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## THE KANSAS SILENT READING TESTS

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In devising tests to be used in measuring any sort of educational product in the public schools, four criteria must always be kept in mind; first, the test should be designed to measure some product of the public schools really worth measuring; second, it should be so simple in its arrangement and in the plan for giving it and scoring the results derived from it that a teacher unskilled in the use of standard tests can understand without difficulty what is expected of her in giving and scoring the test; third, it should be devised to measure progress in the acquisition of a certain ability as well as present standing of the pupils in that ability; fourth, the time consumed in giving the test and in doing the necessary work for scoring should not be so great as to make teachers who do the work feel that it is a task out of proportion to the good derived from doing it. In devising the *Kansas Silent Reading Test* these four criteria were observed throughout.

There has always been a demand on the part of teachers to know how effectively they are developing in their children the ability to get meaning from the printed page. Nothing is more fundamentally important in our school work than the development of this ability. It has been suspected too, that not only do children in the same school room differ very widely with respect to this ability but also that children in one school differ very widely as a group from children of the same grade in another

school, in this ability. This latter situation has been thought to be due in part, at least, to the differences in the conception of reading held by various school superintendents and teachers. One city emphasizes oral reading with stress upon pronunciation and enunciation, while another school emphasizes silent reading, the test being the amount of meaning which children are able to get from the printed page. Since we believe that the more important of these two phases is the one in which stress is placed upon the ability to get meaning from the printed page, we set out to derive tests to measure that ability.

The ability to get meaning from the printed page is a complex thing dependent upon many different factors. However, the two main factors, each one dependent upon a variety of causes, are the speed with which the reader can get over the lines and the accuracy with which he can comprehend the meaning of the lines. It has been customary in previous reading tests, such as Starch's,<sup>1</sup> to measure speed and comprehension separately. In the interest of simplicity we wished to combine in a single mark these two factors. Consequently the plan was to measure the child's ability to read by the number of the reading exercises which he could comprehend accurately within a given time. A child's low mark secured in such a test might be due to his slow rate of reading or to his poor comprehension but in either case the teacher could determine by examining the child's paper which factor was responsible for his mark.

The further difficulty arises of measuring comprehension without measuring it in terms of the ability to reproduce meaning in a written composition. It is generally agreed, I think, that the ability to reproduce is quite a separate ability from the ability to get meaning and, therefore, it seems advisable to have a test of the ability to get meaning which involves a minimum of reproduction.

Having decided this much of the plan, we secured the co-operation of a large number of superintendents in city schools in Kansas in working out the tests to fulfill these requirements. Exercises which should meet the following qualifications were called for:

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<sup>1</sup>DANIEL STARCH. *The Measurement of Efficiency in Reading, Writing, Spelling and English*. Published by The College Book Store, Madison, Wisconsin.

First, the exercises must be subject to but one interpretation.

Second, they must call for but one thing so that the answer given to them would be wholly right or wholly wrong, and not partly right and partly wrong.

Third, they must test the ability to get meaning from the printed page and must not depend for their difficulty upon obscure words nor upon any particular fund of information.

Several hundreds of such exercises were submitted and out of them approximately two hundred seemed to meet fairly well the requirements set forth above and they were evaluated statistically. From these two hundred, the forty-eight which comprise the three tests reproduced below were selected.

TEST I, FOR GRADES 3, 4 AND 5

*Directions for Giving the Tests*

After telling the children not to open the papers, ask the children on the front seats to distribute the papers, placing one upon the desk of each pupil in the class. Have each child fill in the blank space at the top of this page. Then make clear the following:

*Instructions to be Read by Teacher and Pupils Together*

This little five-minute game is given to see how quickly and accurately pupils can read silently. To show what sort of game it is, let us read this:

Below are given the names of four animals. Draw a line around the name of each animal that is useful on the farm:

cow            tiger            rat            wolf

This exercise tells us to draw a line around the word, cow. No other answer is right. Even if a line is drawn *under* the word cow, the exercise is wrong, and counts nothing. The game consists of a lot of just such exercises, so it is wise to study each exercise carefully enough to be sure that you know exactly what you are asked to do. The number of exercises which you can finish thus in five minutes will make your score, so do them as fast as you can, being sure to do them right. Stop at once when time is called. Do not open the papers until told, so that all may begin at the same time.

