

Appendix A: Chapman-Cook Speed of Reading Test, Instructions for 6 printing unit arrangement

PLATE I. PRACTICE PAGE

Speed of Reading Test—Preliminary Drill

Copyright by J. C. Chapman, 1923
(6 printing unit arrangement)

Name _____

In the second half of each of the following, one word spoils the meaning of the section. Find this word as quickly as you can, and cross it out. You must not write anything. Cross out the word that should not be there. In the first section you can see the word "thinnest" does not fit with the meaning of the rest of the following section.

It was such a cold, boisterous, and wintry day that every person who was walking wore the thinnest clothes that he could find in his clothes-closet at the time.

You will now take your pencil and draw a line through the word "thinnest."

In the next section, "nail" is wrong; you must, therefore, cross it out.

There was a fire last night, and five houses were burned to the ground. It all happened because someone was careless and threw a nail into the waste-paper basket.

Now cross out the one word which should not be there in the six numbered sections below. After you have done them, I will go over them orally to be sure that each one of you understands.

1. There was not a drop of ink in the house, for someone had broken the bottle we kept it in, so Mary decided to finish her letter with a pen. 2. Yesterday I went down town to buy some shoes and rubbers, but, when I got home, I found I had forgotten to go to the flower-store to get them. 3. The water had frozen, making the road as slippery as glass. It was only with the greatest difficulty that I prevented myself from fighting as I made my way home. 4. I was not in time for school, because I played marbles on the way; so the teacher sent a note to my parents, saying I had been early that morning. 5. One of the boys was extremely rude to the teacher so she made him come and stand by her desk, to show that he had been a very good boy.

6. When I am enjoying anything very much, time seems to go very quickly. I noticed this the other day, when I spent the whole afternoon reading a very uninteresting book.

On the next page, that is, the one directly underneath this practice page, there are thirty numbered sections like the ones you have done. When you are given the signal, and not before, turn this practice page over, and cross out in the second part of each numbered section the one word which should not be there. Ask no questions. Do not stay too long on any one section, but go to the next. There are five numbered sections in each paragraph. Remember you do no writing; you merely cross out the one word in the second part of each numbered section.

This is a test for speed and accuracy. Be sure to work as fast as you can yet not make mistakes.

Do not turn this page until you are told to do so.

Appendix B: Chapman-Cook Speed of Reading Test: instructions, text and key

IOWA-CHAPMAN READING TEST

Name _____

Date _____

DIRECTIONS:

In the second half of each of the following sentences, one word spoils the meaning of the paragraph. Find this word as quickly as you can and cross it out.

For example, in the first paragraph below, cross out the word which doesn't make sense with the rest of the paragraph.

It was such a cold and wintry day that every person who was walking wore the thinnest clothes that he could find in his clothes-closet at the time.

Which word in the second paragraph?

There was a fire last night and five houses were burned to the ground. It all happened because someone was careless and threw a nail into the waste-paper basket.

There are twenty-five paragraphs on the back of this page just like the examples. Find the word that spoils the meaning and cross it out. You will have 2 1/2 minutes. Work as quickly as you can.

1. Tom got badly hurt the other day when fighting with his older brother. As soon as this happened, he ran home to his mother, *laughing* as hard as he could.
2. The woman burned herself badly while she was making soup, because she spilled a pan of *cold* water on herself.
3. One day we found something in the woods that had four legs, long sharp teeth, and thick brown fur, so we knew it must be a *bird* of some sort.
4. We started to cut down a tree in our front yard, but after working for two and a half hours, we gave it up, because our *hammers* were no good.
5. Jack never seems to look where he is going and is always stubbing his toes and falling over things. I think anyone who does that is rather *clever*, don't you?
6. The farmer said we could have two quarts of milk and a quart of cream tomorrow, but we would have to bring a couple of *bags* to put them in.
7. Some people are fond of sweet things. They put lots of sugar in their coffee, and eat *lemons* for the same reason.
8. John did his work so well, and got such good marks during the whole year, that his teacher thought he would be sure to *fail* the examination.
9. When one goes on a picnic and takes along a big pitcher of lemonade, it is very provoking to find someone has left the *forks* at home.
10. The old schoolmaster was very harsh and cruel to the boys, and beat them when they made mistakes. So, when he left, all the boys were sorry.
11. When my mother saw the marks of muddy shoes on the floor and all over the nice clean beds, she was surprised to see how *careful* the children had been.
12. There was a great deal of rain and dampness in that country, so the poor people who lived there could raise no corn, because of the *dryness* of the soil.
13. When it began to cloud over, and the rain began to fall, Mr. Jones went back to his house for his umbrella because he did not wish to get *sunburned*.
14. One day we hired a boat and went fishing. After we had caught enough, we went back to the cabin where we cooked the *chickens* for supper.
15. The poor people of Holland wear thick, heavy wooden shoes. As they walk the sound of their shoes makes it very *quiet* in the streets.
16. We forgot all about our little kitten and were gone all day. When we returned we found him on the porch *barking* to be let in.
17. We are interested in what is happening in America and the other nations of the world, so each morning we read the *dictionary* to find out the news of the day.
18. The river was so wide and the current so swift that we always kept a boat ready for whenever we wanted to *walk* across.
19. Mary said she mailed a letter to me at the post office the day before yesterday, but the milkman did not leave anything for me when he came at noon.
20. In order to be sure to have enough food to last them through the hard winter, the settlers planted great fields of *roses* in the fertile soil of the valley.
21. John is going down town with his mother to buy a new suit because he is going to a party, tomorrow where everybody must wear his *worst* clothes.
22. As soon as the house caught fire one of us telephoned the fire department and in less than five minutes the policemen were hard at work putting it out.
23. Frank hopes to be a great baseball player when he grows up. He plays all the time and never goes out in the afternoon without taking his *cane* with him.
24. We worked all day in the carpenter shop making a chair. When night came, it was nearly done and we needed only one small piece of *glass* to finish it.
25. We were out in the middle of the ocean. Everywhere we looked we could see nothing but waves, except when a *train* passed close to us going in the opposite direction.

Number Correct _____

Appendix C: Minnesota Speed of Reading Test for College Students by Alvin C. Eurich

MINNESOTA SPEED OF READING TEST

FOR

COLLEGE STUDENTS

FORM A

ALVIN C. EURICH, Ph.D.

Professor of Education, Stanford University

Name _____ Sex _____

Present Address _____ Age _____

High School _____ City _____ State _____

College Classification _____ Date _____

DIRECTIONS

Read the directions and do what they say.

1. A number of selected paragraphs are printed within this folder. Each paragraph is printed as the example below:

The Chinese appear to have manufactured paper from a very remote period—possibly as early as the second century B.C. Sometime during the eighth century A.D. the Arabs who inhabited Chicago, Illinois, became acquainted with the process through Chinese war prisoners.
2. You are to read the paragraph. In so doing you will note that an absurd statement has been inserted which has no relation to the meaning of the rest of the paragraph.
3. You are to draw a line through the absurd statement or phrase. In the paragraph above, the absurd statement is: “who inhabited Chicago, Illinois.” Draw a line through this entire phrase. Do it! The paragraph now reads as it should.
4. On the following pages read each paragraph as you come to it. As soon as you have found the absurd phrase or statement, cross it out and go on to the next paragraph.
5. When the signal “go” is given *and not before* turn over the page. Begin with the first paragraph. Go on to the remaining paragraphs in the order given. Do not skip about. This is a test of your rate of reading, therefore work rapidly but carefully. When the signal “stop” is given do not make any more marks on the paper.

