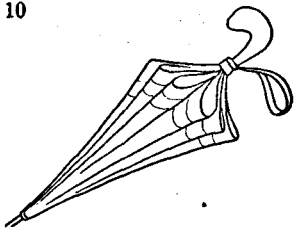
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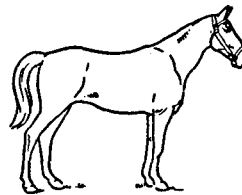
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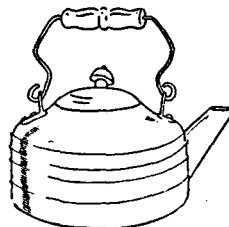
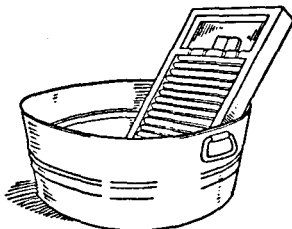
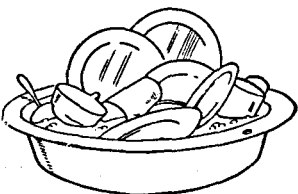
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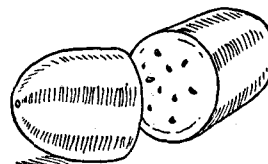
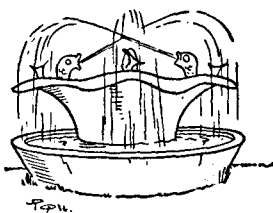
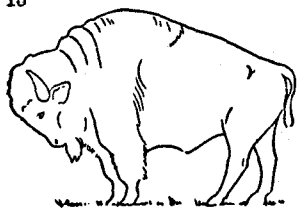
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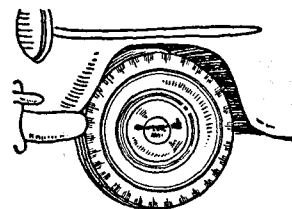
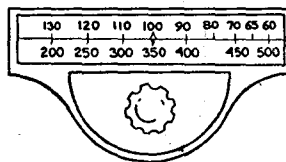
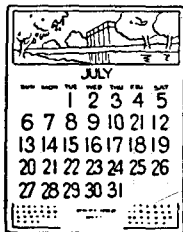
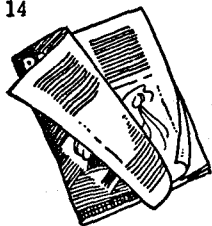
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13



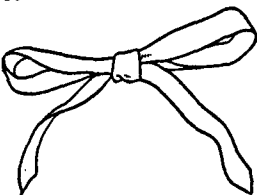
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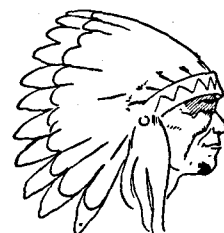
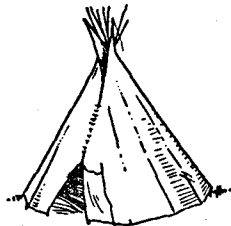
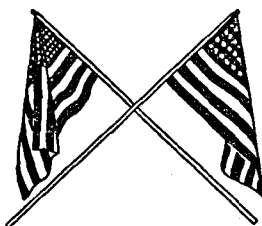
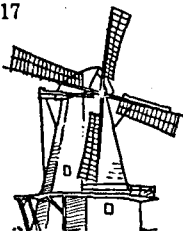
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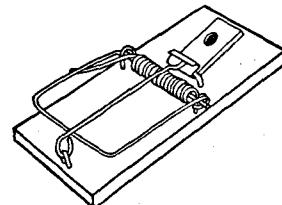
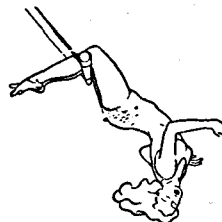
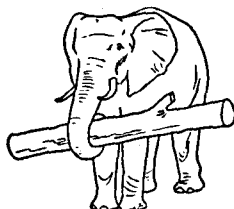
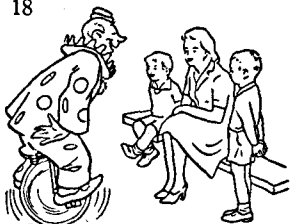
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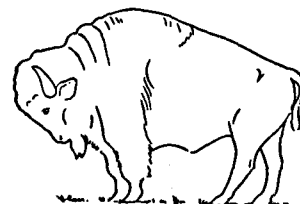
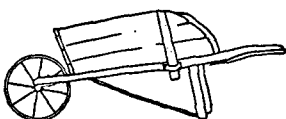
17



18

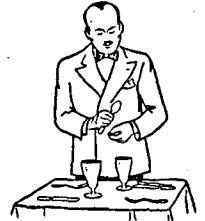
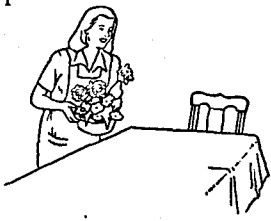


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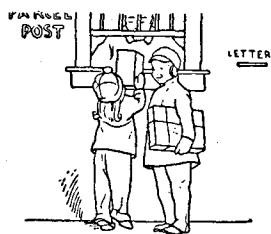
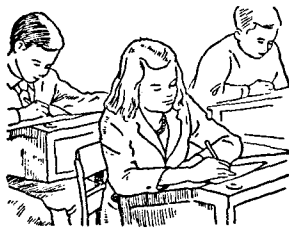


TEST 2. SENTENCES

1



2



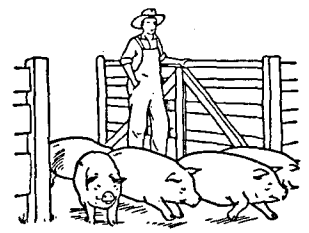
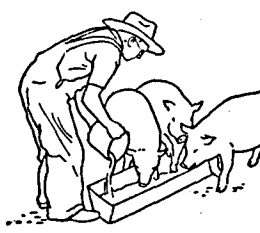
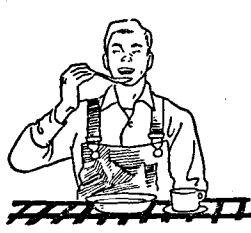
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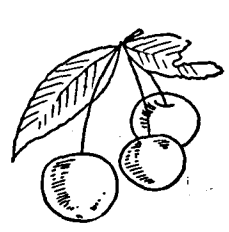
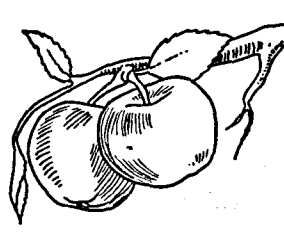
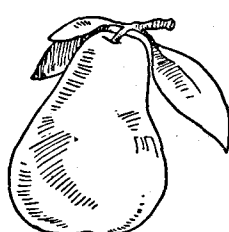
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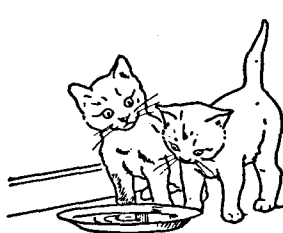
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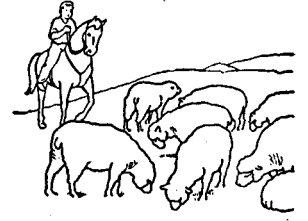
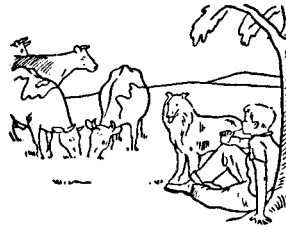
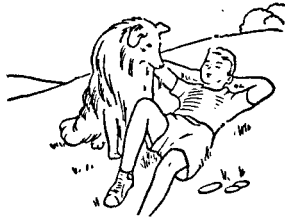
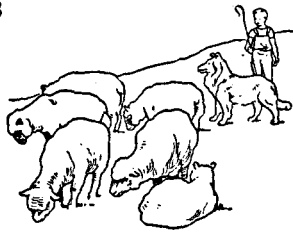
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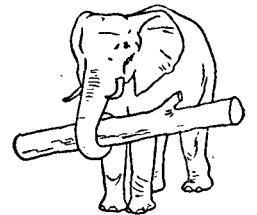
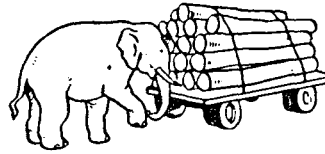
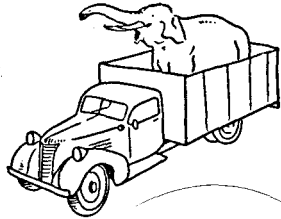
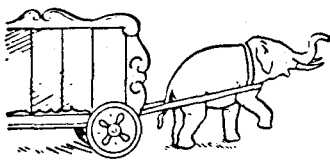
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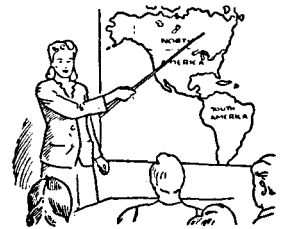
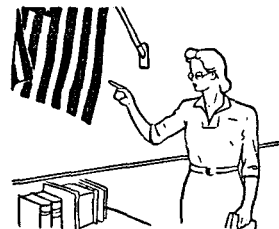
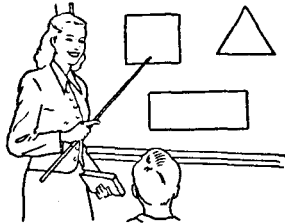
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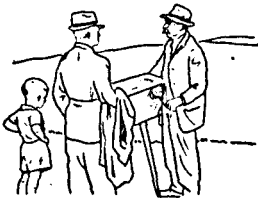
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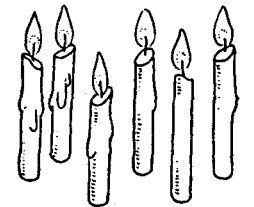
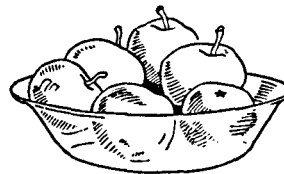
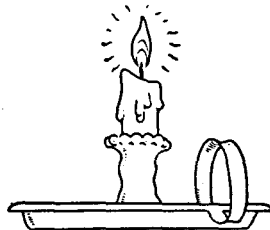
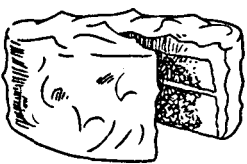
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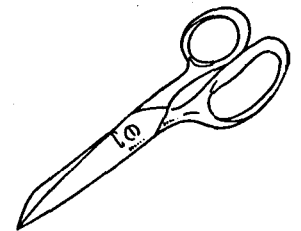
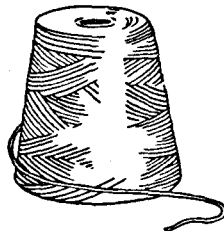
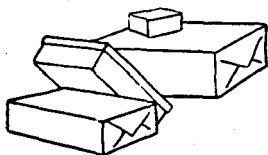
11



12



13

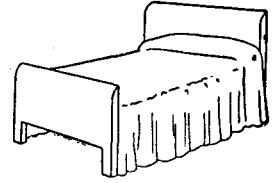
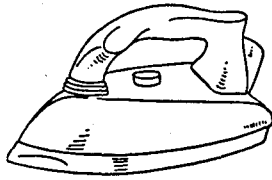
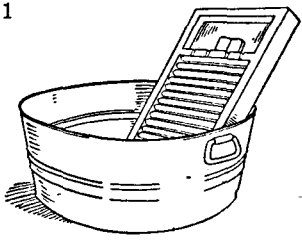


14

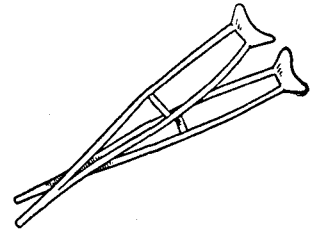
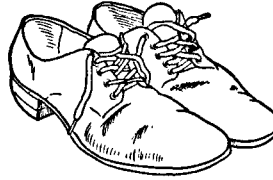
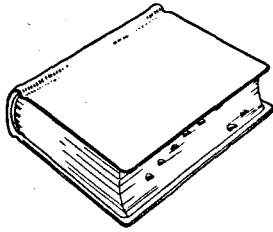
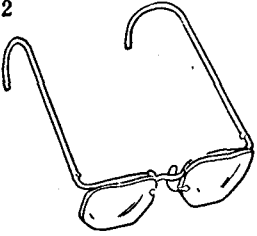