The teacher should then be sure that each pupil has a good pencil or pen. Note the minute and second by the watch, and say, *begin*.

*Allow exactly five minutes*

Answer no questions of the pupils which arise from not understanding what to do with any given exercise.

When time is up say *stop* and then collect the papers at once.

*No. 1. Value 1.2*

I have red, green and yellow papers in my hand. If I place red and green papers on the chair, which color do I still have in my hand?

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*No. 2. Value 1.2*

Think of the thickness of the peelings of apples and oranges. Put a line around the name of the fruit having the thinner peeling

apples                      oranges

*No. 3. Value 1.4*

Three words are given below. One of them has been left out of this sentence: I cannot \_\_\_\_\_ the girl who has the flag. Draw a line around the word which is needed in the above sentence.

red                      see                      come

*No. 4. Value 1.4*

There are seven boys and twelve girls in a room. If there are more boys than girls, write boys on the line below. If more girls than boys, write girls on the line below.

*No. 5. Value 1.6*

If you would rather have a dollar than a little stone, do not put a line under dollar, but if you would rather have five dollars than a pencil, put a line under stone.

dollar                      stone

*No. 6. Value 1.7*

The first letter in the alphabet is "a." Below are some words containing the letter "a." Draw a line under the one in which the first letter of the alphabet is found the greatest number of times

hat      easy      baby      age      alas      manfully

*No. 7. Value 1.8*

A child wrote these letters on the blackboard, b y a k. He then rubbed out one letter and put c in its place. He then had b y c k on the blackboard. What was the letter which he erased?

*No. 8. Value 1.9*

Count the letters in each of the words written below. You will find that pumpkin has seven letters, and thanks has six letters. One of the words has five letters in it. If you can find the one having five letters, draw a line around it.

breeze      thanks      yours      pumpkin      duck

*No. 9. Value 2.0*

Here are some names of things. Put a line around the name of the one which is most nearly round in every way like a ball.

saucer      teacup      orange      pear      arm

*No. 10. Value 2.1*

A recipe calls for milk, sugar, cornstarch and eggs. I have milk, sugar and eggs. What must I get before I can use the recipe?

*No. 11. Value 2.2*

We planted three trees in a row. The first one was nine feet tall and the last one was three feet shorter than the first one. The middle one was two feet taller than the last one. How tall was the middle one?

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*No. 12. Value 2.2*

Below are three lines. If the middle is the longest, put a cross after the last line. If the last line is the longest, put a cross after the first line. If the first line is the longest put a circle in front of the middle line.

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*No. 13. Value 3.1*

Three men have to walk to a town ten miles away. Each man carries a load. The first carries 25 pounds, the second 30 pounds, and the third 40 pounds. The heavier the load the slower the man travels. In order that they may arrive in town at the same time, which man must start first?

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*No. 14. Value 3.5*

My house faces the street. If a boy passes my house going to school in the morning, walking toward the rising sun, with my house on his right hand, which direction does my house face?

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*No. 15. Value 4.8*

Fred has eight marbles. Mary said to him: "If you will give me four of your marbles, I will have three times as many as you will then have." How many marbles do they both have together?

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*No. 16. Value 8.9*

If in the following words e comes right after a more times than e comes just after i, then put a line under each word containing an e and an i, but if e comes just before a more often than right after i, then put a line under each word containing an a and an e.

receive feather teacher believe

## TEST II, FOR GRADES 6, 7 AND 8

*No. 1 Value 1.0*

The air near the ceiling of a room is warm, while that on the floor is cold. Two boys are in the room, James on the floor and Harry on a box eight feet high. Which boy has the warmer place?