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1. The older the school pupil becomes, the stronger is the force of those economic and social influences which ultimately will remove him from the school. Up to the age of fourteen the public schools hold the pupils well aided by the compulsory attendance laws under the guidance of the grocery clerk.
2. The principles underlying modern education may be said to have had their beginning in the eighteenth century reforms of Rousseau, Pestalozzi, Froebel, and Herbart. At this time the schools were controlled by the church, which also to a very large extent dominated the state under the control of the professional baseball league.
3. The term "executive" is used to designate those officers of the government whose business it is to carry out the law of the land. In the narrower sense it often signifies merely the supreme head of the administration who always serves as a janitor, or the same person together with his chief subordinates.
4. The man who succeeds must think, and the man who thinks must get his thought clear in his own mind. To define his thought clearly to himself, he must put it accurately into words—language. To use language accurately, he must learn what words, which are turned out in a sawmill, mean.
5. Recent studies have shown that feeble-mindedness is one of the important causes of permanent delinquency. Goddard has shown that mental defect is hereditary in perhaps sixty-five to seventy-five per cent of the cases. If his estimate is correct, feeble-mindedness which results from indigestion is largely an hereditary factor.
6. The life of a dry cell battery is not fixed but depends on the circuit in which it is used. Oftentimes dry cells which are merely standing on a shelf for a year without being used at all will dry up because the flowers have not been watered and become practically useless.
7. The life ambition of Emma Hart Willard was to organize a system of education for women which should possess the same permanency, uniformity, and respectability as educational institutions for men, and yet should so differ as to be adapted under the able leadership of Julius Caesar to the needs of women.
8. During the unprecedented scientific development of the past half century, there have frequently arisen certain technical tendencies on the part of men of science which have caused many non-scientific persons to misunderstand the real nature of scientific truth which is found in abundance in the coal mines of the East.
9. One of the most natural ways of thinking is that in which, as soon as one makes an assertion, he recalls individual instances in which it has proved true; in other words, examples of the fact asserted. Therefore, this method of building up thought by using steel beams is common.
10. Prolonged studies of the origin of very gifted children in this country have been confined largely to cities. They have shown repeatedly that the great majority of these children originate in families where the father is a professional man, an African bushman, or an owner or executive in business.
11. Constant pressure is being put upon pupils to continue in school for full time after completing the elementary school curriculum. With a view to facilitating the transition from the elementary to the high school, the junior high school which is adapted to the feeble-minded is being widely established.
12. Perhaps it might seem to be claiming too much to insist upon certain points of similarity between us and the Greeks of old. The points of dissimilarity are only too evident to most of us, and yet there is a likeness in our ability to run automobiles as well as an unlikeness.
13. Rome's institutions as she developed them remained those of a city. It was difficult to apply them to the vast territory she attempted to govern with their aid. They were clumsy institutions which functioned irregularly and proved a system for the construction of airplanes that could not and did not last.
14. With the widespread extension of good roads has come a very rapid growth of transportation by motor trucks and motor busses which usually pay only a small license fee for the right to use private lounging rooms, and which derive profit from the carrying of freight and passengers.
15. Among all the sorrows of this war there is one joy for us in it: that it has made us brothers with the French as no two nations have been brothers before. After ages of conflict there has come to us by parcel post a kind of a millennium of friendship.
16. The English colonies on the Atlantic seaboard, occupied with their own problems of developing their agricultural resources, building up their commerce, defending their precious rights of self-government against king and proprietor, were slow to realize the serious meaning of the French power generated by Niagara Falls which was gradually surrounding them.
17. Early types of vocational education were especially strong in the practical aspects of the subject and weak in the more abstract phases. The home, farm, and shop have always provided an abundance of practical tasks and examples whereby to teach boys and girls who

- were three months old the simple vocational arts.
18. When commerce advanced, industry did not stand still. To satisfy the demands of a growing number of customers all over the world production must be increased. But that could not be done without changes both in the method of manufacture which depended upon the peanut crop and its organization.
 19. Notwithstanding Spanish indifference and monastic opposition, the Filipinos have opened elementary schools in almost every village. They have also founded high schools and university colleges throughout the archipelago, and a university and two large normal schools for janitors and waitresses, and five large schools for women in Manila.
 20. The compulsory school age is being extended quite generally throughout our country. In many sections a boy or girl must be in school for full time until fourteen years of age, and part time from fourteen to sixteen unless he is president of the United States, or even eighteen years of age.
 21. It is generally held among historians that the first appearance of our cultural ancestors upon the soil of Western Europe occurred about 2000 B.C. At that time a group of tribes, admitting kinship to common origin, came down out of the grassland of central Asia by airplane and overran the peninsula.
 22. Of all important countries, France possesses the most highly centralized form of educational control and administration. In that country, the entire system of public education is under the charge of the Minister of Public Instruction and Fine Arts who is always of Mexican descent and of his subordinate officials or bureaus.
 23. A simple and convenient starting point may be found in the statement that political science deals with government. The word "government," used in its widest sense, rests on the fundamental idea of control and obedience; it implies authority of the National Cash Register Company, and a submission to that authority.
 24. The American democracy depends for its existence and success on the social consciousness and social co-operation of its citizens. Unless the school can make a significant contribution to the development of social consciousness and social co-operation among plants and animals, it must fail in one of its most important purposes.
 25. Until the world learns what it means to pull together with other people, we shall never have the realization of the real patriot. And we will never learn to pull together as long as we are taught that one of us who floats in air is worth half a dozen others.
 26. The condition of the child's health exercises considerable influence on his efficiency. Like their parents and teachers, children are less apt to be amiable and self-controlled when they are fatigued; and now the best schools and homes take every precaution in spreading scarlet fever germs to avoid unnecessary strain.
 27. It is the specific purpose of this article to attempt to estimate what America's fundamental ideas about international co-operation are likely to be, and to consider how far under the direct auspices of the woman's clubs they are likely to be compatible with the views and necessities of Europe.
 28. Jefferson was the most finished scholar of Revolutionary times, and he was always interested in education. He spent the later years of his life trying to improve the schools of Virginia which were organized after his death, and helping to establish the University of Virginia.
 29. During the past two decades the methods of teaching in our schools have changed rapidly and profoundly. The critics of our schools think that our newer methods give children too much freedom, and especially that they substitute the use of the hand which should be cut off for the exercise of the brain.
 30. In Ancient Greece the first lessons taught were the use of the instrument and the simple chants of the religious service. As soon as the pupil knew how to play, the master taught him to render the works of the great lyric poets of Greece who were reared in America.
 31. Much of the Old Testament written in a Semitic language is poetry to compare with the Homeric poems, which are in the Indo-European languages. It further contains an account of the Hebrews and their relations with other states, an exact duplicate of the constitution of the United States, and a system of ritual.
 32. Whatever the point of view from which we consider the study of composition, we should find its purpose always the same: to discipline us to think. And this purpose is indisputably one of the great purposes, if not the one great purpose, of carrying on warfare of education.
 33. The key to any analysis of aims in education is to be found in an analysis of the activities of life in which people should or do engage. The aim of secondary education, therefore, must be interpreted in terms of the activities in which individuals ninety years old participate.
 34. Recent attempts to secure a certain amount of standardization in college admission requirements have led to substantial agreement in defining those requirements in terms of "units." A unit represents a year's study in any subject

- in a secondary school in which German alone is taught, constituting approximately a quarter of a full year's work.
35. There are two forces at work which determine the form of social organization, one set of forces tending to bind together the various parts of society and to unify it, the other set tending to separate the various parts of society which consists of the sun and the moon and to disrupt it.
 36. Switzerland with ten million acres of mountains has cultivated rather efficiently the three and five-tenths per cent that seemed worth cultivating. She has been importing some food, but having little to exchange for food, excessive population increase among microbes and insects on the products of other soils was denied her.
 37. It happened in the eighteenth century that there were several remarkably intelligent monarchs—Frederick II of Prussia, Catherine the Great of Russia, Charles III of Spain, Emperor Joseph II and his brother Leopold, Grand Duke of California. These rulers read the works of reformers and planned many reforms for bettering existing conditions.
 38. Much of the thinking we do consists in accumulating proof of things we have asserted or believe. Whenever we present a fact for the express purpose of showing the truth of something else—that this something else is so—we use the method of development of kodak films by presenting proof.