TEST 3. INFORMATION

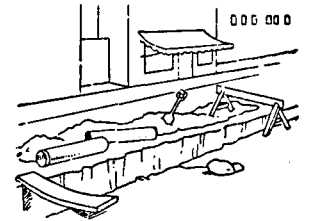
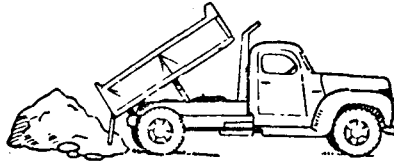
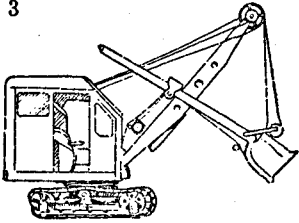
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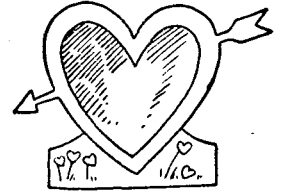
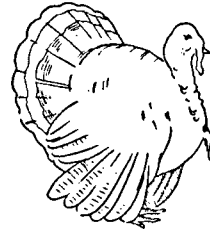
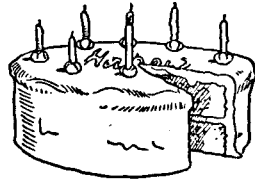
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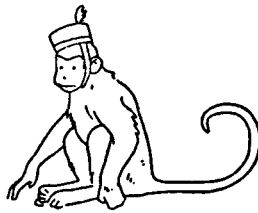
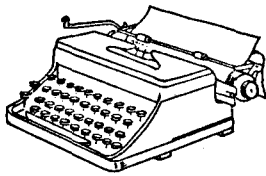
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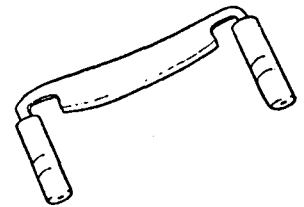
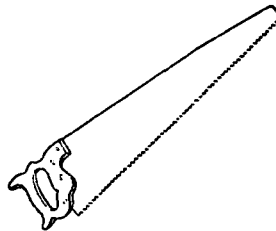
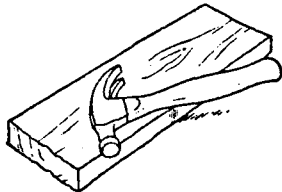
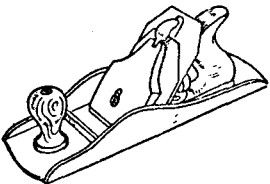
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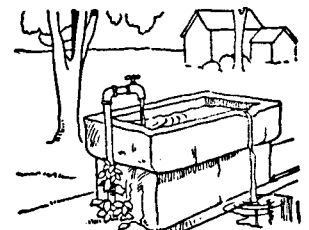
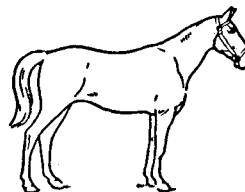
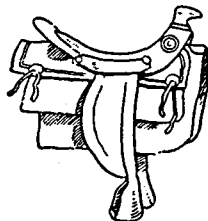
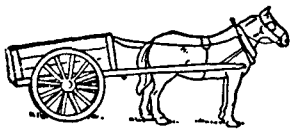
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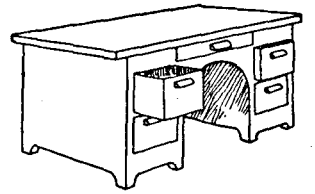
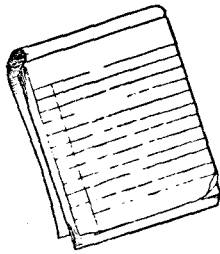
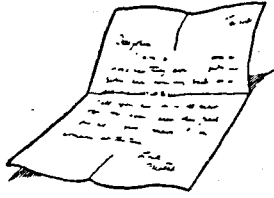
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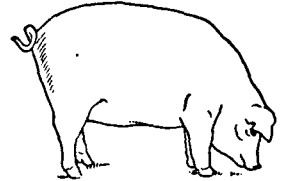
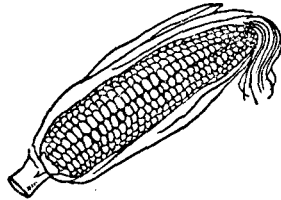
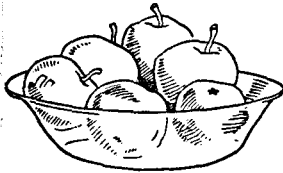
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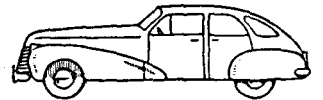
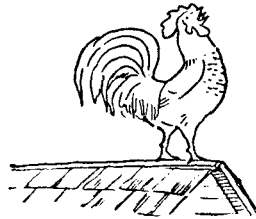
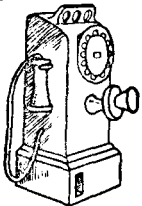
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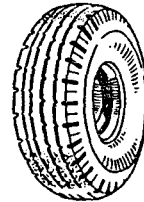
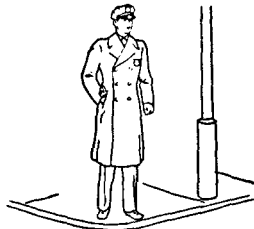
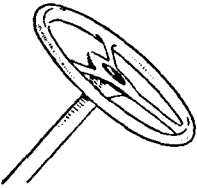
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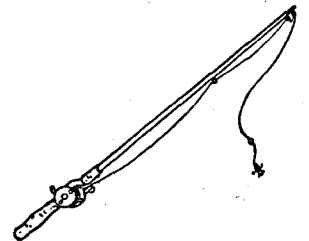
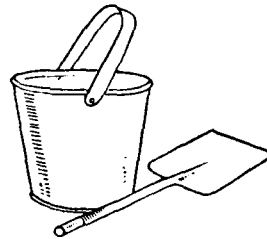
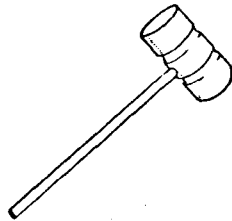
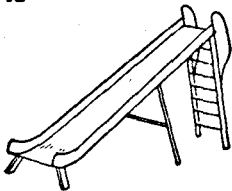
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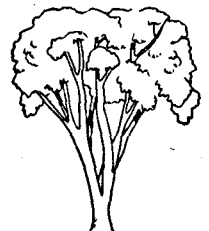
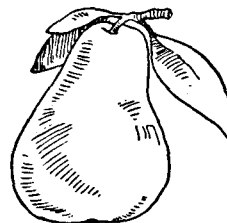
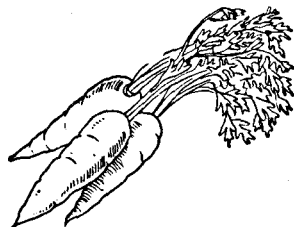
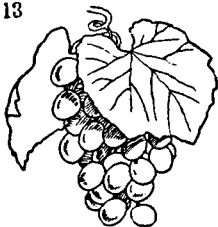
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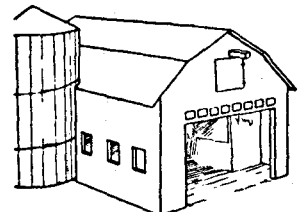
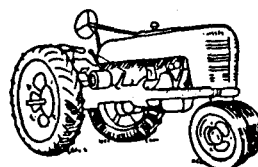
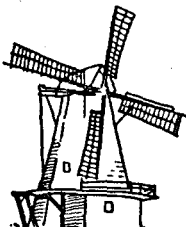
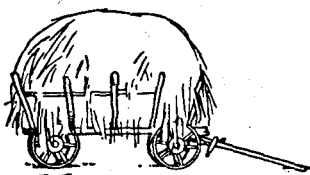
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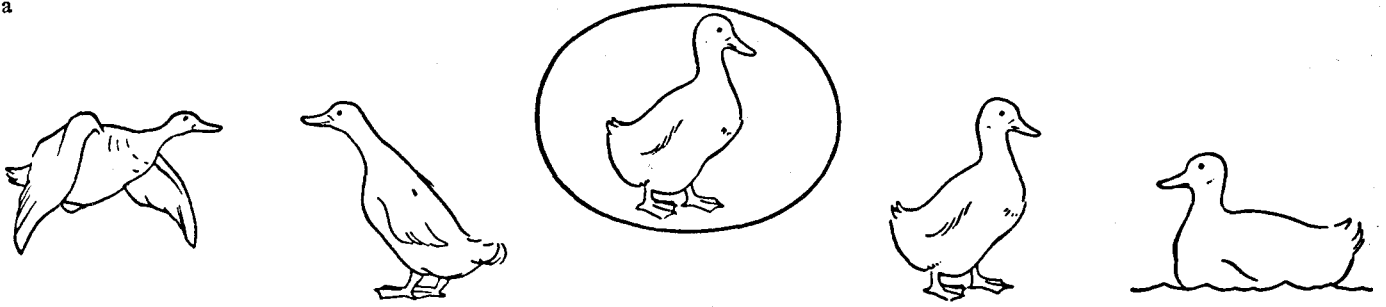


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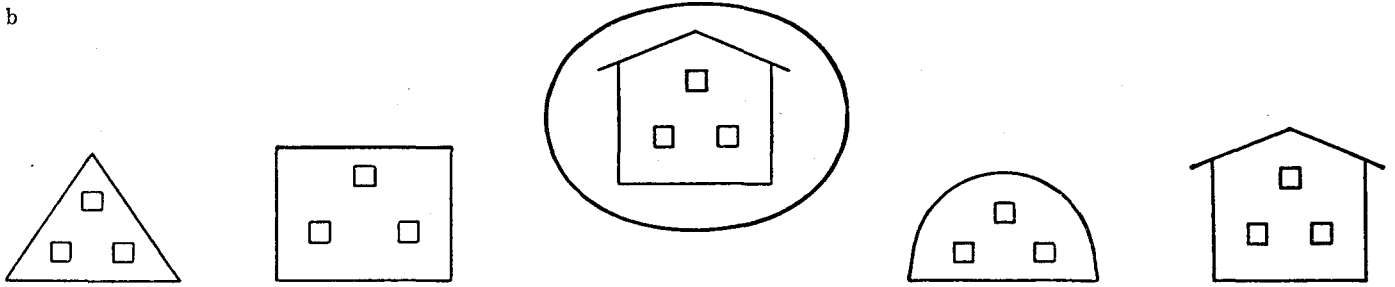