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*No. 2 Value 1.5*

If gray is darker than white and black is darker than gray, what color of those named in this sentence is lighter than gray?

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*No. 3. Value 1.6*

We can see through glass, so we call it transparent. We cannot see through iron, so we call it opaque. Is black ink opaque, or is it transparent?

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*No. 4. Value 2.0*

My shepherd dog can run faster than any of my father's large herd of cattle, but he will not chase a rabbit because he learned long ago that a rabbit can easily out-run him. If my dog is no slower than other shepherd dogs, draw a line under the fastest runner of the three animals named below.

rabbit                      shepherd dog                      cow

*No. 5. Value 2.2*

If you find a word in this sentence which may be used to denote color, draw a line under it, but if you do not find such a word, draw a line under the first word of the sentence.

*No. 6. Value 2.3*

In going to school, James has to pass John's house, but does not pass Frank's. If Harry goes to school with James, whose house will Harry pass, John's or Frank's?

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*No. 7. Value 2.4*

A boy goes to school in the morning, goes home at noon for lunch, returns to school at 1 o'clock and returns home at 4 o'clock. How many times does he travel between home and school that day?

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*No. 8. Value 2.6*

Here are two squares. Draw a line from the upper left hand corner of the small square to the lower right-hand corner of the large square.

*No. 9. Value 3.0*

A farmer puts one-half the hay from his field into the first stack, then two-thirds of what is left into a second stack, and the remainder into a third stack. Which stack is the largest?

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## No. 10. Value 3.9

Below are two squares and a circle. If the circle is the largest of the three, put a cross in it. If one square is smaller than the circle, put a cross in the larger square. If both squares are smaller than the circle, put a cross in the small square.



## No. 11. Value 4.0

"The curfew tolls the knell of parting day,  
The lowing herds wind slowly o'er the lea,  
The ploughman homeward plods his weary way,  
And leaves the world to darkness and to me."—(Gray)

Study the above quotation carefully. The author lets us know his feeling about the coming of night. If you think his feeling is one of fear and dread, underscore curfew. If his feeling is one of peace and gladness, underscore ploughman.

## No. 12. Value 4.0

Read these carefully:

Bears are larger than bugs.  
Houses are larger than bears.  
Mountains are larger than houses.  
Then bugs are not as large as mountains.

I have tried to make no false statement among these four. If I have succeeded, underline the word success. If I have failed, underline the word failure.

success                      failure

## No. 13. Value 4.3

If a man takes an hour to walk around a square each side of which is a mile in length, how long will it take him to walk eight miles? \_\_\_\_\_

## No. 14. Value 4.9

A list of words is given below. One of them is needed to complete the thought in the following sentence: The roads became muddy when the snow \_\_\_\_\_

Do not put the missing word in the blank space left in the sentence, but put a cross below the word in the list which is next above the word needed in the sentence.

water  
is  
melted  
snow

## No. 15. Value 5.8

I am writing this paragraph to test your ability to read what I compose. Under-score any word in the paragraph which has the same number of letters as the third word from the beginning of the paragraph but which has none of the same letters.

*No. 16. Value 10.2*

My mother's birthday and mine are on the same day. We always have a round birthday cake together. We put as many candles in a row around the cake as my mother is years old but not all the candles are white ones. We use as many red ones as I am years old. This year we used ten red ones. We found that between each two red ones we had to place two white ones. How old is mother?

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## TEST III, FOR GRADES 9, 10, 11 AND 12

*No. 1. Value 2.1*

Mary is older than Nellie, and Nellie is older than Kate. Which girl is older, Mary or Kate?

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*No. 2. Value 3.3*

My fingers were numb with cold from carrying my skates. My breath looked like steam before my face and froze into a thick frost on my muffler. My mother saw me coming and called, "Clean off your shoes and then come in and get warm." Which do you think I had on my shoes, mud or snow?