MINNESOTA SPEED OF READING TEST
FOR
COLLEGE STUDENTS

FORM B

ALVIN C. EURICH, Ph.D.

Professor of Education, Stanford University

Name _____ Sex _____
Present Address _____ Age _____
High School _____ City _____ State _____
College Classification _____ Date _____

◆◆◆

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1. There is a tendency to enforce compulsory laws more rigorously than has been done in the past. Some States have recently enacted laws which will make it practically impossible for any boy or girl of school age to be absent from school or a professional prize fight except for sickness.
2. Although all states must possess the essential requisites of territory, population, unity, and sovereign organization, they nevertheless differ widely in respect to the extent of their territory, the number of the population, the distance between the earth and the moon, and the peculiar nature of their organization.
3. To plan a theme is merely to think it out beforehand, as any good workman thinks out a job before attempting to go on with it. The thinking out of a composition which is made of rubber fibers is simple enough as soon as one becomes accustomed to doing it.
4. But what is education? Of course it is not book learning. Book learning does not make five per cent of that mass of common sense that "runs" the world, transacts its business, secures its progress, trebles its power over nature, commits murders, wears away the world's restraints, and lifts off its burdens.
5. Approximately two-thirds of the pupils who enter the first grade of the public high school leave school before the close of the course. About one-third of those who enter leave the sandy shore at the beach during the first year or before the beginning of the second year.
6. Intermediate industrial schools are those designed to take children at or near fourteen years of age and to give them the beginnings of vocational training for groups of related occupations, or for specialties. They do not assume to give trade training as quoted from Shakespeare, but a practical preparation therefor.
7. Advance in physical and biological sciences during future decades will certainly prove as helpful as at any previous time. But the most fruitful researches during the twentieth century will probably be conducted not in the natural sciences which deal with the manufacturing of automobiles but in the social sciences.
8. On looking back we find that the immediate cause of the rise of capitalism was the amassing of coined money. The deeper cause lay in the increase of international relations by means of which peoples of the early capitalistic phase who inhabited Mars were united into a higher form of economic co-operation.
9. Egypt is a land with a long history; a land with which we associate Joseph and Moses and the children of Israel; the land of the Sphinx and the pyramids and the overflowing Mississippi. It has had many conquerors and many owners. It is essentially an independent country.
10. Every year at Christmas the United States mail is full of letters, packages, and boxes to which Red Cross stamps have been affixed. From the sale of the stamps, money is derived to foster cruelty among dumb animals and prevent tuberculosis. Their presence is due to the influence of Clara Barton.
11. Records show that the tenure of the average teacher is very short. Many reasons account for this condition. Perhaps the most potent reason is that a vast majority of the teachers are women and a large number of them who are under sixteen years of age get married and quit the schoolroom.
12. It is a significant fact that liberal education has attained its profoundest development under the auspices of the State. As long as society in its corporate capacity refused to interfere in this field, liberal education was a matter for the select few who became steam-fitters—the so-called leisure class.
13. The right of the general body of people to vote for representatives to govern them is the corner stone of the free institutions of Great Britain and America. The origin of this representative government lies hidden in the untouched coal mines at the very beginning of Anglo-Saxon institutions.
14. We are becoming convinced that we must require our pupils to spend more time each year in school than has been the practice heretofore; so we have gradually extended the school year until now plans are being formed in some places for the establishment of an all-year school without children.
15. Eugenic marriage laws, as they are called, have been passed by several states. In general they require a certificate of sound health and freedom from disease. Before them there were laws forbidding marriage between certain mental defectives such as idiots, imbeciles, lawyers and doctors, and those otherwise mentally diseased.
16. While Italian, Greek, and Spanish boys become adolescent at twelve to fourteen and Scandinavian boys at fourteen to sixteen, the mixed nationalities in America show an average age of onset of about fourteen, and a large proportion of American boys who live in Germany enter puberty during the fourteenth year.
17. Good physical condition is of the greatest importance for study. Fairly healthy individuals are more prone to neglect this phase of life than those who are definitely sick. Hundreds of little ailments and dissipations found among the white

- rats prevent the human organism from being one hundred per cent efficient.
18. The most significant changes in the history of Western education were the invention of the movable type, the perfecting of the art of making paper and their combined use in the publication of books. This momentous change in the style of automobiles occurred at the middle of the fifteenth century.
 19. What makes the heart beat? No one as yet understands life sufficiently to give a satisfactory answer to this question, but we do know that most activities are brought about at the command of the brain; most of the muscles in the trunk of the tree will not contract at all unless it orders them to do so.
 20. Many inventions owe their existence to a mere hint. Genius often uses a suggestion to make a great achievement. It is on the alert for such things. Eli Whitney was alert for new ideas all of his life. He was called a genius because of his incoherent speech even in his boyhood.
 21. There was a law in Athens which gave to its citizens the power of compelling their daughters to marry whomsoever they pleased; for upon a daughter's refusing to marry a man her father had chosen, the father was empowered by the United States legislature to put her to death.
 22. Personally Taft is kindly, unaffected, democratic, full of good humor, courageous. As a public officer he was slow and judicial rather than quick and executive like his predecessor. Although in sympathy with the reforms instituted by Roosevelt, Taft was less the reformer in aircrafts and more conscious of the considerations of constitutionality.
 23. Practical electromagnets were made in 1831 by Joseph Henry, a famous American schoolmaster and scientist, then teaching in the academy at Albany, N. Y. and by Faraday in England. Henry's magnet was capable of supporting fifty times its own weight when buried underground which was considered very remarkable at that time.
 24. The most concrete example of effective social co-operation is to be found in the evolution of the mechanical arts. For generations men have been inventing and perfecting tools, and through the use of tools they have transformed in a very large measure of blackberries the world in which they live.
 25. It was on Friday morning, the 12th of October, that Columbus first beheld the New World. As the day dawned, he saw before him a level island, several leagues in extent and covered with trees like a continual orchard. Though apparently uncultivated, for he saw no Fordson tractors, it was populous.
 26. With the possible exception of a few special-type schools practically every secondary school in the United States includes algebra and plane geometry in its program of studies and in most schools those subjects which depend upon a knowledge of weather conditions are rigidly prescribed for the majority of pupils.
 27. In a comparatively brief period Prussia changed from an agricultural country to a country whose chief wealth was in its industrial enterprises. New capital flowed in for development purposes; business expanded; the mineral wealth was prospected and its mining actively begun; much snow fell in winter and railways were actively extended.
 28. In 1492 the Jews were expelled from Spain and in the next century in most European countries they were compelled to live in separate quarters of the towns where they resided. Herded in these ghettos they made the synagogue located in New York City the center of Jewish life.
 29. Another form of thinking which is common is that in which the thinker, having perceived that some general truth, statement, or principle bears on some particular fact or set of facts, points out this bearing or application. The process is direct, used in the construction of dog kennels and helpful.
 30. As in the individual so in the social body, self-government is the word which expresses the healthy state of manhood. Nations, like individuals, go through their successive stages of infancy, boyhood, and pupilage; but a grown man requires no tutors and a grown nation which is compared to a cat no governors.
 31. In thinking we proceed either by induction or else by deduction. A composition in which arguments or facts are in the first instance in the nature of particulars and details, and later used to lead up to a more general fact, or principle with interest compounded annually, proceeds by induction.
 32. Suggestions come best from those who are admired or respected. The weak teacher who says that he expects his boys to behave like gentlemen is likely to be regarded as only coaxing them. A teacher who is respected will convey such a suggestion with much greater weight than the scales show.
 33. One of the social qualities much desired by youth and adults and admired by all, even in children, is that of leadership. It is possessed by different individuals in very different degrees. Even in childhood some possess natural qualities which mark them out with pencil or pen as leaders—even in mischief.