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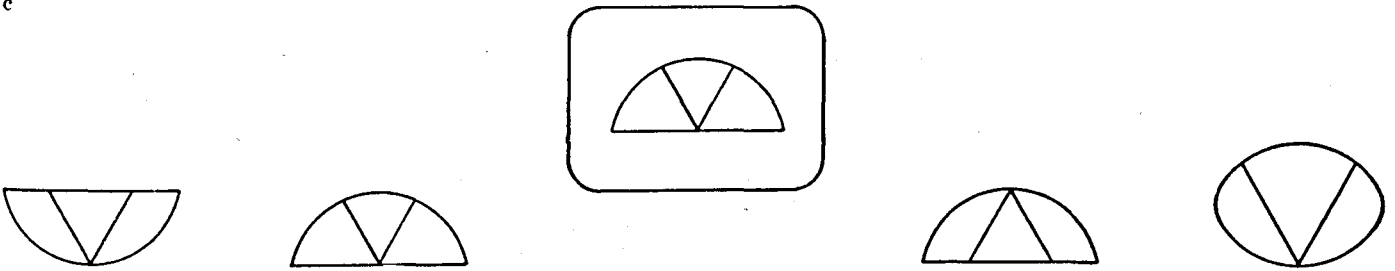
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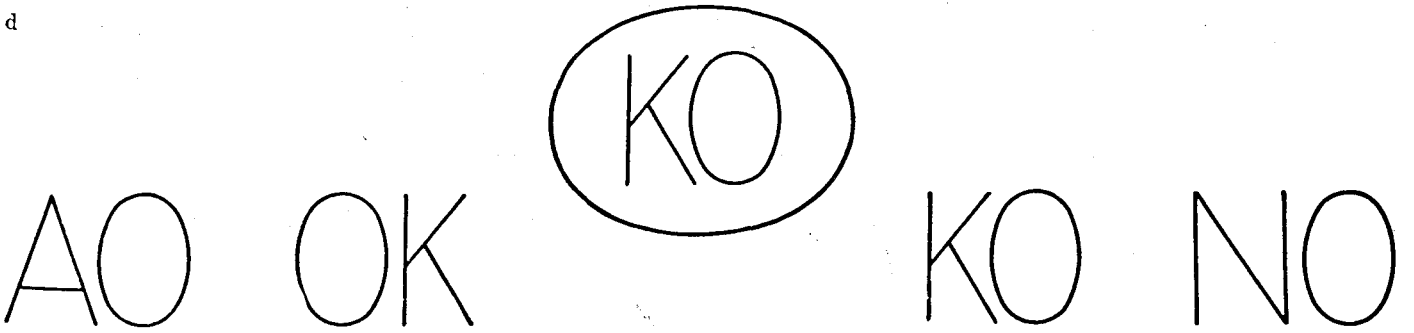
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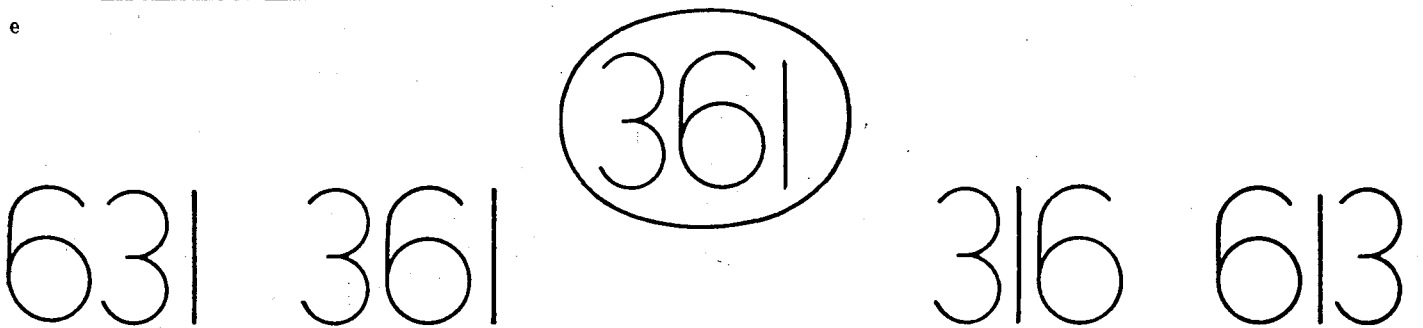
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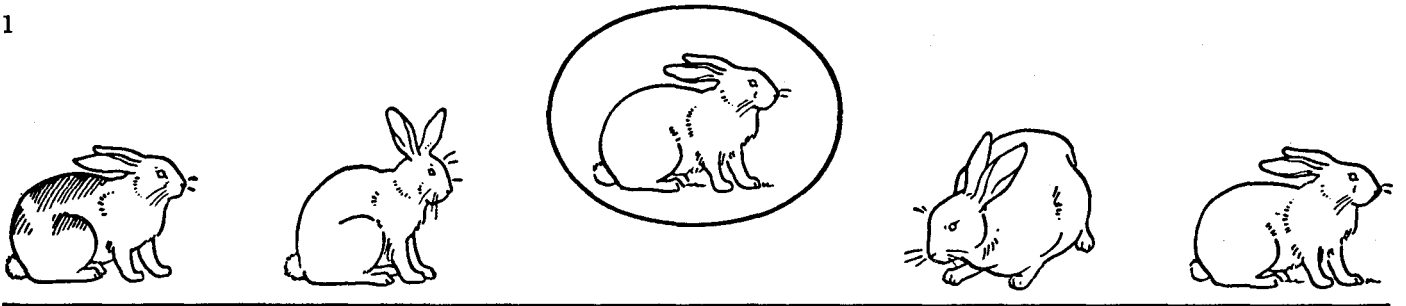
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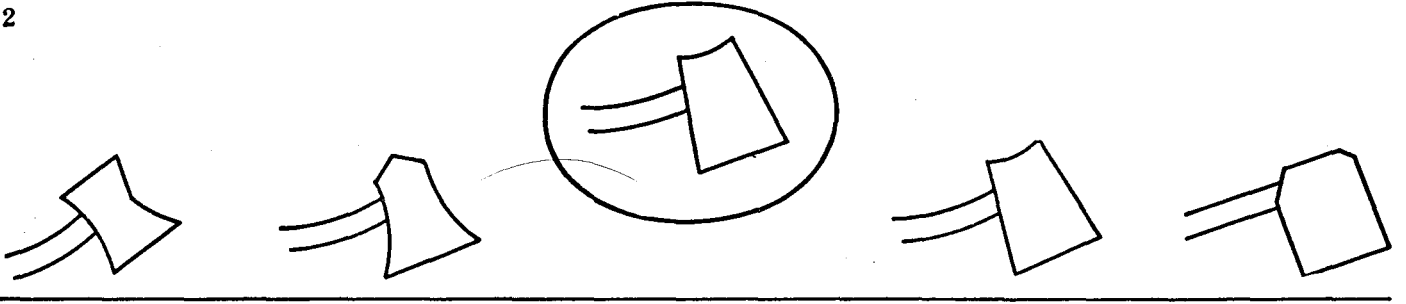
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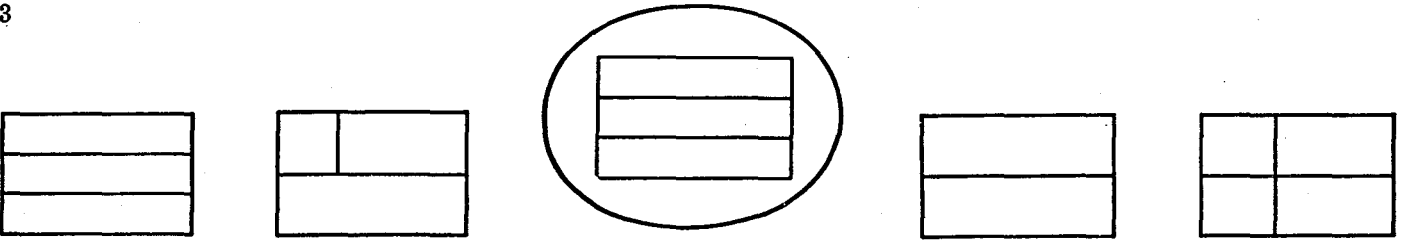
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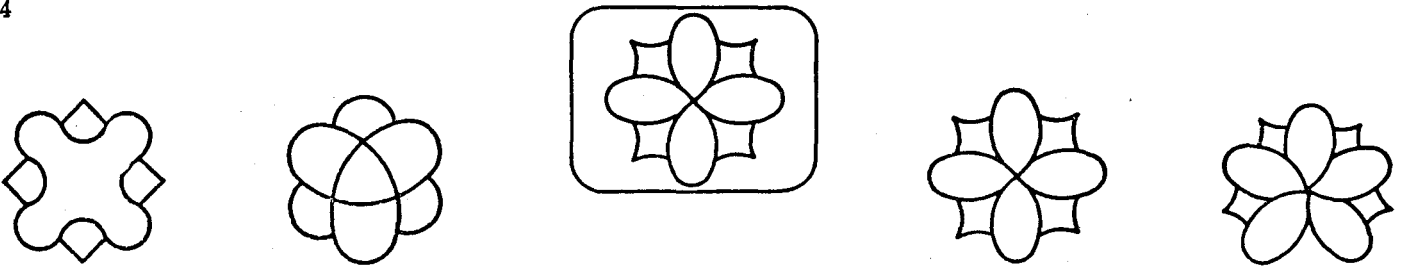
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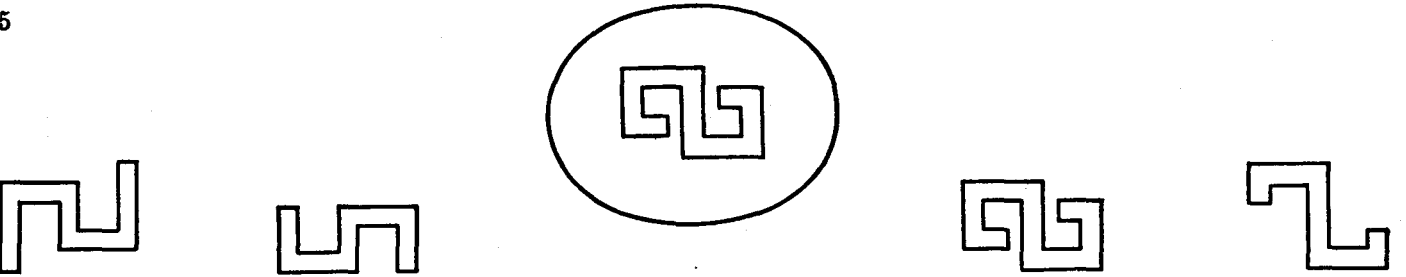
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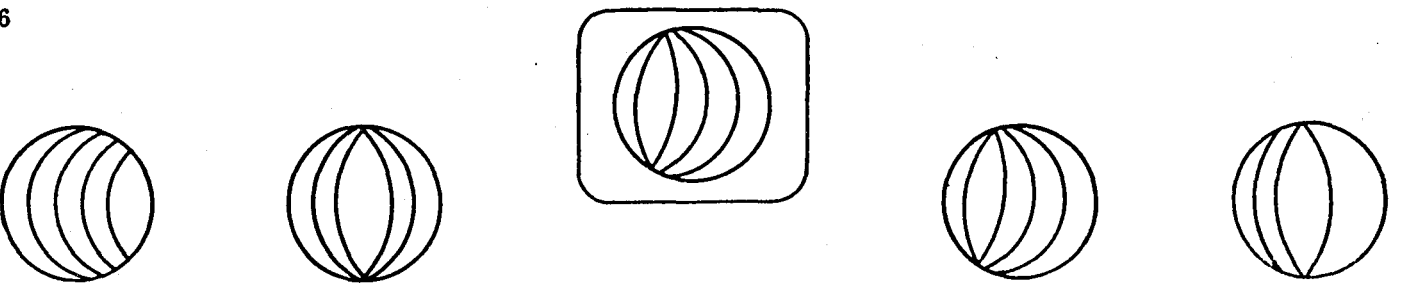
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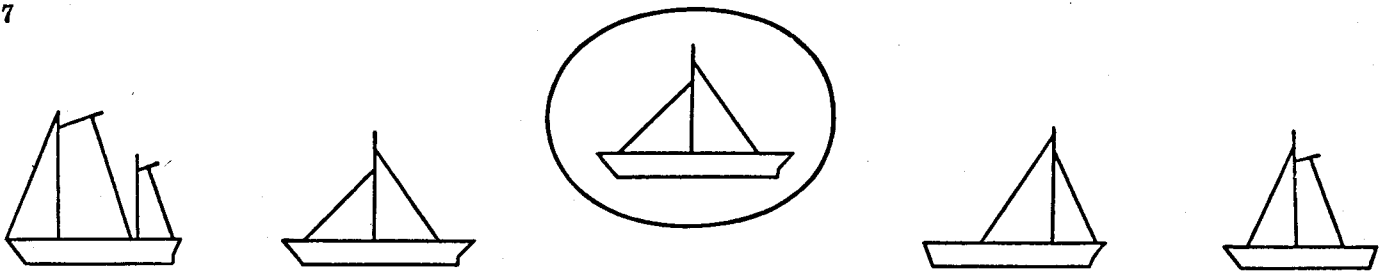
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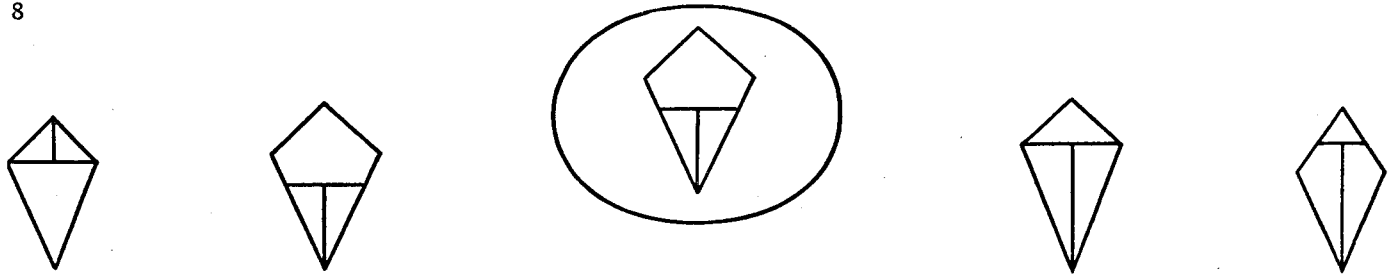
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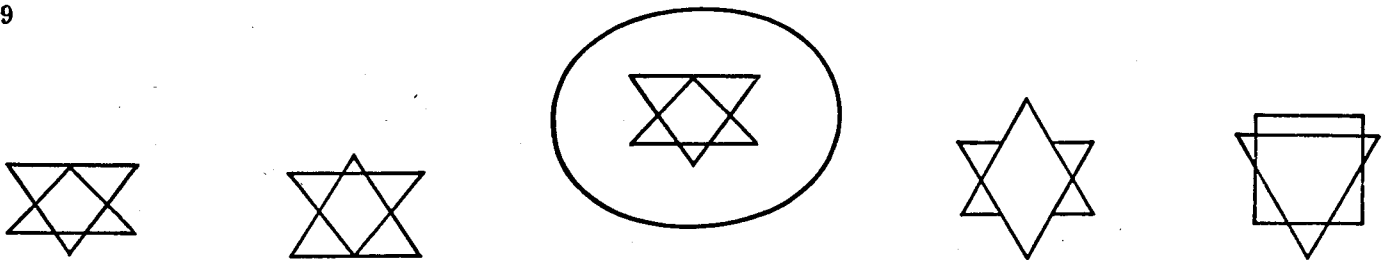
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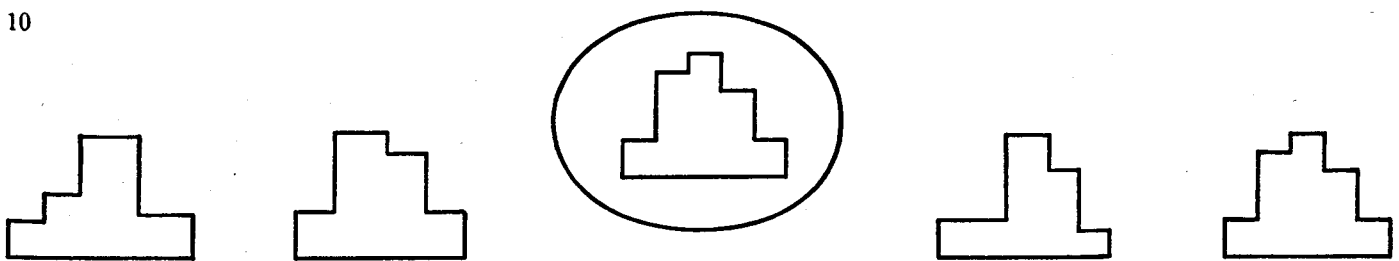
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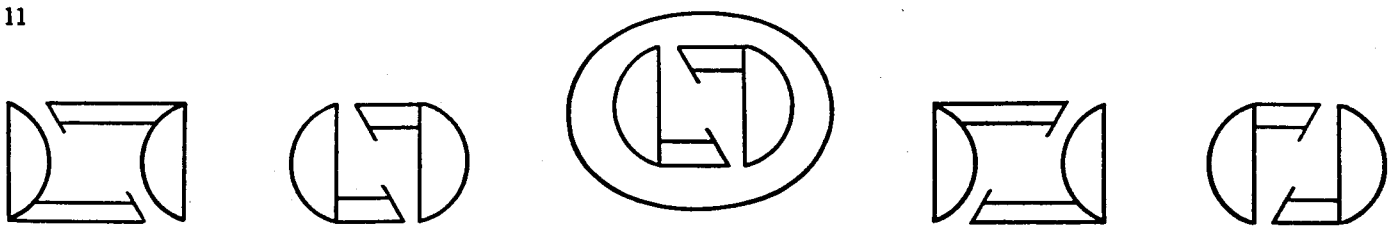
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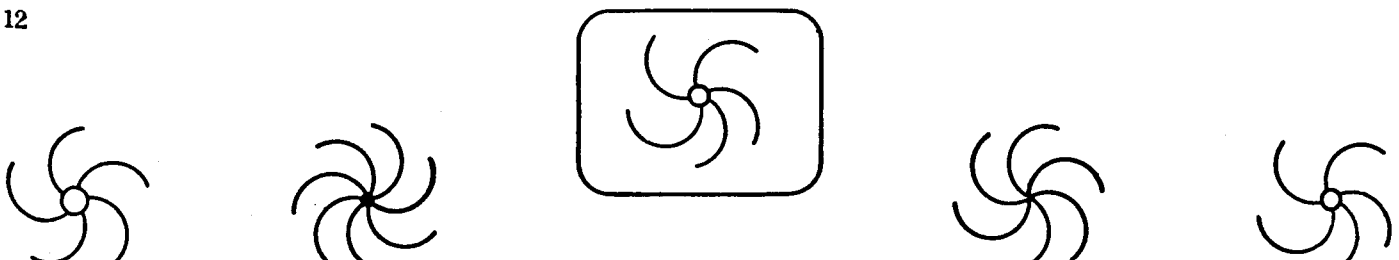
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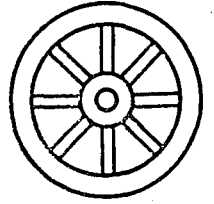
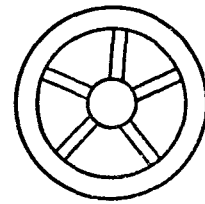
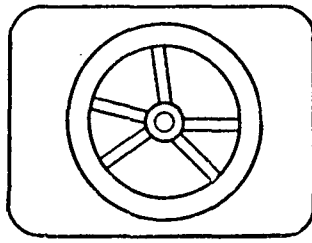
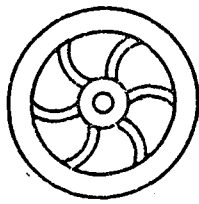
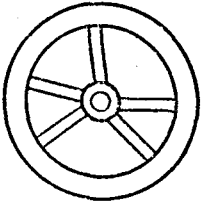
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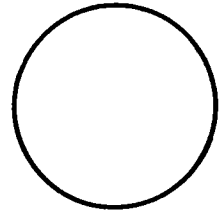
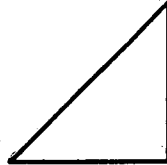
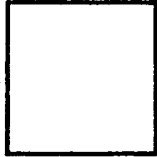
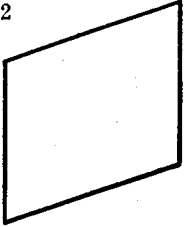
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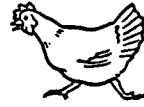
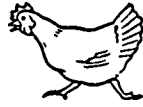
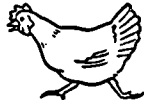
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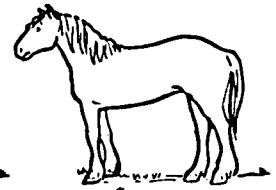
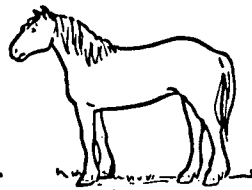
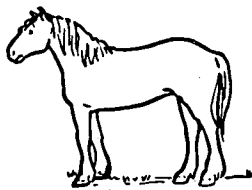
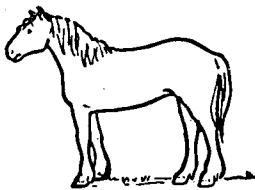
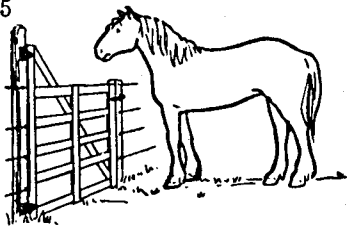
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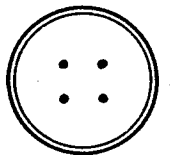
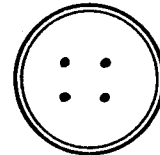
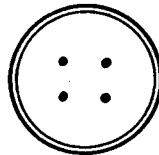
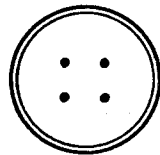
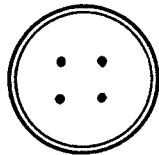
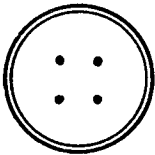
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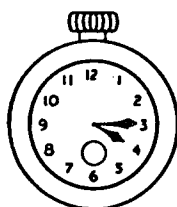
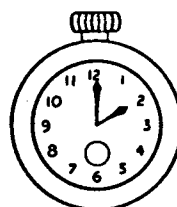
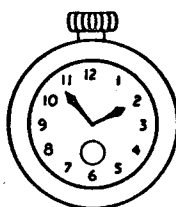
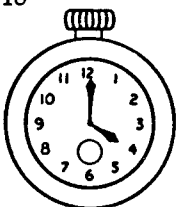
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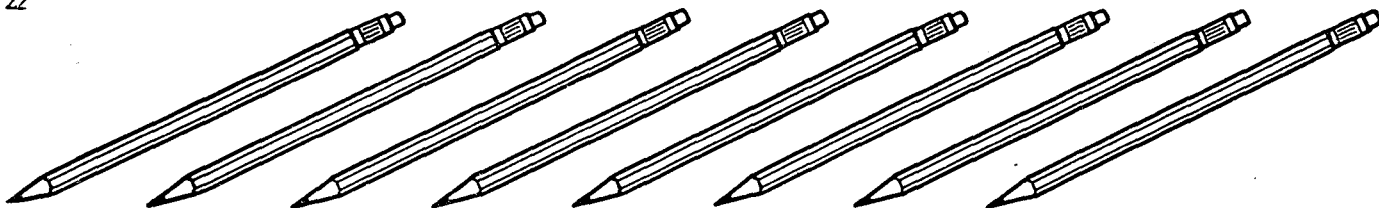
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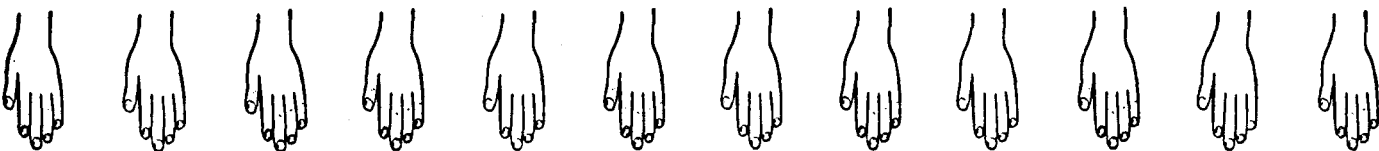
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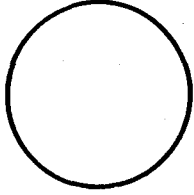