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*No. 3. Value 3.5*

I have five plums and Mary has four plums. Jane comes along and we see that she hasn't any. We want to divide with Jane in such a way that we shall all three have the same number. I give Jane two plums. How many must Mary give her?

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*No. 4. Value 3.7*

In the following words, find one letter which is contained in only three of them and then cross out the word which does not contain that letter.

ail            thief            live            anvil

*No. 5. Value 3.8*

A, B, C, and D on the line below represent four places lying in a straight line. From A to B is 4 miles, from C to D is 7 miles, from A to D is 14 miles. How far is it from B to C?

A—————B—————C—————D

*No. 6. Value 4.3*

Bone is composed of animal matter and mineral matter. The former gives it toughness and the latter rigidity. Yesterday I placed a bone from a chicken's leg in a bottle of acid, and found this morning that I could wrap the bone around my finger like gristle. Which kind of matter was removed from the bone?

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*No. 7. Value 4.4*

The pitch of a tone depends on the number of vibrations made by the vibrating body in a second of time. The greater the number of vibrations per second, the higher the tone. Two bodies are made to vibrate, the former 256 times a second, and the latter 384 times a second. Which produces the lower tone, the former or the latter?

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*No. 8. Value 4.8*

There are three horizontal lines; the first is three inches in length, the second two inches, the third one inch. We know that if the second and third lines are joined end to end the resulting line will be as long as the first line. Suppose that the first and second lines are joined end to end. How many times as long as the third line will the resulting line be?

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*No. 9. Value 4.9*

It was a quiet, snowy day. The train was late. The ladies' waiting-room was dark, smoky and close, and the dozen women, old and young, who sat waiting impatiently, all looked cross, low spirited or stupid.

In this scene, the women probably kept their wraps on, because they wished to be ready to take the train. Pretty soon the station agent came and put more coal in the stove, which was already red-hot in spots. Do you think this made the women happier?

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*No. 10. Value 5.6*

Below are three lines. If the first line is the shortest, place a dot above it. If the last line is shorter than the first but longer than the middle line, put a cross above the longest. If each of the other lines is longer than the last line, put a cross above the shortest line.

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*No. 11. Value 6.2*

Four hundred fifty years ago the people of Western Europe were getting silks, perfumes, shawls, ivory, spices, and jewels from Southeastern Asia, then called the Indies. But the Turks were conquering the countries across which the goods were carried, and it seemed likely that the trade would be stopped.

In the foregoing paragraph, what was the country called from which the people of Western Europe were getting the goods named in the paragraph?

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*No. 12. Value 7.0*

Mrs. White and I were talking. She said to me, "Nora, I learned the other day that I am five years older than your mother."

To this I answered, "Then, Mrs. White, you are just three times as old as I am." Nora is twelve years old. How old is her mother?

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*No. 13. Value 7.9*

"Magnanimity in politics is not seldom the truest wisdom; and a great empire and little minds go together." (Burke)

Study Burke's quotation carefully. If he was in favor of territorial expansion as the goal of English politicians he was a standpatter. If he believed in the establishment of justice in human relations even at the sacrifice of territorial expansion, he was a progressive. Which was he, a standpatter or a progressive?

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*No. 14. Value 8.3*

Without making a line on paper at all, follow these instructions in your imagination. From the right hand end of a line AB, draw a line BC at right angles to AB and half as long as AB. From the extremity of BC draw a line CD through the middle of AB, three times as long as BC. Join A and D. Do the lines in the figure enclose any surface or surfaces? If so, how many?

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*No. 15. Value 8.9*

Suppose that I have a dry sponge which weighs a half pound, and a pan of water. The pan and the water weigh three and one-half pounds. I soak the sponge in the pan of water and wring it out into a pint measure until the measure is full. The pint of water weighs a pound. I now put the sponge into the pan of water and weigh the pan and its contents. What will the weight be?