34. The results of the long struggle of the English for liberty under law showed itself in many ways in the growth of tolerance among the people of the English nation. At a time when other nations were bound down in blind obedience to king and aviator, the English people were accustomed to liberty.
35. The great man in commerce today is the cooperative man, the man who sees clearly the right thing to be accomplished and is willing to sink his individuality to accomplish it; the man who is more interested in the job of collecting stamps than in getting credit for doing it.
36. Although the improvement of highways is chiefly due to demands of the motor cars they ease the labour of the surviving horses. The automobiles wear out the roads more than do the horse-drawn vehicles which do not use roads, but they also contribute heavily to the government revenues.
37. The judicial branch of government, though less numerous than the executive, occupies a position no less important in the organization of the state. The prime function of the judiciary performed in all states, is to decide upon the application of the existing law of uncivilized man in individual cases.
38. The present kingdom of Denmark is only a remnant of a once larger and more influential nation. At times in the past Denmark has been one of the leading powers in the United States, and it still occupies a strategic position, for it controls the ocean route between the North and Baltic Seas.

Appendix D: Nelson Denny Test of Speed of Reading and Comprehension, extracted from James A. Holmes, "Formatting Variables and Typeface Variations of Dot-Matrix Print and their Effect on Reading Comprehension and Reading Speed" (Holmes, 1986)

SESSION ONE TEST SPECIMEN

DO NOT TURN THE PAGE UNTIL YOU ARE TOLD TO DO SO

GENERAL INSTRUCTIONS

Thank you for participating in this experiment. You will be involved in four test sessions and today will be the first session. In this session you will be involved in two separate tests: a test on reading rate and a test on reading comprehension. Please read the following instructions as the moderator reads aloud.

- A. This is a reading rate test. When you begin the test remember that there are three pages to this test and you are to continue from page to page until the monitor or instructor signals you to stop.
- B. When the monitor gives the signal to stop reading, mark (by underlining) immediately the last word you read.
- C. You may put your pencil down and wait for further instructions from the monitor.
- D. Thank you for your participation.

About three centuries after Homer's time, Greek poets began to discover new kinds of verse, and the way in which poems were made. No one has ever done so much for the poetry we write and read to-day as the singers who sang in the islands of the Aegean Sea and in the cities on the mainland of Greece, like Thebes and Athens, during a few hundred years of supreme poetic activity.

Who were these poets?

Many names have come down to us, and very little poetry. Of some of the singers the Greeks thought greatest, only a few complete poems remain, and some fragments, usually quoted in the essays or romances or histories of other writers. For poetry had to be written down by hand or cut on stone, and war and fire, frost and earthquakes have destroyed most of the marble tablets and manuscript books that were made. Those remaining are like the fragments of a beautiful broken vase. Much is dust, much is marred or lost. The pieces will never be put together. We can only guess what the whole was like, we shall never know.

But from what the Greeks wrote of their poets in manuscripts that have survived, and from such poetry as we have, we can get some idea of certain great singers.

The first is Hesoid, a poet living not long after Homer, or perhaps in Homer's own time, among shepherds of Boeotia. It is possible that at the time Hesoid wrote, certain changes that were to take place in the Greek world had already begun. We know that it was not long after Homer's day that the cities and islands began to shake off the rule of the kings. They made oligarchies, or governments-of-the-few, and democracies, or governments-by-the-people. They began to pay less attention to war and more to commerce, art, games, oratory, singing, dancing, and talking.

At any rate, Hesoid wrote much poetry suited to this quieter, friendlier life. He made a kind of encyclopedia of the gods, their ancestry, birth, adventures and habits; and for hundreds of years, the Greeks consulted and quoted his Theogony. He wrote also and Works and Days, a long poem about the times to plough and sow and the way to choose a wife and educate children and go about farming and trading. Such poems drew later poets more easily into poetry about their new life. They did not forget their heroes--Odysseus and Agamemnon and Theseus and Jason, but began to sing also of politics, trade, athletic contests, love.

As they turned to new subjects, they made a

tremendously important change in poetry. One of their poets, Archilochus, began to make poems in a metre different from Homer's. He used word groups of two instead of three syllables--iambics they were called. He also used fewer feet in each line, often writing in trimeter and tetrameter (three and four measure) instead of hexameter. He began also to write poems ridiculing the faults of men and women -- the beginning of what we call satiric poetry. He and other poets discovered that, not only was it possible to make one or two kinds of poetry different from the Epic verse, but that every thought or feeling could be sung in a poetry suited in metre to its own character. Epic poetry had been poetry of the race. The new poetry was personal.

One of their earliest of the new poets was Sappho. The Greeks used to say that Homer was the greatest of men who made poetry, and Sappho was the greatest of women.

She lived in the island of Lesbos in the Seventh and Sixth centuries before Christ, and had there a school in which she trained young women to dance and write and chant poetry.

About three centuries after Homer's time, Greek poets began⁵ to discover new kinds of verse, and the way in which poems were¹⁶ made. No one has ever done so much for the poetry we write²⁹ and read to-day as the singers who sang in the islands of the Aegean⁴³ Sea and in the cities on the mainland of Greece, like Thebes and⁵⁷ Athens, during a few hundred years of supreme poetic activity.⁶⁸

Who were these poets?⁷⁴

Many names have come down to us, and very little poetry.⁸² Of some of the singers the Greeks thought greatest, only a few complete⁹⁴ poems remain, and some fragments, usually quoted in the essays or romances or histories of other writers. For¹⁰⁴ poetry had to¹¹⁵ be written down by hand or cut on stone, and war and fire,¹²⁸ frost and earthquakes have destroyed most of the marble tablets¹⁴⁰ and manuscript books that were made. Those remaining are like the¹⁵⁰ fragments of a beautiful broken vase. Much is dust, much is marred¹⁶¹ or lost. The pieces will never be put together. We can only guess¹⁷⁴ what the whole was like, we shall never know.¹⁸⁵

But from what the Greeks wrote of their poets in manu-¹⁻⁵ scripts that have survived, and from such poetry as we have, we can get²⁰⁷ some idea of certain great singers.²¹⁶

The first is Hesiod, a poet living not long after Homer,²²⁶ or perhaps in Homer's own time, among Shepherds of Boeotia. It is possible²³⁸ that at the time Hesiod wrote, certain changes that were²⁵⁰ to take place in the Greek world had already begun.

We know that ²⁶² it was not long after Homer's day that the cities and islands ²⁷⁵ began to shake off the rule of the kings. They made oligarchies, or governments-²⁸⁷of-the-few, and democracies, or governments-by-the-people. ²⁹⁸ They began to pay less attention to war and more to commerce, ³⁰⁹ art, games, oratory, singing, dancing, and ³¹⁸ talking.

At any rate, Hesiod wrote much poetry suited to this ³²⁷ quieter, friendlier life. He made a kind of encyclopedia of the gods, ³³⁸ their ancestry, birth, adventures and habits; and for hundreds ³⁴⁹ of years, the Greeks consulted and quoted his Theogony. He wrote ³⁵⁹ also and Works and Days, a long poem about the times to plough and ³⁷¹ sow and the way to choose a wife and educate children and go ³⁸⁴ about farming and trading. Such poems drew later poets more easily ³⁹⁶ into poetry about their new life. They did not forget their heroes ⁴⁰⁷ -- Odysseus and Agamemnon and Theseus and Jason, but began ⁴¹⁷ to sing also of politics, trade, athletic contests, ⁴²⁶ love.