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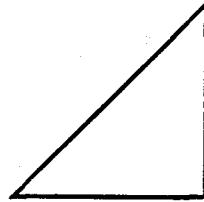


TEST 6. COPYING

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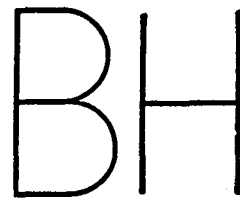
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1



7



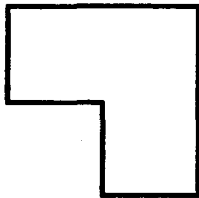
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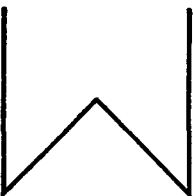
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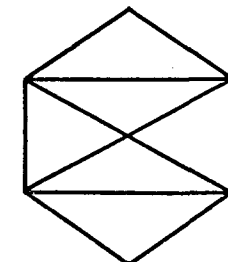
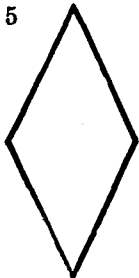


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APPENDIX B

May 5, 1962

Dear Parents,

Permission has been granted by the Superintendent of Schools for me to gather information for a study that I am making as a part of the requirements for the completion of my Master's Degree. The requested information will be treated in a confidential manner. The names of the children, parents, school, or county will not be included.

It would be very helpful if you would fill in the questionnaire and return it to school as soon as possible.

Your consideration of this request is greatly appreciated.

Sincerely,

Mrs. Ronald E. Hughes

Mrs. Ronald E. Hughes
Sixth Grade Teacher

APPENDIX C

INFORMATION TO OBTAIN FROM THE HOME

My child attended nursery school. Yes ___ No ___

Age at which he attended ___ years to ___ years

My child attended kindergarten. Yes ___ No ___

My child worships regularly. Yes ___ No ___

Age at which he began to worship regularly. ___ years to ___ years.

Mother was employed after the child was born. Yes ___ No ___

If employed, was it ___ in the home? ___ outside the home?

Age of child when the mother was employed ___ years to ___ years.

Mother is employed at present. Yes ___ No ___

My child was cared for by ___ maid (negro ___ white ___)
 ___ relative
 ___ neighbors
 ___ friend
 ___ nursery
 ___ kindergarten
 ___ other Name _____

Mother is employed from ___ (A.M., P.M.) to ___ (A.M., P.M.)
 ___ days per week

At present my child has ___ close playmates (those that he plays with
 at least three times each week not includ-
 ing brothers or sisters).

His playmates are generally ___ older ___ younger ___ the same age
 ___ same sex ___ opposite sex ___ both
 sexes

My child began to show interest in hearing stories at the age of

___ 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ not interested yet

My child began creating parts of stories at age of

___ 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ not interested yet

My child began asking many questions about "his world" at age of

 1 2 3 4 5 6 not interested yet

How would you answer this question if asked by your first grader?
Where does the light go when it gets dark? Explain.

Would you consider your child

 especially happy normally happy
 easily dissatisfied unhappy?

Some of the responsibilities of your child are:

My child enjoys television approximately hours each week.

My child reads or is read to approximately hours each week.

The mother's favorite magazines include:

The following sections of these magazines are enjoyed by the mother:

<u> </u> editorials	<u> </u> skims entire magazine
<u> </u> fiction stories	<u> </u> enjoys pictures only
<u> </u> human interest articles	<u> </u> seldom reads at all
<u> </u> technical articles	<u> </u> other

The mother reads approximately hours each week.

(Do not include reading newspaper and magazine articles.)

The mother's favorite pastime includes:

Some organizations to which the mother belongs include:

The mother spends approximately hours watching television each week.

The father's favorite magazines include:

The following sections of these magazines are enjoyed by the father:

<input type="checkbox"/> editorials	<input type="checkbox"/> enjoys pictures only
<input type="checkbox"/> fiction stories	<input type="checkbox"/> seldom reads at all
<input type="checkbox"/> human interest articles	<input type="checkbox"/> skims entire magazine
<input type="checkbox"/> technical articles	
<input type="checkbox"/> sports	

The father reads approximately _____ hours each week.
(Do not include reading newspaper and magazine articles.)

The father's favorite pastime includes:

The father spends approximately _____ hours watching television each week.

Some organizations to which the father belongs include:

The following reference materials are found in the home:

<input type="checkbox"/> dictionary
<input type="checkbox"/> atlas
<input type="checkbox"/> encyclopedias
<input type="checkbox"/> Other (include visual aids such as map, movies, etc.)

The family subscribes to a local newspaper. Yes No

Some group activities enjoyed by the entire family includes:

APPENDIX D

INFORMATION TO OBTAIN FROM THE SCHOOL

Child's Name _____
 (last) (first) (middle)

Date of Birth _____
 (month) (day) (year)

Telephone Number _____

Ages of Brother(s) _____

Ages of Sister(s) _____

Father's Education _____
 (Elem.) (Jr. High) (High) (College) (Graduate)

Father's Occupation _____

Mother's Education _____
 (Elem.) (Jr. High) (High) (College) (Graduate)

Mother's Occupation _____

Health Record 1961-1962

Number of days present _____
 Number of days absent _____
 Number of days tardy _____

Physical defects: Eyes _____ Ears _____ Heart _____ Others _____

Personal and Social Development

	(Superior)	(Above Av.)	(Av.)	(Below Av.)	(Poor)
Plays well with others	_____	_____	_____	_____	_____
Works well with others	_____	_____	_____	_____	_____
Shows leadership qualities	_____	_____	_____	_____	_____
Is accepted by the group	_____	_____	_____	_____	_____
Has learned to accept failure	_____	_____	_____	_____	_____

Work and Study Habits

	(Superior)	(Above Av.)	(Av.)	(Below Av.)	(Poor)
Listens and follows directions	_____	_____	_____	_____	_____
Attentive in class	_____	_____	_____	_____	_____
Completes tasks	_____	_____	_____	_____	_____
Does careful work	_____	_____	_____	_____	_____
Practices neatness	_____	_____	_____	_____	_____
Works well independently	_____	_____	_____	_____	_____
Contributes to group activities	_____	_____	_____	_____	_____
Works up to capacity	_____	_____	_____	_____	_____
Is conscientious	_____	_____	_____	_____	_____
Completes homework assignment	_____	_____	_____	_____	_____
Child shows competence in solving practical problems	_____	_____	_____	_____	_____
Finds something to do when assigned task is finished	_____	_____	_____	_____	_____
Takes care of property	_____	_____	_____	_____	_____

Metropolitan Readiness Test Results

Total percentile	_____
Word Meaning	_____
Sentences	_____
Information	_____
Matching	_____
TOTAL	_____

Reading Progress

	(Superior)	(Above Av.)	(Av.)	(Below Av.)	(Poor)
Comprehension and interpretation	_____	_____	_____	_____	_____
Independent reading	_____	_____	_____	_____	_____
Ability to locate information	_____	_____	_____	_____	_____
Ability to phonetic and structural analysis	_____	_____	_____	_____	_____
Ability to see relationship between ideas	_____	_____	_____	_____	_____
Semantic ability	_____	_____	_____	_____	_____
Ability to understand word meaning via context clue	_____	_____	_____	_____	_____
Ability to hear and see similarity in the sound of words	_____	_____	_____	_____	_____

Reading Progress

	(Superior)	(Above Av.)	(Av.)	(Below Av.)	(Poor)
Ability to relate events in proper sequence	_____	_____	_____	_____	_____
Shows interest in hearing stories	_____	_____	_____	_____	_____
Shows interest in reading stories	_____	_____	_____	_____	_____
Shows interest in telling stories	_____	_____	_____	_____	_____
Shows interest in creating stories	_____	_____	_____	_____	_____
Expresses thought clearly in writing	_____	_____	_____	_____	_____
Shows creative ability in com- position	_____	_____	_____	_____	_____
Can predict cause and effect relation	_____	_____	_____	_____	_____
Can predict cause and effect relationship	_____	_____	_____	_____	_____

Books read by the child this year include:

Basic

Supplementary

The child's total home environ- ment is	_____	_____	_____	_____	_____
Teacher-parent relationship has been	_____	_____	_____	_____	_____

The following are the special problems this child has had:

APPENDIX B

A SURVEY OF THE EDUCATIONAL RATING OF MAGAZINES

You have been selected to serve as a member of a board of jurors whose purpose is to evaluate the educational level of the following magazines. Please place an (A) following the magazines rated above average, a (B) following the magazines rated average and a (C) following the magazines rated below average.

<u>B</u> McCalls	<u>B</u> Field and Stream
<u>B</u> Ladies Home Journal	<u>B</u> Surf and Sports
<u>B</u> Good Housekeeping	<u>B</u> Hunting and Fishing
<u>B</u> American Home	<u>B</u> Popular Mechanics
<u>B</u> Saturday Evening Post	<u>B</u> Mechanics Illustrated
<u>B</u> Better Homes and Gardens	<u>B</u> Sports Afield
<u>B</u> House and Garden	<u>C</u> Sports
<u>C</u> Woman's Day	<u>C</u> Playboy
<u>C</u> Family Circle	<u>A</u> Business Week
<u>B</u> Life	<u>B</u> Outdoor Life
<u>B</u> Look	<u>A</u> Journal of Nursing
<u>B</u> Reader's Digest	<u>B</u> Church Magazine
<u>B</u> Parents	<u>B</u> Changing of Times
<u>C</u> Seventeen	<u>C</u> Living
<u>C</u> Photoplay	<u>B</u> Home Craftsman
<u>C</u> Screen	<u>C</u> The National Guardsman
<u>C</u> True Story	<u>B</u> Political Magazines
<u>B</u> Redbook	<u>A</u> Q.S.T. (magazine for radio amateurs)
<u>A</u> National Geographic	<u>A</u> C.Q. (magazine for radio amateurs)
<u>A</u> Time	<u>A</u> Fly-By (F.A.A. Publiciation)
<u>A</u> Newsweek	<u>A</u> Airways Engineering Society
<u>A</u> Wall Street Journal	<u>C</u> V.F.W. Bulletin
<u>A</u> Holiday	<u>C</u> Virginia Veteran
<u>A</u> Fortune	
<u>B</u> Sports Illustrated	
<u>C</u> True	

APPENDIX F

TABLE F₁

THE RELATION OF THE GIRLS' READING READINESS TO THE AMOUNT
OF TIME SPENT READING AS JUDGED BY THE
CHI SQUARE TEST OF INDEPENDENCE

	33-46	47-55	55-60	61-66	Total
0-5	11 (2.12)	1111 (3.71)	11111 11 (6.88)	11111 (5.29)	18
6-10	1 (1.65)	111 (2.88)	11111 (5.35)	11111 (4.12)	14
11-15	1 (.24)	(.41)	1 (.76)	(.59)	2
Total	4	7	13	10	34

Reading Readiness Categories

O	E	(O-E)	(O-E) ²	$\frac{(O-E)^2}{E}$
2	2.12	-.12	.0144	.0068
4	3.71	.29	.0841	.0226
7	6.88	.12	.0144	.0020
5	5.29	-.29	.0841	.0159
1	1.65	-.65	.4225	.0050
3	2.88	.12	.0144	.0050
5	5.35	-.35	.1225	.0234
5	4.12	.88	.7744	.1830
1	.24	.76	.5776	2.4066
0	.41	-.41	.1681	.4100
1	.76	.24	.0576	.0758
0	.59	-.59	.3481	.5900

$$\chi^2 = 3.7508$$

$$df = 6$$

$$\chi^2 .80+$$

TABLE F₂

THE RELATION OF THE GIRLS' READING READINESS TO THE AMOUNT
OF TIME SPENT READING BY THE MOTHERS AS JUDGED
BY THE CHI SQUARE TEST OF INDEPENDENCE