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*No. 16. Value 52.0*

At sea level water boils at 212 degrees above zero on the Fahrenheit thermometer, and at 100 degrees above zero on the Centigrade thermometer. The zero point on the Centigrade thermometer represents the same temperature as 32 degrees on the Fahrenheit thermometer. A change in temperature which would raise the mercury in a Centigrade thermometer 5 degrees would raise the mercury in a Fahrenheit thermometer how many degrees?

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It will be noted that a certain value is assigned to each exercise. The rather involved process by which these values were derived is explained in full in a bulletin published by the Bureau of Educational Measurements and Standards of the State Normal School at Emporia, Kansas. Space will not permit of giving a full account of the method here. We must content ourselves by saying here that the value attached to each exercise indicates

the relative length of time required on the average by children of a certain grade to do the exercise correctly. Approximately sixty children did each exercise under uniform conditions and the time required was determined for each group of five children. The children who took a given exercise were from four different cities and from three different grades in each city. Thus a fairly representative group was used with each exercise.

Assuming that these values are accurately determined, it will be seen that the difference in ability represented by securing a score of seven and that of securing a score of eight is equal to the difference in ability required to secure a score of twelve and that required to secure a score of thirteen. Therefore, progress can be measured by the use of the test because an increase in the score by any number of points on the scale represents improvement equal to an increase in the score by the same number of points at any other place along the scale.

The directions for scoring the papers, will be found below:

#### DIRECTIONS FOR SCORING PAPERS

1. Every answer given is counted either wholly right or wholly wrong.
2. Where the child's answer is incorrect, cross out the value indicated for that exercise in the margin.
3. Add the values of the exercises which are correctly answered. This sum is the child's score.
4. Place the score in the upper right-hand corner of the front page, in the square made for that purpose.
5. As a safeguard against teacher's misreading the exercises, the following answers are given:

#### *Correct Answers to Some of the More Difficult Exercises.*

Test for Grades 3, 4, 5:	No. 15. Ans.—16.
No. 11. Ans.—8.	No. 16. Ans.—line under feather and teacher.
No. 14. Ans.—north.	
Test for Grades 6, 7, 8:	No. 12. Ans.—line under success.
No. 5. Ans.—line under if.	No. 13. Ans.—2 hours.
No. 10. Ans.—cross in the large square.	No. 15. Ans.—line under compose.
No. 11. Ans.—line under ploughman.	No. 16. Ans.—30 years.

Test for Grades 9, 10, 11, 12:	No. 9. Ans.—no.
No. 2. Ans.—snow.	No. 10. Ans.—cross above the shortest line.
No. 3. Ans.—1.	No. 12. Ans.—31 years.
No. 4. Ans.—line through thief.	No. 13. Ans.—a progressive.
No. 5. Ans.—3 miles.	No. 14. Ans.—2 surfaces.
No. 6. Ans.—mineral matter.	No. 15. Ans.—3 pounds.
No. 7. Ans.—the former.	No. 16. Ans.—9 degrees.
No. 8. Ans.—5 times.	

The following median scores were obtained by giving the tests in May, 1915:

Grade,	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Number of children tested,	1207	1473	1535	1264	1338	912	621	487	324	91
Median score,	6 0	9 9	13 7	13.4	16 5	18.8	22.9	25.8	26.0	28.8

Revised standards will be determined from the scores obtained during the year 1915-'16. A copy of these standards will be sent to all who report their scores to the Bureau of Educational Measurements and Standards, Emporia, Kan.

A copy of the bulletin describing the derivation of these tests will be mailed upon request.