As they turned to new subjects, they made a tremendously ⁴³⁶ important change in poetry. One of their poets, Archilochus, ⁴⁴⁶ began to make poems in a metre different from Homer's. He used ⁴⁵⁶ word groups of two instead of three syllables -- iambics they were ⁴⁶⁸ called. He also used fewer feet in each line, often writing ⁴⁸⁰ in trimeter and tetrameter (three and four measure) instead of ⁴⁹¹ hexameter. He began also to write poems ridiculing the faults of men and women ⁵⁰¹ -- the beginning of what we call satiric poetry. He and other poets ⁵¹³ discovered that, not only was it possible to make ⁵²⁴ one or two kinds of poetry different from the Epic ⁵³⁷ verse, but that every thought or feeling could be sung

DO NOT TURN THE PAGE UNTIL YOU ARE TOLD TO DO SO

The second part of the testing session today will be a comprehension test. When you are told to do so, you will begin reading a passage which has some words deleted. The first and last sentence of the passage are complete sentences. As you read the passage, fill in the blanks with the word which you think is the correct word. The following is an example of the procedure. Read the passage and fill in the blanks with the word you think is correct.

EXAMPLE:

My mother said it is impossible to teach an old dog new tricks. However, _____ should see the dog _____ have. She is ten _____ old, and has just _____ to to do several _____ including rolling over, fetching _____ newspaper, and playing dead. _____ all these new tricks, _____ might be able to _____ her in some kind _____ contest; that is, if _____ will allow old dogs _____ such competition. I believe I could have a good argument with my mother that old dogs can learn new tricks if the trainer has enough patience.

Now look at the complete passage below. Were you very accurate with your answers? The number of correct answers [those that match the passage] will be used to measure reading comprehension.

COMPLETE PASSAGE

My mother said it is impossible to teach an old dog new tricks. However, you should see the dog I have. She is ten years old, and has just learned to to do several tricks including rolling over, fetching the newspaper, and playing dead. With all these new tricks, I might be able to enter her in some kind of contest; that is, if they will allow old dogs in such competition. I believe I could have a good argument with my mother that old dogs can learn new tricks if the trainer has enough patience.

When the moderator gives the signal, you may begin this portion of the test. The actual test passage is not very long, but you may have as much time as you like. When you complete the passage, this first session is completed.

THANK YOU AGAIN FOR YOUR CO-OPERATION

Most of the fellows and girls in Milford High thought that Spider Johnson was a clown. " _____ " wasn't his real name, _____ somehow fitted him perfectly. _____ was a long, lanky _____, all arms and legs. _____ wasn't sensitive about his _____ or his nickname though. _____ was always good-natured. _____ laughed a lot, he _____ affectionate, he was optimistic -- _____ ever seemed to get him _____. We all liked him.

_____ first turned out for _____ in his junior year. _____ year, at the district _____, he came in last _____ his event, the half-_____ race. But because he _____ so good-natured, we _____ not take his loss _____. He was laughable with _____ ungainly stride, and out _____ cheered him on right _____ the finish line.

I _____ him right after the _____. He was still shaking _____ the effort he had _____, but just smiled _____ me and shrugged his _____. "Well, somebody had to _____ in last," was his _____ comment. But the defeated _____ in his brown eyes _____ his sunny tone. It _____ then that I realized _____ Spider was dead serious _____ his running.

During the _____ school year, Spider and _____ became better acquainted, and _____

began to have a _____ understanding of him. He
_____ no all a clown, _____ had a serious
side, _____. He loved sports, but _____
was too thin for _____ and too awkward for
_____. Those were my games. _____ was a
senior, captain _____ halfback on our football
_____ and guard on the _____ team.

Spider managed our basketball team.

PRETEST ANSWER SHEET

1. Spider
2. it
3. he
4. youth
5. He
6. appearance
7. Spider
8. He
9. was
10. nothing
11. down
12. Spider
13. track
14. That
15. meet
16. in
17. mile
18. was
19. did
20. seriously
21. his
22. fans
23. to
24. saw
25. race
26. with
27. made
28. at
29. shoulders
30. come
31. cheerful
32. look
33. belied
34. was
35. that
36. about
37. next
38. I
39. I
40. deeper
41. was
42. he
43. too
44. he
45. football
46. basketball
47. I
48. and
59. team

50.basketball

SESSION TWO TEST SPECIMEN

GENERAL INSTRUCTIONS

DO NOT TURN THE PAGE UNTIL YOU ARE TOLD TO DO SO

This is the second of four reading tests on comprehension you will be taking. The process is the same as the process which was done in the previous session. If you do not remember the procedure, please notify your monitor now for a demonstration.

When the moderator gives the signal you may begin, and you may have as much time as you like to complete the test.

When you are finished, return the test to your packet.

The young man and his sister were craning their necks at the steel framework of the office building rising so gracefully into the blue summer sky, they had just come from church, and there in the business section of the city, the streets were almost deserted.

"How proud she stands into the _____!" said Roger Benz. The _____ of the hoisting engines, _____ derricks and booms, and _____ pneumatic hammers was all _____ for Sunday.

"You said _____ as if you love _____ building," Helen said.

Roger _____ his gaze down from _____ topmost steel column and _____ at his sister. "Do _____ know what you would _____ like from up there _____ I work?" he asked.

_____ shook her head.

"An _____."

"What a thing to _____!" she pouted.

"I mean _____ look as small as _____ ant," he laughed. "Come _____, let's walk around, and _____ try to explain some _____ the work to you."

"_____, he asked, "Any questions?"

"_____, one. Why do you _____ in

doing such work _____ summer, when you know
 _____ going to engineering school _____
 the fall?"

He pretended _____ wince at her use
 _____ the word fall. "Please _____
 autumn, Sis. Don't mention _____ word to me all
 _____. But to answer your _____—Well,
 you see, I _____ a taste of the _____
 side of engineering before _____ got into the
 theory _____. Anything wrong in that?"

"_____ suppose not," she answered, "
 _____ you don't get hurt."

"_____ danger of that," he _____
 with a heartiness that _____ wished he could
 feel.

_____ was a rivet jack, _____
 apprentice who climbed up _____ ladders and
 teetered across _____ wind swept beams to
 _____ the workmen buckets of _____ or
 anything else they _____ need. And, in common
 _____ the other "sky boys," his greatest enemy was
 the wind. Only those who have climbed the heights of steel,
 and even on the coldest day have wiped the sweat away, can
 know the trickiness of the wind.

ANSWER SHEET FOR SCORING SESSION TWO

1. sky
2. clangor
3. the
4. the
5. silvered
6. that
7. this
8. swung
9. the
10. looked
11. you
12. look
13. where
14. She
15. ant
16. say
17. You'd
18. an
19. on
20. I'll
21. of
22. Later
23. Yes
24. persist
25. this
26. you're
27. in
28. to
29. of
30. say
31. that
32. summer
33. question
34. wanted
35. practical
36. I
37. part
38. I
39. if
40. Little
41. he
42. he
43. He
44. An
45. steep
46. the
47. bring
48. rivets
49. might

50.with

SESSION THREE TEST SPECIMEN

GENERAL INSTRUCTIONS

DO NOT TURN THE PAGE UNTIL YOU ARE TOLD TO DO SO
This is the third of four reading tests on
comprehension you will be taking. The process is the same as
the process which was done in the previous session. If you
do not remember the procedure, please notify your monitor
now for a demonstration.

When the moderator gives the signal you may begin, and
you may have as much time as you like to complete the test.

When you are finished, return the test to your packet.