	38-46	47-55	56-60	61-66	Total
0-5	111 (3.27)	11111 (4.09)	11111 11111 11 (11.45)	11111 11 (8.18)	27
6-10	1 (.48)	(.61)	11 (1.70)	1 (1.21)	4
11-15	(.24)	(.30)	(.85)	11 (.61)	2
Total	4	5	14	10	33

Reading Readiness Categories:

O	E	(O-E)	(O-E) ²	$\frac{(O-E)^2}{E}$
3	3.27	-.27	.0729	.0223
5	4.09	.91	.8281	.2024
12	11.45	.55	.3025	.0264
7	8.18	-1.18	1.3924	.1702
1	.48	.52	.2704	.5630
0	.61	-.61	.3721	.6100
2	1.70	.30	.0900	.0529
1	1.21	-.21	.0441	.0729
0	.24	-.24	.0576	.2400
0	.30	-.30	.0900	.3000
0	.85	-.85	.7225	.8500
2	.61	1.39	1.9321	<u>3.1674</u>

$$\chi^2 = 5.6675$$

df = 6

χ^2 .50+

TABLE F₃

THE RELATION OF THE GIRLS' READING READINESS TO THE AMOUNT
OF TIME SPENT READING BY THE FATHERS AS JUDGED
BY THE CHI SQUARE TEST OF INDEPENDENCE

		33-46	47-55	56-60	61-66	Total
Hours Read Weekly By Father	0-5	111 (2.75)	1111 (3.44)	11111 11 (8.94)	11111 111 (6.88)	22
	6-10	(.88)	(1.09)	11111 (2.84)	11 (2.19)	7
	11-15	1 (.38)	1 (.47)	1 (1.22)	(.94)	3
	Total	4	5	13	10	32

Reading Readiness Categories

O	E	(O-E)	(O-E) ²	$\frac{(O-E)^2}{E}$
3	2.75	.25	.0625	.022
4	3.44	.56	.3136	.091
7	8.94	-1.94	3.7636	.421
8	6.88	1.12	1.2544	.182
0	.88	-.88	.7744	.880
0	1.09	-1.09	1.1881	1.090
4	2.84	1.16	1.3546	.477
2	2.19	-.19	.0361	.016
1	.38	.62	.3844	1.011
1	.47	.53	.2809	.598
1	1.22	-.22	.0484	.040
0	.94	-.94	.8836	.940

$$\chi^2 = 5.768$$

df = 6

 $\chi^2 .50+$

TABLE F₄

THE RELATION OF THE BOYS' READING READINESS TO THE AMOUNT
OF TIME SPENT READING AS JUDGED BY THE
CHI SQUARE TEST OF INDEPENDENCE

	0-32	33-46	47-55	56-60	61-66	Total
0-5	1 (.68)	1111 (2.72)	11111 111 (7.48)	11 (4.08)	11 (2.04)	17
6-10	(.24)	(.96)	1 (2.64)	1111 (1.44)	1 (.72)	6
11-20	(.08)	(.32)	11 (.88)	(.48)	(.23)	2
Total	1	4	10	6	3	25

Reading Readiness Categories

O	E	(O-E)	(O-E) ²	$\frac{(O-E)^2}{E}$
1	.68	.32	.1024	.1506
4	2.72	1.28	1.6384	.6023
3	7.48	.52	.2704	.0361
2	4.08	-2.08	4.3264	1.0604
2	2.04	-.04	.0016	.0008
0	.24	-.24	.0576	.2400
0	.96	-.96	.9216	.9600
1	2.64	-1.64	2.6896	1.0188
4	1.44	2.56	6.5536	4.5511
1	.72	.28	.0784	.1089
0	.08	-.08	.0064	.0800
0	.32	-.32	.1024	.3200
2	.88	1.12	1.2544	1.4254
0	.48	-.48	.2304	.4800
0	.23	-.23	.0529	.2300

$$\chi^2 = 10.4004$$

df=8

 $\chi^2 .20-$

TABLE F₅

THE RELATION OF THE BOYS' READING READINESS TO THE AMOUNT
OF TIME SPENT READING BY THE MOTHER AS JUDGED
BY THE CHI SQUARE TEST OF INDEPENDENCE

	0-32	33-46	47-55	56-60	61-66	Total
0-5	1 (.79)	1111 (3.96)	11111 1111 (7.92)	111 (4.75)	11 (1.58)	19
6-10	(.166)	1 (.833)	(1.66)	111 (1.00)	(.333)	4
11-15	(.041)	(.208)	1 (2.4)	(.25)	(.083)	1
Total	1	5	10	6	2	24

Reading Readiness Categories

O	E	(O-E)	(O-E) ²	$\frac{(O-E)^2}{E}$
1	.79	.21	.0441	.06
4	3.96	.04	.0016	.001
9	7.92	1.08	1.1664	.15
3	4.75	-1.75	3.0625	.623
2	1.58	.42	.1764	.017
0	.166	-.166	.0275	.166
1	.833	.167	.0279	.033
0	1.66	-1.66	2.7556	.166
3	1.00	2.00	4.0000	4.00
0	.333	-.333	.1108	.333
0	.041	-.041	.0016	.041
0	.208	-.208	.0432	.208
1	2.400	-1.400	1.9600	.816
0	.250	-.250	.0625	.250
0	.083	-.083	.0068	.083

$$\chi^2 = 6.947$$

df = 8

 $\chi^2 .50-$

TABLE F₆

THE RELATION OF THE BOYS' READING READINESS TO THE AMOUNT
OF TIME SPENT READING BY THE FATHERS AS JUDGED
BY THE CHI SQUARE TEST OF INDEPENDENCE

Hours Read Weekly By Father	33-46	47-55	56-60	61-66	Total
	0-5	1111 (2.92)	11111 1 (5.83)	111 (2.0)	1 (1.75)
6-10	1 (1.88)	111 (3.75)	111 (2.25)	11 (1.13)	9
11-15	(.208)	1 (.416)	(.25)	(1.25)	1
Total	5	10	6	3	24

Reading Readiness Categories:

O	E	(O-E)	(O-E) ²	$\frac{(O-E)^2}{E}$
4	2.92	1.08	1.1664	.399
6	5.83	.17	.0289	.005
3	2.00	1.00	1.0000	.500
1	1.75	-.75	.5625	.321
1	1.88	-.88	.7744	.401
3	3.75	-.75	.5625	.150
3	2.25	.75	.5625	.250
2	1.13	.87	.7569	.669
0	.208	-.208	.0432	.208
1	.416	.584	.3410	.819
0	.250	-.250	.0625	.25
0	.125	-.125	.0156	.125

$$\chi^2 = 4.097$$

df = 6

χ^2 .70+

TABLE F7

THE RELATION OF THE GIRLS' READING READINESS TO THE AMOUNT
OF TIME SPENT VIEWING TELEVISION AS JUDGED BY
THE CHI SQUARE TEST OF INDEPENDENCE

Hours Girls Viewed Television Weekly	33-46	47-55	56-60	61-66	Total
	0-5	11 (1.58)	1111 (2.77)	111 (4.98)	111 (3.82)
6-10	1 (1.76)	11 (3.09)	11111 1111 (5.73)	1111 (4.41)	15
11-20	1 (.71)	1 (1.29)	1 (2.29)	111 (1.76)	6
Total	4	7	13	10	34

Reading Readiness Categories

O	E	(O-E)	(O-E) ²	$\frac{(O-E)^2}{E}$
2	1.58	.42	.1764	.1116
4	2.77	1.23	1.5129	.5461
3	4.98	-1.98	3.9204	.7872
3	3.82	-.82	.6724	.1760
1	1.76	-.76	.5776	.3282
2	3.09	-1.09	1.1881	.3845
9	5.73	3.27	10.6929	1.8661
3	4.41	-.41	.1681	.0381
1	.71	.29	.0841	.118
1	1.29	-.29	.0841	.0652
1	2.29	-1.29	1.6641	.727
3	1.76	1.24	1.5376	.8736

$$\chi^2 = 6.0216$$

df = 6

 $\chi^2 .50+$

TABLE F₈

THE RELATION OF THE GIRLS' READING READINESS TO THE AMOUNT
OF TIME SPENT VIEWING TELEVISION BY THE MOTHERS AS
JUDGED BY THE CHI SQUARE TEST OF INDEPENDENCE

	38-46	47-55	56-60	61-66	Total
0-10	111 (2.94)	11111 1 (5.15)	11111 111 (9.56)	11111 111 (7.35)	25
11-20	.94 (.94)	1 (1.65)	11111 (3.06)	11 (2.35)	8
21-30	1 (.12)	.21 (.21)	.38 (.38)	.29 (.29)	1
Total	4	7	13	10	34

Hours Mother Viewed
Television Weekly

Reading Readiness Categories

O	E	(O-E)	(O-E) ²	$\frac{(O-E)^2}{E}$
3	2.94	.06	.0036	.0012
5	5.15	-.15	.0225	.0044
8	9.56	-1.56	2.4336	.2545
8	7.35	.65	.4225	.0575
0	.94	-.94	.8836	.9400
1	1.65	-.65	.4225	.2561
5	3.06	1.94	3.7636	1.2300
2	2.35	-1.35	1.2250	.5212
1	.12	.88	.7744	6.4533
0	.21	-.21	.0441	.2100
0	.38	-.38	.1444	.3800
0	.29	-.29	.0841	.2900

$$\chi^2 = 10.5982$$

df = 6

$\chi^2 .10^-$

TABLE F₉

THE RELATION OF THE GIRLS' READING READINESS TO THE AMOUNT
OF TIME SPENT VIEWING TELEVISION BY THE FATHERS AS
JUDGED BY THE CHI SQUARE TEST OF INDEPENDENCE

		33-46	47-55	56-60	61-66	Total
Hours Father Views Television Weekly	0-10	111 (2.54)	111 (4.45)	11111 111 (8.27)	11111 11 (5.73)	21
	11-20	1 (.97)	11 (1.69)	1111 (3.15)	1 (2.18)	8
	21-20	 (.48)	11 (.85)	1 (1.64)	1 (1.09)	4
	Total	4	7	13	9	33

Reading Readiness Categories

0	E	(O-E)	(O-E) ²	$\frac{(O-E)^2}{E}$
3	2.54	.46	.2116	.0833
3	4.45	-1.45	2.1025	.4724
8	8.27	-.27	.0729	.0088
7	5.73	1.27	1.6129	.2814
1	.97	.03	.0009	.0009
2	1.69	.31	.0961	.0569
4	3.15	.85	.7225	.2294
1	2.18	-1.18	1.3924	.6387
0	.48	-.48	.2304	.4800
2	.85	1.15	1.3225	1.5559
1	1.64	-.64	.4096	.2497
1	1.09	-.09	.0081	.0074

$$\chi^2 = 4.0648$$

df = 6

 $\chi^2 .70+$

TABLE F₁₀

THE RELATION OF THE BOYS' READING READINESS TO THE AMOUNT
OF TIME SPENT VIEWING TELEVISION AS JUDGED BY
THE CHI SQUARE TEST OF INDEPENDENCE

	0-32	33-46	47-55	56-60	61-66	Total
0-5	1 (.25)	1 (1.2)	1111 (2.4)	1 (1.68)	.48	6
6-10	.52	111 (2.6)	11111 (5.2)	111 (3.64)	11 (1.04)	13
11-20	1 (.25)	1 (1.2)	1 (2.4)	111 (1.68)	.48	6
Total	1	5	10	7	2	25

Reading Readiness Categories

O	E	(O-E)	(O-E) ²	$\frac{(O-E)^2}{E}$
0	.25	-.25	.0625	.250
0	1.20	-.20	.0400	.033
4	2.40	1.60	2.5600	1.067
1	1.68	-.68	.4624	.275
0	.48	-.48	.2304	.480
0	.52	-.52	.2704	.520
3	2.60	.40	.1600	.061
5	5.20	-.20	.0400	.008
3	3.64	-.64	.1792	.049
2	1.04	.96	.7396	.922
1	.25	.75	.5625	2.250
1	1.20	-.20	.0400	.033
1	2.40	-1.40	1.9600	.817
3	1.68	.32	.1024	.061
0	.48	-.48	.2304	.480

$$\chi^2 = 7.306$$

df = 8

 χ^2 .50-

TABLE F₁₁

THE RELATION OF THE BOYS' READING READINESS TO THE AMOUNT
OF TIME SPENT VIEWING TELEVISION BY THE MOTHERS AS
JUDGED BY THE CHI SQUARE TEST OF INDEPENDENCE

	28-46	47-55	56-60	61-66	Total
0-10	11 (3)	111 (5)	11111 (3)	11 (1)	12
10-20	1111 (2.25)	1111 (3.7)	1 (3.75)	(2.25)	9
21-30	(.75)	111 (1.25)	(.75)	(.25)	3
Total	6	10	6	2	24

Hours Mother Viewed
Television Weekly

Reading Readiness Categories

O	E	(O-E)	(O-E) ²	$\frac{(O-E)^2}{E}$
2	3.00	-1.00	1.0000	.3333
3	5.00	-2.00	4.0000	.8000
5	3.00	2.00	4.0000	1.3333
2	1.00	1.00	1.0000	1.0000
4	2.25	1.75	3.0625	1.3611
4	3.70	.30	.0900	.2432
1	3.75	-2.75	7.5625	2.0166
0	2.25	-2.25	5.0625	2.2500
0	.75	-.75	.5625	.7500
3	1.25	1.75	3.0625	2.4500
0	.75	-.75	.5625	.7500
0	.25	-.25	.0625	.2500

$$\chi^2 = 13.5375$$

df = 6

$\chi^2 .10$

TABLE F₁₂

THE RELATION OF THE BOYS' READING READINESS TO THE AMOUNT OF TIME SPENT VIEWING TELEVISION BY THE FATHERS AS JUDGED BY THE CHI SQUARE TEST OF INDEPENDENCE

Hours Father Viewed Tele vision Weekly	28-46	47-55	56-60	61-66	Total
	0-10	111 (3.54)	11111 11 (7.08)	11111 (4.25)	11 (2.13)
11-20	11 (1.46)	111 (2.92)	1 (1.75)	1 (.88)	7
Total	5	10	6	3	24