With regard to the time involved in giving the test, in scoring the papers, in making the necessary distributions and in finding the median score for the class, naturally some variation among teachers is to be expected, but of those from whom inquiry has been made, it seems the average time required for giving the test is certainly less than fifteen minutes and the time for scoring the papers of a class of thirty-five children, making the distribution called for, and recording the median, ranges from twenty-five minutes in the lower grades to forty minutes in the upper grades. This, we believe, meets the requirements of simplicity and of the amount of time available for the teacher to administer the test.

With reference now to results which have been secured through the giving of the test, I shall not undertake to summarize the returns which are being sent in during this present school year but rather quote the results which were secured by giving the test to 9252 children in nineteen cities in Kansas in May, 1915. The accompanying Tables I, II and III show the distribution by grades of the scores made with each of the three tests. They reveal wide variation in ability in each grade. We have become accustomed to this range of ability in a given class through the use of standard tests in other common branches, but in no other

subject, we think, has variation quite so wide been revealed. For instance, in the third grade while 6.4 per cent. of the children cannot do a single exercise in five minutes, 8.1 per cent. can do exercises the sum of whose values is fifteen or more. That means more than 9 exercises of the test. While the median score is 6 in the third grade, one child in 6 can do twice as many and can secure a score of at least 12.

Another striking fact is apparent from these tables. There are some children in nearly all the grades who cannot do any of the exercises called for in 5 minutes while the median scores increase from grade to grade by approximately 3 points. Certain children are being promoted from grade to grade even though they cannot gain perceptibly in reading ability. Allowing for the few cases where normal intelligence is absent the wide variation among the pupils who are supposed to be able to do the same work in school indicates a serious problem confronting the teacher. Assignments which one-fourth of the children require 50 minutes or more to complete where the principal task is interpreting the printed page, may be done by another fourth of the class in 20 minutes or less in the case of practically all grades of children. Almost as wide variation occurs when the members of a group which is taught by a single teacher are considered instead of a combined grade group from all the schools.

One other fact stands out also in these tables. The reading ability possessed by the median child in any one grade is superior to the ability possessed by at least a third of the children in the class above him and is no better than the reading ability possessed by at least a third in the class below him. The differentiation, therefore, in reading ability from year to year is insignificant in comparison with the wide difference in ability among the children in any given year or grade. The over-lapping of ability from grade to grade can be seen by following across the table from left to right and noting that most of the scores are represented in practically all grades.

From the list of the medians at the bottom of the tables, it will be observed that there is an abrupt break in the scores between fifth and sixth grades and a less abrupt but nevertheless certain break between the eighth and ninth grades. These breaks are due to the fact that one test was given to grades 3, 4 and 5 and another test to grades 6, 7 and 8 and a third test to grades 9,

TABLE I.

*Distributions, by grades, of scores, both whole numbers and percents., secured by children in 19 cities using Test I of the Kansas Silent Reading Tests.*

Scores Between	Grade III		Grade IV		Grade V	
	No. of Children	Per Cent. of Children	No. of Children	Per Cent. of Children	No. of Children	Per Cent. of Children
0- .9	77	6.4	29	1.9	4	.2
1- 1.9	89	7.4	30	2.0	10	.6
2- 2.9	125	10.4	40	2.7	20	1.3
3- 3.9	81	6.7	33	2.2	17	1.1
4- 4.9	102	8.5	80	5.4	32	2.1
5- 6.9	261	21.7	228	15.5	111	7.2
7- 8.9	158	13.2	213	14.5	165	10.8
9-10.9	94	7.8	194	13.2	163	10.6
11-12.9	64	5.3	172	11.7	172	11.2
13-14.9	61	5.1	170	11.5	204	13.3
15-17.9	46	3.8	128	8.7	226	14.8
18-20.9	28	2.3	94	6.4	207	13.5
21-23.9	8	.7	40	2.7	112	7.3
24-26.9	5	.4	9	.6	34	2.2
27-29.9	3	.3	7	.5	27	1.7
30-34.9	4	.3	4	.3	12	.8
35-39.9	1	.1	2	.2	14	.9
40-44.9					5	.3
45-49.9						
50-59.9						
60-69.9						
80-above						
Total No. Children and Median Scores	1207	6.0	1473	9.9	1535	13.7

TABLE II.