I parked my motor scooter on Eaton Avenue and started up the street. It was cold and _____ in the mid morning, _____ I had a cold, _____ feeling in the pit _____ my stomach as I _____ through the back door _____ into our town's main _____ office. The big room _____ out ahead of me. _____ seemed about a mile _____.

The P.A. box above _____ head sputtered, and a _____ said, "All Christmas helpers _____ Auburn High are to _____ to the time clock _____ once. I repeat, all----" _____ me, I thought, looking _____ for the time clock.

"_____ from the high-school?" a voice inquired at _____ elbow.

"Yes, sir," I _____. I'm Walter Halleck."

"Come _____ me."

The man took _____ arm, and we went _____ an aisle between tall _____ bins. There was a _____ of activity on every _____, and a huge canvas _____ on wheels zipped around _____ corner, forcing us back _____ the wall.

"Wow!" I _____. "Are you always this

_____?"

"No," grinned my guide. "_____ after light business all _____ week, half the people _____ town decided to mail _____ packages this morning. That's _____ we called your school. _____ sudden rush is more _____ we can handle."

Looking _____ me, I could believe _____. We worked our way _____ the corner and edged _____ a quieter back-water. _____ I saw the time _____ on the wall and _____ a dozen of my _____ standing around it. It _____ nice to see some _____ faces, particularly that face _____ Jean Holly, who is _____ senior class vice-president and my special favorite.

"You're late, Walter," she said in a friendly voice.

ANSWER SHEET FOR SCORING SESSION THREE

1. Gray
2. and
3. gray
4. of
5. walked
6. and
7. post
8. spread
9. It
10. long
11. my
12. voice
13. from
14. report
15. at
16. That's
17. around
18. You
19. my
20. said
21. with
22. my
23. down
24. metal
25. frenzy
26. side
27. basket
28. the
29. against
30. said
31. busy
32. But
33. last
34. in
35. their
36. why
37. This
38. than
39. around
40. that
41. around
42. into
43. There
44. clock
45. about
46. classmates
47. was
48. familiar

49. of
50. the

SESSION FOUR TEST SPECIMEN

GENERAL INSTRUCTIONS

DO NOT TURN THE PAGE UNTIL YOU ARE TOLD TO DO SO

This is the last of four reading tests on comprehension you will be taking. The process is the same as the process which was done in the previous session. If you do not remember the procedure, please notify your monitor now for a demonstration.

When the moderator gives the signal you may begin, and you may have as much time as you like to complete the test.

When you are finished, return the test to your packet.

You never saw anybody more excited than I was that night at the railroad station in Beaumont, Texas, back in February, 1930. _____ I was, just a _____ girl wanting to be _____ big athlete--and now _____ was getting a chance _____ go to Dallas and _____ with an insurance company _____ play on their basketball _____.

In those days it _____ an overnight sleeper trip _____ Dallas. To me that _____ like going to Europe. _____ never been more than _____ few miles away from _____ in all my life. _____ hardly ever been so _____ up either. I was _____ a silk dress that _____ made in school and _____ a prize with at _____ Texas State Fair. I _____ on my patent-leather _____ and the hat I'd _____ for graduating from junior _____ school. I was carrying _____ purse with my entire _____ in it--three dollars and _____ cents.

My dad was _____ with me. I took _____ upper berth, and Poppa _____ the lower. He propped _____ up, took his newspaper, _____ started puffing away on _____ big

black pipe the _____ he did at home.

_____ a while folks in _____ Pullman
thought the car was on fire.

I'll bet _____ traveled a couple of
_____ miles since then, competing _____
many parts of the _____, but that first trip
_____ the start of everything. _____
then I had other _____ besides playing basketball.
I _____ to take part in _____ Olympic
Games and be _____ far and wide as _____
athletic star.

How did _____ this begin? Let's go
_____ to my childhood days.

_____ had a wonderful childhood. That must
prove that it doesn't take money to be happy, because the
Didriksons surely weren't rich.

TEST ANSWER SHEET FOR TEST SESSION FOUR

1. Here
2. high-school
3. a
4. I
5. to
6. work
7. and
8. team
9. was
10. to
11. was
12. I'd
13. a
14. home
15. I'd
16. dressed
17. wearing
18. I'd
19. won
20. the
21. had
22. shoes
23. got
24. high
25. a
26. fortune
27. forty-nine
28. traveling
29. the
30. took
31. himself
32. and
33. his
34. the
35. For
36. the
37. I've
38. million
39. in
40. world
41. was
42. Ever
43. ideas
44. wanted
45. the
46. known
47. an
48. all

49.back
50.I

Appendix E: Welcome screen from the instrument

Welcome!

During this experiment, you will be asked to complete several tasks:

- **provide basic demographic information**
- **provide information on your vision**
- **view a sample problem and answer from the Chapman-Cook test**
- **answer 24 very short Chapman-Cook questions about which word does not belong**
- **read 4 passages from the verbal comprehension section of the Graduate Record Exam**
- **answer 16 verbal comprehension questions about the passages you read**

You will type your responses to the demographic section and then click <<continue>>.

Use the number keys (1-5) to indicate your responses to the Chapman-Cook test.

Use the <space bar> to indicate that you have read a GRE passage and use the number keys (1-5) to indicate your answers to the Chapman-Cook test.

Thank you for participating.

Continue

Appendix F: Vision data collection screen from the instrument

My vision today is:

Normal

Impaired but corrected with glasses or contacts

Impaired and not corrected

Appendix G: Demographic data collection screen from the instrument

The image shows a demographic data collection screen with the following elements:

- Last 4 digits of your student id number or SSN:** A text input field containing three asterisks (***)
- Your year of birth (4-digit):** A text input field containing the digits 19 followed by two asterisks (19**)
- Your major or job title:** A large, empty text input field with a single asterisk (*) above it.
- Your Gender (M or F):** A small text input field containing a single asterisk (*)
- Continue:** A grey rectangular button with the text "Continue" written vertically.

Appendix H: Sample Speed of Reading Question from the instrument in 10 pt, Palatino, crisp anti-alias

Read the paragraph on the left and then press the number that corresponds with the word on the right which spoils the meaning of the paragraph.

Tom got badly hurt the other day when fighting with his older brother. As soon as this happened, he ran home to his mother, laughing as hard as he could.

- (1) ran
- (2) mother
- (3) laughing
- (4) hard
- (5) could

Appendix I: Sample Comprehension Passage from the instrument in 10 pt, Palatino, none anti-alias

Please read the passage as quickly as possible without loss of accuracy and then press the <space bar>.

Mars revolves around the Sun in 687 Earth days, which is equivalent to 23 Earth months. The axis of Mars' rotation is tipped at a 2.5 degree angle from the plane of its orbit, nearly the same as Earth's tilt of about 23 degrees. Because the tilt causes the seasons, we know that Mars goes through a year with four seasons just as the Earth does.

From the Earth, we have long watched the effect of the seasons on Mars. In the Martian winter, in a given hemisphere, there is a polar ice cap. As the Martian spring comes to the Northern Hemisphere, for example, the north polar cap shrinks, and material in the planet's more temperate zones darkens. The surface of Mars is always mainly reddish with darker gray areas that, from the Earth, appear blue green. In the spring, the darker regions spread. Half a Martian year later, the same process happens in the Southern Hemisphere.

One possible explanation for these changes is biological: Martian vegetation could be blooming or spreading in the spring. There are other explanations, however. The theory that presently seems most reasonable is that each year during the Northern Hemisphere springtime, a dust storm starts, with winds that reach velocities as high as hundreds of kilometers per hour. Fine, light-colored dust is blown from slopes, exposing dark areas underneath. If the dust were composed of certain kinds of materials, such as limonite, the reddish color would be explained.