Reading Readiness Categories

O	E	(O-E)	(O-E) ²	$\frac{(O-E)^2}{E}$
3	3.54	-.54	.2916	.972
7	7.08	-.08	.0064	.001
5	4.25	.75	.5625	.113
2	2.13	-.13	.0169	.008
2	1.46	.64	.4069	.203
3	2.92	.08	.0064	.002
1	1.75	-.75	.5625	.563
1	.88	.12	.0144	.014

$$\chi^2 = 1.876$$

$$df = 3 \quad \chi^2_{70+}$$

TABLE F₁₃

THE RELATION OF THE GIRLS' HOME ENVIRONMENT TO THEIR
PROGRESS IN READING AS JUDGED BY THE
CHI SQUARE TEST OF INDEPENDENCE

		5-4	3	Total
Teacher's Estimate Reading Progress	48-80	11111 11111 111 (16.68)	11111 1111 (10.32)	27
	47-0	111 (4.32)	1111 (2.68)	7
	Total	21	13	34

Teacher's Estimate of Girls'
Home Environments

O	E	(O-E)	(O-E) ²	$\frac{(O-E)^2}{E}$
18	16.68	1.32	1.7424	.104
9	10.32	-1.32	1.7424	.169
3	4.32	-1.32	1.7424	.403
4	2.68	1.32	1.7424	.650

$$\chi^2 = 1.326$$

$$df = 1 \quad \chi^2 .30+$$

TABLE F₁₄

THE RELATION OF THE BOYS' HOME ENVIRONMENT TO THEIR
PROGRESS IN READING AS JUDGED BY THE
CHI SQUARE TEST OF INDEPENDENCE

Teacher's Estimate Reading Progress	5-4	3	2	Total
	48-80	11111 11 (4.2)	11111 111 (9)	(1.8)
47-0	(2.8)	11111 11 (6.0)	111 (1.2)	10
Total	7	15	3	25

Teacher's Estimate of Boys'
Home Environments

O	E	(O-E)	(O-E) ²	$\frac{(O-E)^2}{E}$
7	4.2	2.8	7.84	1.87
8	9.0	-1.0	1.00	.11
0	1.8	-1.8	3.24	1.80
0	2.8	-2.8	7.84	2.80
7	6.0	1.0	1.00	.17
3	1.2	1.8	3.24	2.70

$$\chi^2 = 9.45$$

$$df = 2$$

$$\chi^2 .01$$

APPENDIX G

TABLE G₁

CALCULATION OF THE RANK ORDER CORRELATION COEFFICIENT FOR
THE GIRLS' READING READINESS AND AGE IN MONTHS

Id. No.	X	Y	d	d ²
216	64 (1.5)	71 (33.5)	32.0	1024.00
219	64 (1.5)	73 (26.5)	25.0	625.00
205	63 (4)	82 (2.5)	1.5	2.25
222	63 (4)	71 (33.5)	29.5	870.25
225	63 (4)	80 (7)	3.0	9.00
229	62 (6)	77 (15)	9.0	81.00
212	61 (8.5)	78 (13)	4.5	20.25
217	61 (8.5)	73 (26.5)	18.0	324.00
228	61 (8.5)	76 (18)	9.5	90.25
232	61 (8.5)	82 (2.5)	6.0	36.00
209	60 (11.5)	79 (11)	.5	.25
231	60 (11.5)	72 (30.5)	19.0	361.00
201	59 (14.5)	74 (22.5)	8.0	64.00
204	59 (14.5)	80 (7)	7.5	56.25
208	59 (14.5)	83 (1)	13.5	182.25
220	59 (14.5)	72 (30.5)	16.0	256.00
207	58 (18)	76 (18)	.0	.00
221	58 (18)	80 (7)	11.0	121.00
223	58 (18)	73 (26.5)	8.5	72.25
202	57 (21.5)	77 (15)	6.5	42.25
203	57 (21.5)	76 (18)	3.5	12.25
206	57 (21.5)	79 (11)	10.5	110.25
226	57 (21.5)	73 (26.5)	5.0	25.00
211	54 (25)	74 (22.5)	2.5	6.25
215	54 (25)	80 (7)	18.0	324.00
218	54 (25)	81 (4)	21.0	441.00
233	53 (27)	74 (22.5)	4.5	20.25
200	52 (28)	72 (30.5)	2.5	6.25
230	50 (29)	72 (30.5)	1.5	2.25
227	49 (30)	79 (11)	19.0	361.00
224	42 (31)	75 (20)	11.0	121.00
214	41 (32)	77 (15)	17.0	289.00
210	40 (33)	74 (22.5)	10.5	110.25
213	38 (34)	80 (7)	27.0	729.00

N=34

$$\sum d^2 = 6795.00$$

$$\rho = 1 - \frac{6\sum d^2}{N(N^2-1)} = 1 - \frac{40770}{39270} = 1 - 1.04 = -.04$$

TABLE G₂

CALCULATION OF THE RANK ORDER CORRELATION COEFFICIENT FOR
THE BOYS' READING READINESS AND AGE IN MONTHS

Id. No.	X	Y	d	d ²
106	66 (1)	78 (9.5)	8.5	72.25
114	62 (2.5)	76 (13.5)	11.0	121.00
121	62 (2.5)	72 (22)	19.5	380.25
102	59 (4.5)	80 (4.5)	.0	.00
117	59 (4.5)	73 (17.5)	13.0	169.00
103	58 (6.5)	71 (25)	18.5	342.25
119	58 (6.5)	78 (9.5)	3.0	9.00
113	56 (8.5)	72 (22)	13.5	182.25
123	56 (8.5)	73 (17.5)	9.0	81.00
111	55 (10.5)	82 (2)	8.5	72.25
115	55 (10.5)	82 (2)	8.5	72.25
122	54 (12.5)	73 (17.5)	5.0	25.00
124	54 (12.5)	76 (13.5)	1.0	1.00
100	53 (15)	82 (2)	13.0	169.00
101	53 (15)	76 (13.5)	1.5	2.25
108	53 (15)	76 (13.5)	1.5	2.25
109	51 (17)	72 (22)	5.0	25.00
112	47 (18.5)	73 (17.5)	1.0	1.00
116	47 (18.5)	79 (7)	11.5	132.25
107	45 (20)	77 (11)	9.0	81.00
118	44 (21)	80 (4.5)	16.5	272.25
105	41 (22)	72 (22)	.0	.00
110	40 (23)	79 (7)	16.0	256.00
120	34 (24)	79 (7)	17.0	289.00
104	28	72 (22)	3.0	9.00

N=25

 $\sum d^2 = 3212.00$

$$r = 1 - \frac{6 \sum d^2}{N(N^2-1)} = 1 - \frac{19272}{15600} = 1 - 1.23 = -.23$$

TABLE G₃

CALCULATION OF THE RANK ORDER CORRELATION COEFFICIENT FOR
THE GIRLS' READING READINESS AND PERSONAL
AND SOCIAL DEVELOPMENT SCORES

Id. No.	X	Y	d	d ²
216	64 (1.5)	24 (3)	1.5	2.25
219	64 (1.5)	20 (10)	8.5	72.25
205	63 (4)	25 (1.5)	2.5	6.25
222	63 (4)	23 (4.5)	.5	.25
225	63 (4)	20 (10)	6.0	36.00
229	62 (6)	14 (29.5)	23.5	552.25
212	61 (8.5)	14 (29.5)	21.0	441.00
217	61 (8.5)	15 (22.5)	14.0	196.00
228	61 (8.5)	14 (29.5)	21.0	441.00
232	61 (8.5)	25 (1.5)	7.0	49.00
209	60 (11.5)	23 (4.5)	7.0	49.00
231	60 (11.5)	20 (10)	1.5	2.25
201	59 (14.5)	20 (10)	4.5	20.25
204	59 (14.5)	14 (29.5)	15.0	225.00
208	59 (14.5)	15 (22.5)	8.0	64.00
220	59 (14.5)	15 (22.5)	8.0	64.00
207	58 (18)	17 (16.5)	1.5	2.25
221	58 (18)	14 (29.5)	11.5	132.25
223	58 (18)	19 (14)	4.0	16.00
202	57 (21.5)	17 (16.5)	5.0	25.00
203	57 (21.5)	14 (29.5)	8.0	64.00
206	57 (21.5)	21 (6.5)	15.0	225.00
226	57 (21.5)	16 (18.5)	3.0	9.00
211	54 (25)	20 (10)	15.0	225.00
215	54 (25)	21 (6.5)	18.5	342.25
218	54 (25)	19 (14)	11.0	121.00
233	53 (27)	15 (22.5)	4.5	20.25
200	52 (28)	16 (18.5)	9.5	90.25
230	50 (29)	15 (22.5)	6.5	42.25
227	49 (30)	14 (29.5)	.5	.25
224	42 (31)	15 (22.5)	8.5	72.25
214	41 (32)	13 (34)	2.0	4.00
210	40 (33)	14 (29.5)	3.5	12.25
<u>213</u>	<u>38 (34)</u>	<u>19 (14)</u>	<u>20.0</u>	<u>400.00</u>

N=34

 $\sum d^2 = 4024.00$

$$r = 1 - \frac{6\sum d^2}{N(N^2-1)} = 1 - \frac{24144}{39270} = 1 - .615 = .385$$

TABLE G4

CALCULATION OF THE RANK ORDER CORRELATION COEFFICIENT FOR
THE BOYS' READING READINESS AND PERSONAL AND
SOCIAL DEVELOPMENT SCORES

Id. No.	X	Y	d	d ²
106	66 (1)	17 (7)	6.0	36.00
114	62 (2.5)	13 (22)	19.5	380.25
121	62 (2.5)	20 (1.5)	1.0	1.00
102	59 (4.5)	15 (13.5)	9.0	81.00
117	59 (4.5)	16 (9)	4.5	20.25
103	58 (6.5)	20 (1.5)	5.0	25.00
119	58 (6.5)	19 (3.5)	3.0	9.00
113	56 (8.5)	15 (13.5)	5.0	25.00
123	56 (8.5)	15 (13.5)	5.0	25.00
111	55 (10.5)	10 (25)	14.5	210.25
115	55 (10.5)	18 (5.5)	5.0	25.00
122	54 (12.5)	16 (9)	3.5	12.25
124	54 (12.5)	15 (13.5)	1.0	1.00
100	53 (15)	18 (5.5)	9.5	90.25
101	53 (15)	14 (18.5)	3.5	12.25
108	53 (15)	14 (18.5)	3.5	12.25
109	51 (17)	13 (22)	5.0	25.00
112	47 (18.5)	15 (13.5)	5.0	25.00
116	47 (18.5)	19 (3.5)	5.0	25.00
107	45 (20)	12 (24)	4.0	16.00
118	44 (21)	15 (13.5)	7.5	56.25
105	41 (22)	14 (18.5)	3.5	12.25
110	40 (23)	13 (22)	1.0	1.00
120	34 (24)	16 (9)	15.0	225.00
104	28 (25)	14 (18.5)	6.5	42.25

N=25

 $\sum d^2 = 1393.50$

$$\rho = 1 - \frac{6\sum d^2}{N(N^2-1)} = 1 - \frac{8361}{15600} = 1 - .536 = .464$$

TABLE G₅

CALCULATION OF THE RANK ORDER CORRELATION COEFFICIENT FOR
THE GIRLS' READING READINESS AND WORK
AND STUDY SKILLS SCORE

Id. No.	X	Y	d	d ²
216	64 (1.5)	65 (2.5)	1.0	1.00
219	64 (1.5)	51 (15.5)	14.0	196.00
205	63 (4)	25 (33)	29.0	841.00
222	63 (4)	62 (6)	2.0	4.00
225	63 (4)	51 (15.5)	11.5	132.25
229	62 (6)	58 (7)	1.0	1.00
212	61 (8.5)	53 (9)	.5	.25
217	61 (8.5)	38 (26.5)	18.0	324.00
228	61 (8.5)	37 (28.5)	20.0	400.00
232	61 (8.5)	65 (2.5)	6.0	36.00
209	60 (11.5)	65 (2.5)	9.0	81.00
231	60 (11.5)	52 (11.5)	.0	.00
201	59 (14.5)	52 (11.5)	3.0	9.00
204	59 (14.5)	56 (8)	6.5	42.25
208	59 (14.5)	39 (24)	9.5	90.25
220	59 (14.5)	47 (19)	4.5	20.25
207	58 (18)	45 (21)	3.0	9.00
221	58 (18)	65 (2.5)	15.5	240.25
223	58 (18)	52 (11.5)	6.5	42.25
202	57 (21.5)	34 (31)	9.5	90.25
203	57 (21.5)	38 (26.5)	5.0	25.00
206	57 (21.5)	64 (5)	16.5	272.25
226	57 (21.5)	51 (15.5)	6.0	36.00
211	54 (25)	51 (15.5)	9.5	90.25
215	54 (25)	40 (20)	5.0	25.00
218	54 (25)	64 (12.5)	12.5	156.25
233	53 (27)	44 (30.5)	3.5	12.25
200	52 (28)	57 (20)	8.0	64.00
230	50 (29)	48 (26.5)	2.5	6.25
227	49 (30)	43 (32)	2.0	4.00
224	42 (31)	47 (28)	3.0	9.00
214	41 (32)	23 (34)	2.0	4.00
210	40 (33)	35 (35)	.0	.00
<u>213</u>	38 (34)	64 (12.5)	21.5	<u>462.25</u>

N=34

 $\sum d^2 = 3726.50$

$$\rho = 1 - \frac{6\sum d^2}{N(N^2-1)} = 1 - \frac{22359}{39270} = 1 - .569 = .431$$

TABLE G₆

CALCULATION OF THE RANK ORDER CORRELATION COEFFICIENT FOR
THE BOYS' READING READINESS AND WORK
AND STUDY SKILLS SCORES

Id. No.	X	Y	d	d ²
106	66 (1)	59 (2)	1.0	1.00
114	62 (2.5)	42 (6)	3.5	12.25
121	62 (2.5)	50 (3)	.5	.25
102	59 (4.5)	36 (16)	11.5	132.25
117	59 (4.5)	42 (6)	1.5	2.25
103	58 (6.5)	45 (4)	2.5	6.25
119	58 (6.5)	37 (13.5)	7.0	49.00
113	56 (8.5)	38 (11.5)	3.0	9.00
123	56 (8.5)	39 (9)	.5	.25
111	55 (10.5)	33 (22)	11.5	132.25
115	55 (10.5)	38 (11.5)	1.0	1.00
122	54 (12.5)	36 (16)	3.5	12.25
124	54 (12.5)	39 (9)	3.5	12.25
100	53 (15)	37 (13.5)	1.5	2.25
101	53 (15)	34 (19.5)	4.5	20.25
108	53 (15)	34 (19.5)	4.5	20.25
109	51 (17)	36 (16)	1.0	1.00
112	47 (18.5)	39 (9)	9.5	90.25
116	47 (18.5)	41 (6)	12.5	156.25
107	45 (20)	24 (25)	5.0	25.00
118	44 (21)	34 (19.5)	1.5	2.25
105	41 (22)	34 (19.5)	2.5	6.25
110	40 (23)	27 (24)	1.0	1.00
120	34 (24)	61 (1)	23.0	529.00
104	28 (25)	29 (23)	2.0	4.00