*Distribution, by grades, of scores, both whole numbers and per cents., secured by children in 19 cities using Test II of the Kansas Silent Reading Tests.*

Scores Between	Grade VI		Grade VII		Grade VIII	
	No. of Children	Per Cent. of Children	No. of Children	Per Cent. of Children	No. of Children	Per Cent. of Children
0- 9	13	1.0	3	.2	1	.1
1- 1.9	9	.7	1	.1	2	.2
2- 2.9	17	1.3	7	.5	4	.4
3- 3.9	20	1.6	11	.8	8	.9
4- 4.9	35	2.8	14	1.0	4	.4
5- 6.9	89	7.1	41	3.1	30	3.3
7- 8.9	140	11.1	66	4.9	33	3.6
9-10.9	153	12.1	93	7.0	60	6.6
11-12.9	132	10.5	105	7.9	84	9.2
13-14.9	107	8.5	141	10.6	65	7.1
15-17.9	163	12.9	238	17.9	125	13.7
18-20.9	146	11.6	199	14.9	146	16.0
21-23.9	86	6.8	147	11.0	91	10.0
24-26.9	61	4.8	114	8.6	93	10.2
27-29.9	28	2.2	52	3.9	40	4.4
30-34.9	34	2.7	78	5.9	73	8.0
35-39.9	5	.4	19	1.4	25	2.8
40-44.9	2	.1	4	.3	18	2.0
45-49.9	7	.5	3	.2	7	.8
50-59.9	17	1.3	2	.1	3	.3
60-69.9						
70-79.9						
80-above						
Total No. Children and Median Scores	1264	13.4	1338	16.5	912	18.8

TABLE III.

*Distributions, by grades, of scores, both whole numbers and per cents., secured by children in 19 cities using Test III of the Kansas Silent Reading Tests.*

Scores Between	Grade IX		Grade X		Grade XI		Grade XII	
	No. of Children	Per Cent. of Children	No. of Children	Per Cent. of Children	No. of Children	Per Cent. of Children	No. of Children	Per Cent. of Children
0- .9	2	.4	3	.6				
1- 1.9								
2- 2.9			1	.2				
3- 3.9	3	.5	4	.8				
4- 4.9	2	.4			1	.3		
5- 6.9	7	1.2	6	1.2	3	.9		
7- 8.9	15	2.4	9	1.8	5	1.5		
9-10.9	25	4.1	8	1.6	9	2.8	1	1.1
11-12.9	32	5.2	14	2.9	14	4.3	1	1.1
13-14.9	35	5.7	15	3.1	14	4.3	3	3.3
15-17.9	68	11.0	54	11.2	34	10.6	8	8.8
18-20.9	83	13.4	41	8.5	19	5.9	6	6.6
21-23.9	63	10.2	46	9.5	28	8.7	6	6.6
24-26.9	87	14.1	72	14.9	54	16.8	15	16.6
27-29.9	44	7.1	39	8.1	35	10.9	10	11.0
30-34.9	69	11.2	77	16.0	50	15.6	20	22.2
35-39.9	28	4.5	46	9.5	24	7.4	6	6.6
40-44.9	23	3.7	30	6.2	20	6.2	10	11.1
45-49.9	19	3.1	12	2.4	8	2.4	3	3.3
50-59.9	12	2.0	5	1.0	5	1.5	2	2.2
60-69.9	3	.5			2	.6		
70-79.9	1	.2	2	.4				
80-above			3	.6				
Total No Children and Median Scores	621	22.9	487	25.8	324	26.0	91	28.8