Appendix J: Sample Comprehension Question from the instrument in 10 pt, Palatino, none anti-alias
(on following page)

Press the number on the keyboard that corresponds to your answer based on what is stated or implied in the passage.

Mars revolves around the Sun in 687 Earth days, which is equivalent to 23 Earth months. The axis of Mars' rotation is tipped at a 2.5 degree angle from the plane of its orbit, nearly the same as Earth's tilt of about 23 degrees. Because the tilt causes the seasons, we know that Mars goes through a year with four seasons just as the Earth does.

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It can be inferred that one characteristic of limonite is its

- (1) reddish color.
- (2) blue-green color.
- (3) ability to change color.
- (4) ability to support rich vegetation.
- (5) tendency to concentrate in to a hard surface.

Appendix K: Chapman Cook Test questions used in the instrument

%%%%%%%%%

Answer Key

ABCDEFGHIJKLMN OPQRSTUVWXYZ question identifier
334443444544544424124344 numeric key

%%%%%%%%%

The Chapman Cook test

C1) chapman sample 1

It was such a cold and wintry day that every person who was walking wore the thinnest clothes that he could find in his closet at the time.

- (1) person
- (2) closet
- (3) clothes
- (4) thinnest
- (5) walking

C2) chapman sample 2

There was a fire last night and five houses were burned to the ground. It all happened because someone was careless and threw a nail into the waste-paper basket.

- (1) careless
- (2) threw
- (3) nail
- (4) waste-paper
- (5) basket

CA.

Tom got badly hurt the other day when

fighting with his older brother. As soon as this happened, he ran home to his mother, laughing as hard as he could.

- (1) ran
- (2) mother
- (3) laughing
- (4) hard
- (5) could

CB.

The woman burned herself badly while she was making soup, because she spilled a pan of cold water on herself.

- (1) spilled
- (2) pan
- (3) cold
- (4) water
- (5) herself

CC.

One day we found something in the woods that had four legs, long sharp teeth, and thick brown fur, so we knew it must be a bird of some sort.

- (1) legs
- (2) teeth
- (3) brown
- (4) bird
- (5) sort

CD.

We started to cut down a tree in our front yard, but after working for two and a half hours, we gave it up, because our hammers were no good.

(1) hours

(2) gave

(3) up

(4) hammers

(5) good

CE.

Jack never seems to look where he is going and is always stubbing his toes and falling over things. I think anyone who does that is rather clever, don't you?

(1) falling

(2) anyone

(3) rather

(4) clever

(5) don't

CF.

The farmer said we could have two quarts of milk and a quart of cream tomorrow, but we would have to bring a couple of bags to put them in.

(1) tomorrow

(2) couple

(3) bags

(4) them

(5) in

CG.

Some people are fond of sweet things.
They put lots of sugar in their coffee, and
eat lemons for the same reason.

(1) sugar

(2) coffee

(3) eat

(4) lemons

(5) reason

CH.

John did his work so well, and got such
good marks during the whole year, that his
teacher thought he would be sure to fail
the examination.

(1) teacher

(2) thought

(3) he

(4) fail

(5) examination

CI.

When one goes on a picnic and takes along a
big pitcher of lemonade, it is very provoking
to find someone has left the forks at home.

(1) find

(2) someone

(3) left

(4) forks

(5) home

CJ.

The old schoolmaster was very harsh and cruel to the boys, and beat them when they made mistakes. So, when he left, all the boys were sorry.

(1) made

(2) mistakes

(3) left

(4) boys

(5) sorry

CK.

When my mother saw the marks of muddy shoes on the floor and all over the nice clean beds, she was surprised to see how careful the children had been.

(1) clean

(2) beds

(3) surprised

(4) careful

(5) children

CL.

There was a great deal of rain and dampness in that country, so the poor people who lived there could raise no corn, because of the dryness of the soil.

(1) lived

(2) raise

(3) corn

(4) dryness

(5) soil

CM.

When it began to cloud over, and the rain began to fall, Mr. Jones went back to his house for his umbrella because he did not wish to get sunburned.

(1) back

(2) house

(3) umbrella

(4) wish

(5) sunburned

CN.

One day we hired a boat and went fishing. After we had caught enough, we went back to the cabin where we cooked the chickens for supper.

(1) cabin

(2) where

(3) cooked

(4) chickens

(5) supper

CO.

The poor people of Holland wear thick, heavy wooden shoes. As they walk the sound of their shoes makes it very quiet in the streets.

(1) walk

(2) sound

(3) shoes

(4) quiet

(5) streets

CP.

We forgot all about our little kitten and were gone all day. When we returned we found him on the porch barking to be let in.

(1) returned

(2) found

(3) porch

(4) barking

(5) in

CQ.

We are interested in what is happening in America and the other nations of the world, so each morning we read the dictionary to find out the news of the day.

(1) read

(2) dictionary

(3) find

(4) out

(5) news

CR.

The river was so wide and the current so swift that we always kept a boat ready for whenever we wanted to walk across.

- (1) boat
- (2) ready
- (3) wanted
- (4) walk
- (5) across

CS.

Mary said she mailed a letter to me at the post office the day before yesterday, but the milkman did not leave anything for me when he came at noon.

- (1) milkman
- (2) leave
- (3) anything
- (4) came
- (5) noon

CT.

In order to be sure to have enough food to last them through the hard winter, the settlers planted great fields of roses in the fertile soil of the valley.

- (1) fields
- (2) roses
- (3) fertile
- (4) soil
- (5) valley

CU.

John is going downtown with his mother to buy a new suit because he is going to a

party tomorrow where everybody must wear his worst clothes.

- (1) tomorrow
- (2) everybody
- (3) wear
- (4) worst
- (5) clothes

CV.

As soon as the house caught fire one of us telephoned the fire department and in less than five minutes the police were hard at work putting it out.

- (1) five
- (2) minutes
- (3) police
- (4) hard
- (5) work

CW.

Frank hopes to be a great baseball player when he grows up. He plays all the time and never goes out in the afternoon without taking his cane with him.

- (1) never
- (2) afternoon
- (3) taking
- (4) cane
- (5) him

CX.

We worked all day in the carpenter shop making a chair. When night came, it was nearly done and we needed only one small piece of glass to finish it.

(1) done

(2) needed

(3) piece

(4) glass

(5) finish

Number Correct _____

IOWA-CHAPMAN READING TEST

Name _____

Date _____

DIRECTIONS:

In the second half of each of the following sentences, one word spoils the meaning of the paragraph. Find this word as quickly as you can and cross it out.

For example, in the first paragraph below, cross out the word which doesn't make sense with the rest of the paragraph.

It was such a cold and wintry day that every person who was walking wore the thinnest clothes that he could find in his closet at the time.

Which word in the second paragraph?

There was a fire last night and five houses were burned to the ground. It all happened because someone was careless and threw a nail into the waste-paper basket.

There are twenty-five paragraphs on the back of this page just like the examples. Find the word that spoils the meaning and cross it out. You will have 2 1/2 minutes. Work as quickly as you can.

Appendix L: Passages and Questions Used from the GRE Practice Test of Verbal Comprehension

GRE Materials selected from the 1995-96 General Test Descriptive Booklet, Educational Testing Service, 1995.

Used under license from Educational Testing Service.

%%%%%%%%%

Answer Key

Mars-MonkeRiverWork- passage identifier
 ABCDEFGHIJKLMNOPQRST question identifier
 _ADDE_CBCA_DACD_BDCE alpha key
 _1445_3231_4134_243E numeric key

%%%%%%%%%

Peterson's GRE Success: questions and answers from CD-ROM

Answer the following questions based on what is stated or implied in the passage.