N=25

 $\sum d^2 = 1228.00$

$$\rho = 1 - \frac{6\sum d^2}{N(N^2-1)} = 1 - \frac{7368}{15600} = 1 - .472 = .528$$

TABLE G7

CALCULATION OF THE RANK ORDER CORRELATION COEFFICIENT FOR
THE GIRLS' READING READINESS
AND READING PROGRESS

Id. No.	X	Y	d	d ²
216	64 (1.5)	80 (2.5)	1.0	1.00
219	64 (1.5)	60 (18)	16.5	272.25
205	63 (4)	80 (2.5)	1.5	2.25
222	63 (4)	75 (5.5)	1.5	2.25
225	63 (4)	64 (12.5)	8.5	72.25
229	62 (6)	72 (8)	2.0	4.00
212	61 (8.5)	64 (12.5)	4.0	16.00
217	61 (8.5)	48 (26.5)	18.0	324.00
228	61 (8.5)	44 (30.5)	22.0	484.00
232	61 (8.5)	80 (2.5)	6.0	36.00
209	60 (11.5)	80 (2.5)	9.0	81.00
231	60 (11.5)	64 (12.5)	1.0	1.00
201	59 (14.5)	64 (12.5)	2.0	4.00
204	59 (14.5)	57 (20)	5.5	30.25
208	59 (14.5)	64 (12.5)	2.0	4.00
220	59 (14.5)	56 (22.5)	8.0	64.00
207	58 (18)	57 (20)	2.0	4.00
221	58 (18)	74 (7)	11.0	121.00
223	58 (18)	52 (24)	6.0	36.00
202	57 (21.5)	64 (12.5)	9.0	81.00
203	57 (21.5)	50 (25)	3.5	12.25
206	57 (21.5)	75 (5.5)	16.0	256.00
226	57 (21.5)	56 (22.5)	1.0	1.00
211	54 (25)	63 (17)	8.0	64.00
215	54 (25)	46 (29)	4.0	16.00
218	54 (25)	64 (12.5)	12.5	156.25
233	53 (27)	44 (30.5)	3.5	12.25
200	52 (28)	57 (20)	8.0	64.00
230	50 (29)	48 (26.5)	2.5	6.25
227	49 (30)	43 (32)	2.0	4.00
224	42 (31)	47 (28)	3.0	9.00
214	41 (32)	23 (34)	2.0	4.00
210	40 (33)	35 (33)	.0	.00
<u>213</u>	<u>38 (34)</u>	<u>64 (12.5)</u>	<u>21.5</u>	<u>462.25</u>

N=34

 $\sum d^2 = 2707.50$

$$r = 1 - \frac{6\sum d^2}{N(N^2-1)} = 1 - \frac{16245}{39270} = 1 - .413 = .587$$

TABLE G₈

CALCULATION OF THE RANK ORDER CORRELATION COEFFICIENT FOR
THE BOYS' READING READINESS
AND READING PROGRESS

Id. No.	X	Y	d	d ²
106	66 (1)	80 (1)	.0	.00
114	62 (2.5)	47 (16)	13.5	182.25
121	62 (2.5)	58 (6)	3.5	12.25
102	59 (4.5)	48 (11.5)	7.0	49.00
117	59 (4.5)	56 (7)	2.5	6.25
103	58 (6.5)	63 (3)	3.5	12.25
119	58 (6.5)	61 (4)	2.5	6.25
113	56 (8.5)	48 (11.5)	3.0	9.00
123	56 (8.5)	48 (11.5)	3.0	9.00
111	55 (10.5)	60 (5)	5.5	30.25
115	55 (10.5)	48 (11.5)	1.0	1.00
122	54 (12.5)	46 (17)	4.5	20.25
124	54 (12.5)	48 (11.5)	1.0	1.00
100	53 (15)	36 (20)	5.0	25.00
101	53 (15)	43 (18)	3.0	9.00
108	53 (15)	35 (21)	6.0	36.00
109	51 (17)	37 (19)	2.0	4.00
112	47 (18.5)	48 (11.5)	7.0	49.00
116	47 (18.5)	48 (11.5)	7.0	49.00
107	45 (20)	32 (22.5)	2.5	6.25
118	44 (21)	48 (11.5)	9.5	90.25
105	41 (22)	31 (24.5)	2.5	6.25
110	40 (23)	32 (22.5)	.5	.25
120	34 (24)	75 (2)	22.0	484.00
104	28 (25)	31 (24.5)	.5	.25

N=25

 $\sum d^2 = 1098.00$

$$r = 1 - \frac{6\sum d^2}{N(N^2-1)} = 1 - \frac{6588}{15600} = 1 - .422 = .578$$

TABLE G₉

CALCULATION OF THE RANK ORDER CORRELATION COEFFICIENT FOR
THE GIRLS' READING PROGRESS AND PERSONAL
AND SOCIAL DEVELOPMENT SCORES

Id. No.	X	Y	d	d ²
205	80 (2.5)	25 (1.5)	1.0	1.00
209	80 (2.5)	23 (4.5)	2.0	4.00
216	80 (2.5)	24 (3)	.5	.25
232	80 (2.5)	25 (1.5)	1.0	1.00
206	75 (5.5)	21 (6.5)	1.0	1.00
222	75 (5.5)	23 (4.5)	1.0	1.00
221	74 (7)	14 (29.5)	22.5	506.25
229	72 (8)	14 (29.5)	21.5	462.25
201	64 (12.5)	20 (10)	2.5	6.25
202	64 (12.5)	17 (16.5)	4.0	16.00
208	64 (12.5)	15 (22.5)	10.0	100.00
212	64 (12.5)	14 (29.5)	7.0	49.00
213	64 (12.5)	19 (14)	1.5	2.25
225	64 (12.5)	20 (10)	2.5	6.25
218	64 (12.5)	19 (14)	1.5	2.25
231	64 (12.5)	20 (10)	2.5	6.25
211	63 (17)	20 (10)	7.0	49.00
219	60 (18)	20 (10)	8.0	64.00
200	57 (20)	16 (18.5)	1.5	2.25
204	57 (20)	14 (29.5)	9.5	90.25
207	57 (20)	17 (16.5)	3.5	12.25
220	56 (22.5)	15 (22.5)	.0	.00
226	56 (22.5)	16 (18.5)	4.0	16.00
223	52 (24)	19 (14)	10.0	100.00
203	50 (25)	14 (29.5)	4.5	20.25
217	48 (26.5)	15 (22.5)	4.0	16.00
230	48 (26.5)	15 (22.5)	4.0	16.00
224	47 (28)	15 (22.5)	5.5	30.25
215	46 (29)	21 (6.5)	22.5	506.25
228	44 (30.5)	14 (29.5)	1.0	1.00
233	44 (30.5)	15 (22.5)	8.0	64.00
227	43 (32)	14 (29.5)	2.5	6.25
210	35 (33)	14 (29.5)	3.5	12.25
<u>214</u>	<u>23 (34)</u>	<u>13 (34)</u>	<u>.0</u>	<u>.00</u>

N=34

 $\sum d^2 = 2171.00$

$$\rho = 1 - \frac{6\sum d^2}{N(N^2-1)} = 1 - \frac{13026}{39270} = 1 - .332 = .668$$

TABLE G₁₀

CALCULATION OF THE RANK ORDER CORRELATION COEFFICIENT FOR
THE BOYS' READING PROGRESS AND PERSONAL
AND SOCIAL DEVELOPMENT

Id. No.	X	Y	d	d ²
106	80 (1)	17 (7)	6.0	36.00
120	75 (2)	16 (9)	7.0	49.00
103	63 (3)	20 (1.5)	1.5	2.25
119	61 (4)	19 (3.5)	.5	.25
111	60 (5)	10 (25)	5.0	25.00
121	58 (6)	20 (1.5)	4.5	20.25
117	56 (7)	16 (9)	2.0	4.00
102	48 (11.5)	15 (13.5)	2.0	4.00
112	48 (11.5)	15 (13.5)	2.0	4.00
113	48 (11.5)	15 (13.5)	2.0	4.00
115	48 (11.5)	18 (5.5)	6.0	36.00
116	48 (11.5)	19 (3.5)	8.0	64.00
118	48 (11.5)	15 (13.5)	2.0	4.00
123	48 (11.5)	15 (13.5)	2.0	4.00
124	48 (11.5)	15 (13.5)	2.0	4.00
114	47 (16)	13 (22)	6.0	36.00
122	46 (17)	16 (9)	8.0	64.00
101	43 (18)	14 (18.5)	.5	.25
109	37 (19)	13 (22)	3.0	9.00
100	36 (20)	18 (5.5)	14.5	210.25
108	35 (21)	14 (18.5)	2.5	6.25
107	32 (22.5)	12 (24)	1.5	2.25
110	32 (22.5)	13 (22)	.5	.25
105	31 (24.5)	14 (18.5)	6.0	36.00
104	31 (24.5)	14 (18.5)	6.0	36.00

N=25

 $\sum d^2 = 661.00$

$$\rho = 1 - \frac{6\sum d^2}{N(N^2-1)} = 1 - \frac{3966}{15600} = 1 - .254 = .746$$

TABLE G₁₁

CALCULATION OF THE RANK ORDER CORRELATION COEFFICIENT FOR
THE GIRLS' READING PROGRESS AND WORK
AND STUDY SKILLS SCORES

Id. No.	X	Y	d	d ²
205	80 (2.5)	25 (33)	30.5	930.25
209	80 (2.5)	65 (2.5)	.0	.00
216	80 (2.5)	65 (2.5)	.0	.00
232	80 (2.5)	65 (2.5)	.0	.00
206	75 (5.5)	64 (5)	.5	.25
222	75 (5.5)	62 (6)	.5	.25
221	74 (7)	65 (2.5)	4.5	20.25
229	72 (8)	58 (7)	1.0	1.00
201	64 (12.5)	52 (11.5)	1.0	1.00
202	64 (12.5)	34 (31)	18.5	342.25
208	64 (12.5)	39 (24)	11.5	132.25
212	64 (12.5)	53 (9)	3.5	12.25
213	64 (12.5)	49 (18)	5.5	30.25
225	64 (12.5)	51 (15.5)	3.0	9.00
218	64 (12.5)	52 (11.5)	1.0	1.00
231	64 (12.5)	52 (11.5)	1.0	1.00
211	63 (17)	51 (15.5)	1.5	2.25
219	60 (18)	51 (15.5)	2.5	6.25
200	57 (20)	46 (20)	.0	.00
204	57 (20)	56 (8)	12.0	144.00
207	57 (20)	45 (21)	1.0	1.00
220	56 (22.5)	47 (19)	3.5	12.25
226	56 (22.5)	51 (15.5)	7.0	49.00
223	52 (24)	52 (11.5)	12.5	156.25
203	50 (25)	38 (26.5)	1.5	2.25
217	48 (26.5)	38 (26.5)	.0	.00
230	48 (26.5)	39 (24)	2.5	6.25
224	47 (28)	37 (28.5)	.5	.25
215	46 (29)	40 (20)	9.0	81.00
233	44 (30.5)	36 (30)	.5	.25
228	44 (30.5)	37 (28.5)	2.0	4.00
227	43 (32)	39 (24)	8.0	64.00
210	35 (33)	27 (32)	1.0	1.00
214	23 (34)	20 (34)	.0	.00

N=34

 $\sum d^2 = 2011.00$

$$r = 1 - \frac{6\sum d^2}{N(N^2-1)} = 1 - \frac{12066}{39270} = 1 - .307 = .693$$

TABLE G₁₂

CALCULATION OF THE RANK ORDER CORRELATION COEFFICIENT FOR
THE BOYS' READING PROGRESS AND WORK
AND STUDY SKILLS SCORES

Id. No.	X	Y	d	d ²
106	80 (1)	59 (2)	1.0	1.00
120	75 (2)	61 (1)	1.0	1.00
103	63 (3)	45 (4)	1.0	1.00
119	61 (4)	37 (13.5)	9.5	90.25
111	60 (5)	33 (22)	17.0	289.00
121	58 (6)	50 (3)	3.0	9.00
117	56 (7)	42 (6)	1.0	1.00
102	48 (11.5)	36 (16)	4.5	20.25
112	48 (11.5)	39 (9)	2.5	6.25
113	48 (11.5)	38 (11.5)	.0	.00
115	48 (11.5)	38 (11.5)	.0	.00
116	48 (11.5)	41 (6)	5.5	30.25
118	48 (11.5)	34 (19.5)	8.0	64.00
123	48 (11.5)	39 (9)	2.5	6.25
124	48 (11.5)	39 (9)	2.5	6.25
114	47 (16)	42 (6)	10.0	100.00
122	46 (17)	36 (16)	1.0	1.00
101	43 (18)	34 (19.5)	1.5	2.25
109	37 (19)	36 (16)	3.0	9.00
100	36 (20)	37 (13.5)	6.5	42.25
108	35 (21)	34 (19.5)	1.5	2.25
107	32 (22.5)	24 (25)	2.5	6.25
110	32 (22.5)	27 (24)	1.5	2.25
105	31 (24.5)	34 (19.5)	5.0	25.00
104	31 (24.5)	29 (23)	1.5	2.25

N=25

 $\sum d^2 = 718.00$

$$r = 1 - \frac{6\sum d^2}{N(N^2-1)} = 1 - \frac{4308}{15600} = 1 - .276 = .724$$