10, 11 and 12. Our work with the scores has shown us that although it was hoped that the values attached to the exercises in the three tests would make the scores secured comparable throughout all the grades, this is not exactly the case. In a group of 399 fifth grade children who took the test designed for grades 3, 4 and 5 and also the test for grades 6, 7 and 8 the median score of 13.46 was made on the test for grades 3, 4 and 5 while a median score of 11.66 was made by the same children in the test for grades 6, 7 and 8. It appears, therefore, that a difference in difficulty of approximately 2 points on a median score of 11 to 13 points is present in these two tests. Similarly 243 children in the eighth grade made a median score of 19.75 points on the test for grades 6, 7 and 8, but made a median score of 25.1 on the test for 9, 10, 11 and 12. These differences indicate imperfections in the values attached to the exercises. They do not, however, seriously invalidate the comparisons made among different members in the same class or among different classes of the same grade when tested by the same exercises. It does make it impossible to estimate the improvement between fifth and sixth grades or between eighth and ninth grades by the scores obtained by these grades in the tests, without making due allowance for the differences in difficulty of the three tests.

As an interesting study of the relative scores made by children in the various cities, Table IV. is given. This represents the median score of all the children of a given grade taking the test in each city. Of course, in some cases only small numbers of children were tested while in other cities relatively much larger numbers were used, but even taking that into account, it is perfectly clear that the achievement in silent reading in some cities far surpasses the achievement in other cities. For example, the median scores obtained by children in the several grades of city G are little more than half the median scores secured by children in the corresponding grades in city A. Other surprisingly wide differences might be pointed out but a glance at the table will suffice to indicate that results as measured by these tests must depend to a considerable extent upon the varying practices which dominate the reading work in the various cities. Such a table as this one extended over a large number of cities and including a large number of children in each city would form the basis of an interesting study of the efficiency of various methods employed in teaching reading.

## KANSAS SILENT READING TEST, MAY, 1915

	<i>Median Scores</i>									
	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
City A	7.6	13.3	13.8	19.7	19.1	18.7	21.8	25.6	26.4	
" B	8.3	7.25	14.6	13.3	18.0		20.8	33.6	42.2	34.4
" C	4.8	5.2	6.9	10.4	13.65	16.7	17.9	21.8	21.6	25.8
" D	3.0	7.9	11.7	13.0	15.8	18.0	21.6	21.7	27.2	
" E	4.7	8.2	15.0	12.8	15.1	15.0	22.9	20.25	20.7	29.0
" F	6.8	8.5	16.1	12.8	21.0	18.7				
" G	3.9	5.2	6.8	8.1	12.2	8.55				
" H	5.8	11.2	10.3	14.0	19.6	15.65				
" I	5.2	10.3	17.55	19.1	18.3	22.4	21.6	25.6	26.7	
" J	5.4	6.8	10.3	9.7	13.0	14.6	20.7	21.2		
" K	5.1	8.0	11.7	12.0	14.3	15.6				
" L	6.6	14.4	13.9	16.8	20.7	21.1				
" M	2.9	9.6	14.3	9.8	15.0	16.9	25.1	20.1	30.9	34.8
" N	6.8	13.7	17.3	15.3	16.8	23.05	25.1	25.15	25.5	31.5
" O	6.3	11.2	14.7	16.4	18.05	13.2				
" P	7.9	10.0	13.8	14.3	17.6	28.0	20.7	24.4	26.0	28.9
" Q	5.7	11.5	14.3	13.6	18.0	20.4	28.5	28.9	25.7	
" R	4.6	9.1	13.1	13.8	16.8	19.4				
" S	5.4	9.3	12.5	8.8	14.1	22.5				
Total tested	1207	1473	1535	1264	1338	912	621	487	324	91
Medians of totals	6.0	9.9	13.7	13.4	16.5	18.8	22.9	25.8	26.0	28.8

NOTE—The cost of the Kansas Silent Reading Tests, including Class Record Sheets, is 33 cents per hundred copies. Address the Bureau of Educational Measurements and Standards, State Normal School, Emporia, Kansas.