APPENDIX H

TABLE H₁

THE RELATION OF THE GIRLS' READING READINESS TO
ATTENDANCE AT KINDERGARTEN AS JUDGED
BY FISHER'S EXACT PROBABILITY

	Satisfactory Readiness	Unsatisfactory Readiness	Total
Kindergarten Students	11111 1		6
Non- Kindergarten Students	11111 11111 11111 11111 11111	111	28
Total	31	3	34

$$p = \frac{(A + B)! (C + D)! (A + C)! (B + D)!}{N! A! B! C! D!}$$

$$p = \frac{(6)! (28)! (31)! (3)!}{(34)! (6)! (0)! (25)! (3)!}$$

$$p = \frac{31! 30! 29! 28!}{34! 33! 32!}$$

$$p = .0195$$

$$p = .02$$

TABLE H₂

THE RELATION OF THE BOYS' READING READINESS TO
ATTENDANCE AT KINDERGARTEN AS JUDGED
BY FISHER'S EXACT PROBABILITY

	Satisfactory Readiness	Unsatisfactory Readiness	Total
Kindergarten Students	11111		5
Non- Kindergarten Students	11111 11111 1111	11111 1	20
Total	19	6	25

$$p = \frac{(A + B)! (C + D)! (A + C)! (B + D)!}{N! A! B! C! D!}$$

$$p = \frac{5! 20! 19! 6!}{25! 5! 0! 14! 6!}$$

$$p = \frac{20! 19!}{25! 14!}$$

$$p = .0115$$

$$p = .01$$

APPENDIX I

COMPLETE RAW DATA

Identification Number	Age in Months	Kuhlmann-Anderson I.Q. Scores	METROPOLITAN READINESS SCORES (Reading)							Personal and Social Development Score	Work and Study Skills Score	Estimate of Reading Progress (Scores)	Estimate of Home Environment	Nursery	Kindergarten	Age Child Began to Worship	Interest Ages	Hearing Stories	Creating Stories	Asking Questions About "His World"	Father's Occupational Level	Years Mother Was Employed	Care of the Child	Number of Siblings	Number of Playmates	Number of Reference Materials	Answers to a Given Question	Organizations	Family Activities	Responsibilities	Magazine Rating Score	Section Rating Score	Hours Viewing Television (Weekly)			Hours Read (Weekly)			Favorite Pastime (Reading)	Emotional Adjustment			
			Word Meaning	Sentences	Information	Matching	Total	Rating	Child																								Mother	Father	Child	Mother	Father						
200	72	108	19	9	13	11	52	A	16	46	57	3	N	N	2	1	2	4	SS	2	4	3	2	3	2	0	0	0	0	0	0	10	8	12	4	2	5	NH					
201	74	104	19	13	14	13	59	HN	20	52	64	4	N	Y	4	4	4	SS	0	0	1	2	2	3	3	3	3	3	3	13	8	18	18	5	2	21	2	1	10	2	NH		
202	77	107	17	11	14	15	57	HN	17	34	64	4	N	N	4	4	4	CC	1	0	1	1	2	2	2	1	1	1	2	2	3	8	19	10	16	5	4	1	1	1	1	NH	
203	76	**	19	11	13	14	57	HN	14	38	50	4	N	N	6mos.	2	3	3	0	0	1	1	2	2	2	1	0	0	0	0	0	0	16	9	10	14	7	3	10	1	1	NH	
204	80	101	17	12	12	18	59	HN	14	56	57	3	N	N	1	1	6	CC	3	7	6	4	2	2	2	4	4	3	3	4	27	16	9	10	14	7	3	10	1	1	NH		
205	82	104	18	14	13	18	63	S	25	65	80	5	N	Y	3	3	4	CC	3	3	3	3	3	3	3	3	2	3	8	4	18	16	16	7	2	10	12	2	1	NH			
206	79	104	18	9	14	16	57	HN	21	64	75	4	N	N	3	3	5	CC	3	3	3	3	1	2	2	2	2	2	2	30	15	14	5	7	6	3	15			NH			
207	76	108	18	12	13	15	58	HN	17	45	57	4	N	N	1	1	4	CC	0	0	0	0	1	0	1	2	2	3	7	4	17	9	7	12	15	3	4	5	1	NH			
208	83	113	17	14	14	14	59	+	15	39	64	4	N	Y	3	3	3	+	0	0	0	0	8	1	1	1	1	0	5	2	2	16	6	6	5	2	+			NH			
209	79	104	18	11	13	18	60	HN	23	65	80	4	N	N	3	3	3	M	0	0	0	0	3	3	3	2	1	0	2	2	10	5	5	7	10	2	3	3			EH		
210	74	*	17	11	9	3	40	A	14	27	35	4	N	N	1	1	5	M	6	M	6	3	3	2	1	2	2	4	3	5	17	17	7	6	3	2	1	3	1	NH			
211	74	110	16	13	12	13	54	A	20	51	63	4	N	N	1	1	3	S	3	R	1	6	3	2	2	1	2	3	4	12	27	16	14	14	14	10	8	14	1	1	NH		
212	78	108	17	14	12	18	61	S	14	53	64	4	N	N	1	1	3	S	3	S	2	2	2	2	0	3	2	2	2	5	3	5	10	10	5	5	7			NH			
213	80	102	18	7	13	0	38	LN	19	49	64	3	N	N	2	2	3	S	2	N	1	5	2	2	0	3	2	2	2	5	3	5	10	10	5	5	7			NH			
214	77	*	16	10	7	8	41	LN	13	20	23	3	N	N	2	2	3	CC	0	0	0	0	1	6	2	2	1	3	2	3	6	9	20	15	8	6	8	1	1	1	1	NH	
215	80	98	15	11	12	16	54	A	21	40	46	4	N	N	4	4	7	CC	0	0	0	0	5	3	3	2	2	2	2	3	5	1	0	3	2	5	3	1	1	NH			
216	71	100	18	14	13	19	64	S	24	65	80	4	N	N	3	3	3	S	0	0	0	1	2	3	2	2	1	3	2	2	27	16	10	2	3	8	4	3			NH		
217	73	111	18	14	12	17	61	S	15	38	48	3	N	Y	6wks.	3	4	6	CC	2	R	1	3	4	2	1	1	3	4	6	22	4	15	10	20	3	14	3			EH		
218	81	105	16	9	12	17	54	A	17	52	64	4	N	N	5	5	2	CC	0	0	0	0	2	2	1	0	0	2	4	0	6	0	5	7	8	3	7	5	0			NH	
219	73	120	18	14	13	19	64	S	20	51	60	3	N	Y	5	4	6	S	0	N	2	2	2	2	1	0	0	0	5	6	15	5	7	14	14	2	2	2			NH		
220	72	115	18	11	13	17	59	HN	15	47	56	3	N	N	1	1	5	CC	0	0	0	2	3	2	2	0	1	1	2	6	22	18	10	3	4	7	2	4			NH		
221	80	106	18	12	13	15	58	HN	14	65	74	4	N	N	6mos.	3	3	6	CC	0	R	2	1	4	2	1	2	0	4	2	3	10	9	19	6	8	8	5	4	6			NH
222	71	117	19	14	12	18	63	S	23	62	75	4	N	N	6	4	4	S	5	R	0	2	2	2	1	1	3	2	8	6	24	22	8	9	9	8	2	3			EH		
223	73	107	16	12	14	16	58	HN	19	52	52	3	N	N	4	2	4	CC	0	0	0	0	2	3	3	2	1	1	2	1	8	19	10	14	10	0	0	2	1	1	NH		
224	75	103	16	12	11	3	42	LN	15	37	47	4	Y	N	5	4	6	S	2	N	2	3	2	3	3	2	4	4	5	6	27	12	21	24	20	6	6	14			ED		
225	80	110	19	12	14	18	63	S	20	51	64	4	N	N	3	1	4	S	0	F	0	8	3	1	3	4	5	3	7	6	23	15	15	5	28	5	2	9			EH		
226	73	108	17	12	12	16	57	HN	16	51	56	4	N	N	2	3	4	S	0	1	2	4	3	1	2	2	3	4	4	8	24	19	5	6	4	6	6	10			NH		
227	79	95	17	11	11	10	49	A	14	39	43	3	N	N	5	4	7	SS	0	0	3	5	4	2	0	0	3	2	4	8	17	9	2	10	24	3	2	2			NH		
228	76	109	16	13	13	19	61	S	14	37	44	3	N	N	3	4	6	M	0	0	2	6	4	3	2	3	4	3	14	5	13	18	5	7	4	5	4	5	1	NH			
229	77	105	18	12	14	18	62	S	14	58	72	3	Y	N	3	2	6	C	4	N	3	6	2	2	0	0	3	3	2	3	10	9	10	15	10	10	5	5			NH		
230	72	109	15	10	11	14	50	A	15	39	48	3	N	N	3	3	4	S	0	M	4	4	4	1	2	2	3	4	1	3	30	15	7	2	28	8	2	8			NH		
231	72	114	17	13	13	17	60	HN	20	52	64	4	N	N	4	1	3	S	0	0	1	4	3	3	2	1	4	3	6	5	18	8	10	10	10	12	1	4			NH		
232	82	107	19	12	14	16	61	S	25	65	80	5	N	Y	1	2	2	M	0	0	2	8	3	3	5	3	2	3	5	7	23	8	3	1	4	4	7	2	1	1	NH		
233	74	106	19	8	12	14	53	A	15	36	44	3	N	N	2	5	6	S	0	R	1	3	2	2	1	3	3	2	4	4	13	8	4	7	0	3	**	**			NH		

* Information not available due to retention in first grade
 ** Information not available due to withdrawal from school
 + Information not available due to death
 # Information not available due to divorce

COMPLETE RAW DATA

Identification Number	Age in Months	Kuhlmann-Anderson I.Q. Scores	Word Meaning	METROPOLITAN READINESS SCORES (Reading)				Personal and Social Development Score	Work and Study Skills Score	Estimate of Reading Progress (Scores)	Estimate of Home Environment	Nursery	Kindergarten	Age Child Began to Worship	Interest Ages				Years Mother Was Employed	Care of the Child	Number of Siblings	Number of Playmates	Number of Reference Materials	Answers to a Given Question				Hours Viewing Television (Weekly)	Hours Read (Weekly)			Favorite Pastime (Reading)	Emotional Adjustment							
				Sentences	Information	Matching	Total								Rating	Hearing Stories	Creating Stories	Asking Questions About "His World"						Father's Occupational Level	M	M	M		M	M	M			M	M	M	M	M	M	M
100	82	* 16	10	14	13	53	A	18	37	36	2	N	N	6mos.	2	3	2	C	0	-	3	10	1	1	1	1	1	3	5	2	7	21	15	10	10	10	3	1	2	EH
101	76	106	14	7	16	16	53	A	14	34	43	2	N	N	1	3	5	3	S	5	M	4	3	1	10	0	1	3	4	5	4	1	14	14	12	14	0	12	NH	
102	80	98	17	12	14	16	59	HN	15	36	48	4	N	Y	6mos.	3	3	3	S	3	R	1	3	3	23	1	3	4	6	4	19	12	10	5	4	5	10	10	2	NH
103	71	114	18	12	14	14	58	HN	20	45	63	4	N	N	1mo.	1	2	4	C	0	-	2	5	2	10	0	2	2	3	6	22	7	10	3	7	7	2	5	NH	
104	72	* 13	5	8	2	28	PR	14	29	31	3	N	N	5	5	7	5	N	4	M	0	3	2	1	#	3	0	0	#	6	#	1	4	14	#	1	0	#	EH	
105	72	112	14	6	12	9	41	LN	14	34	31	3	N	N	-	5	7	5	U	0	-	2	0	0	10	0	1	2	0	0	0	0	2	18	18	0	0	0	NH	
106	78	106	19	14	14	19	66	S	17	59	80	4	N	Y	3	2	3	3	C	0	-	0	5	3	21	+	2	12	+	3	+	10	+	14	5	+	7	1	NH	
107	77	96	14	7	12	12	45	LN	12	24	32	3	N	N	3	6	6	4	SS	4	H	2	3	2	10	0	1	2	0	0	0	10	15	5	3	0	0	NH		
108	76	114	16	11	13	13	53	A	14	34	35	3	N	N	6wks.	5	4	6	P	0	-	3	10	4	22	2	4	2	4	10	23	18	3	21	10	1	2	2	NH	
109	72	98	17	12	11	11	51	A	13	36	37	3	N	N	2mos.	1	2	2	S	0	-	3	3	4	20	2	3	4	5	4	18	9	7	4	2	5	2	8	1	NH
110	79	* 15	5	11	9	40	LN	13	27	32	2	N	N	-	3	7	3	SS	0	-	3	4	2	11	0	2	1	2	3	3	12	9	14	15	2	7	0	1	NH	
111	82	101	17	9	14	15	55	A	10	33	60	3	N	N	3mos.	2	5	3	S	4	N	1	4	5	23	2	6	5	4	6	3	3	3	10	15	14	0	10	EH	
112	73	101	15	6	11	15	47	A	15	39	48	3	N	N	4	2	3	4	M	5	M	2	4	2	11	4	3	5	7	13	28	22	8	14	14	5	20	7	1	NH
113	72	107	18	12	10	16	56	HN	15	38	48	3	N	N	6	5	5	5	S	0	R	2	4	3	10	0	3	2	5	8	30	15	20	10	10	10	5	6	NH	
114	76	110	19	13	14	16	62	S	13	42	47	3	Y	N	3	2	2	2	S	3	Nu	0	13	1	20	0	1	1	2	2	27	10	10	3	10	3	0	0	NH	
115	82	97	18	12	13	12	55	A	18	38	48	3	N	N	2	2	6	3	C	0	-	2	2	2	12	2	2	1	4	2	12	16	10	25	7	3	0	0	EH	
116	79	106	18	10	13	6	47	A	19	41	48	4	N	N	4	4	5	5	SS	0	-	3	2	3	12	1	1	2	4	6	15	14	3	20	8	1	2	2	NH	
117	73	107	17	14	14	14	59	HN	16	42	56	3	N	Y	4	2	4	5	C	1	R	2	8	7	20	0	2	1	2	2	3	3	15	6	2	7	5	5	NH	
118	80	98	19	6	14	5	44	LN	15	34	48	4	N	N	4	1	2	2	C	0	-	2	2	2	22	1	0	3	1	2	21	12	2	6	10	4	0	10	ED	
119	78	108	16	11	13	18	58	HN	19	37	61	4	N	Y	-	1	3	4	S	1	N	1	3	2	20	0	3	2	6	4	22	6	12	14	14	6	7	7	1	NH
120	79	111	12	6	7	9	34	LN	16	61	75	3	N	N	5	3	4	5	SS	4	R	1	3	3	22	2	2	2	4	4	17	22	10	5	6	5	4	4	ED	
121	72	115	18	13	13	18	62	S	20	50	58	4	N	N	3	1	3	3	S	0	-	2	3	3	36	2	4	5	6	5	21	15	9	8	3	7	4	6	1	NH
122	73	111	16	13	12	13	54	A	16	36	46	3	Y	Y	5	7	4	5	S	2	Nu	8	2	5	10	0	3	2	2	1	3	7	10	10	1	0	1	1	NH	
123	73	90	18	8	13	17	56	HN	15	39	48	3	N	N	1	3	4	5	SS	0	-	2	6	2	20	0	1	3	0	6	0	5	2	6	4	4	2	4	NH	
124	76	** 15	12	11	16	54	A	15	39	48	3	N	N	1	1	3	3	S	0	-	5	3	3	20	0	3	4	4	4	5	5	2	3	4	1	1	0	NH		

VITA

Elaine Brinsfield Hughes was born September 6, 1934. She is the oldest child of Catherine Elaine Elliott and Truitt Hicks Brinsfield, Sr. of Vienna, Maryland.

She was graduated from Vienna High School in 1952. She attended Salisbury State Teachers College and was graduated in 1956.

She taught in Salisbury, Maryland for the year 1956-1957. Since September 1957, she has been associated with the Henrico County Public School System.

She commenced her graduate program at the University of Richmond during the summer of 1958. During the summer of 1961 she became a member of the Kappa Delta Pi.

She is married to Ronald Edward Hughes who is a chemist for Philip Morris, Inc. They have a son, Ron, who is two and one-half years old.