GA - 244 words

Mars revolves around the Sun in 687 Earth days, which is equivalent to 23 Earth months. The axis of Mars' rotation is tipped at a 25 degree angle from the plane of its orbit, nearly the same as Earth's tilt of about 23 degrees. Because the tilt causes the seasons, we know that Mars goes through a year with four seasons just as the Earth does.

From the Earth, we have long watched the effect of the seasons on Mars. In the Martian winter, in a given hemisphere, there is a polar ice cap. As the Martian spring comes to the Northern Hemisphere, for example, the north polar cap shrinks, and material in the planet's more temperate zones darkens. The surface of Mars is always mainly reddish with darker gray areas that, from the Earth, appear blue green. In the spring, the darker regions spread. Half a Martian year later, the same process happens in the Southern Hemisphere.

One possible explanation for these changes is biological: Martian vegetation could be blooming or spreading in the spring. There are other explanations, however. The theory that presently seems most reasonable is that each year during the Northern Hemisphere springtime, a dust storm starts, with winds that reach velocities as high as hundreds of kilometers per hour. Fine, light-colored dust is blown from slopes, exposing dark areas underneath. If the dust were composed of certain kinds of materials, such as limonite, the reddish color would be explained.

GB

It can be inferred that one characteristic of limonite is its

- (1) reddish color.
- (2) blue-green color.
- (3) ability to change color.

- (4) ability to support rich vegetation.
- (5) tendency to concentrate into a hard surface.

GC

According to the author, seasonal variations on Mars are a direct result of the

- (1) proximity of the planet to the Sun.
- (2) proximity of the planet to the Earth.
- (3) presence of ice caps at the poles of the planet.
- (4) tilt of the planet's rotational axis.
- (5) length of time required by the planet to revolve around the Sun.

GD

The main idea of this selection is

- (1) weather on Mars.
- (2) changes on the planet Mars.
- (3) changes in seasons on Mars.
- (4) the similarities between Mars and the Earth.
- (5) time passages on Mars and on Earth.

GE

The author of this article infers that

- (1) biology explains changes in seasons.
- (2) there is a similar tilt in the axis of both Mars and Earth.
- (3) the changes in climate on Earth follow those on Mars.
- (4) changes in climate occur first on Mars.
- (5) all of the above

Peterson's GRE Success: passage on page 302 and answers on 340

Answer the following questions based on what is stated or implied in the passage.

GF – 163 words

In the South American rain forest abide the greatest acrobats on earth. The monkeys of the Old World, agile as they are, cannot hang by their tails. It is only the monkeys of America that possess this skill. They are called “ceboids,” and their unique group includes marmosets, owl monkeys, sakis, spider monkeys, squirrel monkeys, and howlers. Among these the star gymnast is the skinny, intelligent spider monkey. Hanging head down like a trapeze artist from the loop of a liana, he may suddenly give a short swing, launch himself into space, and, soaring outward and downward across a fifty-foot void, lightly catch a bough on which he spies a shining berry. No owl monkey can match his leap, for their arms are shorter, their tails untalented. The marmosets, smallest of the tribe, tough noisy hoodlums that travel in gangs, are also capable of leaps into space, but their landings are rough: smack against a tree trunk with arms and legs spread wide.

GG

Which of the following statements is clearly stated by the author?

- (1) The monkeys of South America are an exceedingly gregarious group and exhibit great affection for one another.
- (2) The monkeys of the Old World reveal an unusually high order of intelligence.
- (3) The monkeys of South America have the ability to hang by their tails.
- (4) Monkeys in general are very hostile toward other species of animals.
- (5) South American monkeys reveal an amazing ability to adapt to captivity and therefore make splendid house pets.

GH

It may be inferred from the passage that monkeys that have the ability to hang by their tails are:

- (1) of considerable intelligence, as compared with others.
- (2) grouped together under the technical names “ceboids.”
- (3) natural rivals of the monkeys of the Old World.
- (4) either marmosets, owl monkeys, or howlers.
- (5) among those species that are being protected by international law.

GI

The author implies that the marmosets, smallest of the tribe, are:

- (1) tough, noisy hoodlums.
- (2) wilder than the other monkeys mentioned.
- (3) somewhat less intelligent than the spider monkeys.
- (4) capable of great leaps into space.
- (5) the clowns of the jungle.

GJ

Which of the following statements is NOT justified by the context of the selection?

- (1) The monkeys of the Old World are not particularly agile.
- (2) These monkeys and skilled trapeze artists have something in common.
- (3) The arms of the owl monkeys are shorter than those of the spider monkey.
- (4) The spider monkey has what the author refers to as a “talented tail.”
- (5) The group of monkeys that includes those mentioned in the selection is unique.

Peterson’s GRE Success: passage on page 228 and answers on 265

Answer the following questions based on what is stated or implied in the passage.

GK – 186 words

After more than two centuries of experience, control of the Missouri-Mississippi has been reduced to four methods. First, we have levees, the oldest of all. Second comes the enlargement of the discharge capacity by straightening, widening, and deepening natural channels. Third in importance are the spillways, which guide excess water into auxiliary channels or let it flood fairly small areas. Fourth, we have reservoirs to store up excess water, which may be released when natural channels are again able to carry it. Of these four methods, the construction of levees is the surest because flood elevations are well known. Reservoirs are good but limited in usefulness because their benefits decrease with distance from the communities that are to be protected.

Despite the height that the water once reached in St. Louis, and despite the wandering, homeless people and the damage to property and crops, the engineers have reason to survey their efforts at flood control with satisfaction. But, as has been frequently suggested, it is about time that a Missouri River Authority be created to deal with the problems of flood control, navigation, and power development.

GL

Which of the following statements best sums up the author's opinion on the solution of the problem?

- (1) Each state watered by the Missouri-Mississippi must handle its own flood problems.
- (2) The federal government has been lacking in its interest in this problem.
- (3) Losses in property and lives must simply continue to be regarded as acts of nature.
- (4) An overall controlling agency must be organized to deal with the entire problem.
- (5) There is very little that has been done, and even less that can be done in the future.

GM

One of the techniques for controlling the river complex under discussion actually involves:

- (1) permitting minor flooding.
- (2) cutting off the entire flow of the rivers.
- (3) diverting the flow to other river channels.
- (4) leveling built-up areas along the banks of the rivers.
- (5) letting nature take its course.

GN

One may infer from reading this selection that:

- (1) people are moving away from the area of the rivers in order to save their property and themselves.
- (2) life in the area of the rivers is difficult and dangerous, but the living conditions are good.
- (3) the government and its agencies are conducting ongoing efforts to control the rivers and improve measures already in place.
- (4) the building of spillways, levees and reservoirs is very expensive.
- (5) all of the above.

GO

The inference is made that when using material already available to control the rivers, engineers have developed methods that will utilize that material to:

- (1) designate locations that need control.
- (2) predict floods and warn the people.
- (3) prepare a history of the rivers.
- (4) construct the most viable means of control.
- (5) develop patterns of flooding.

Peterson's GRE Success: passage on page 282 and answers on 322

Answer the following questions based on what is stated or implied in the passage.

GP – 280 words

No step in life is more important than the choice of vocation. The wise selection of the business, profession, trade, or occupation to which one's life is to be devoted and the development of full efficiency in the chosen field are matters of the deepest moment to young men and to the public. These vital problems should be solved in a careful, scientific way, with due regard to each person's aptitudes, abilities, ambitions, resources, and limitations and the relations of these elements to the conditions of success in different industries. If a boy takes up a line of work to which he is adapted, he will achieve far greater success than if he drifts into an industry for which he is not fitted. An occupation out of harmony with the worker's aptitudes and capacities means inefficiency, unenthusiastic and perhaps distasteful labor, and low pay, while an occupation in harmony with the nature of the man means enthusiasm, love of work, and high economic values—superior product, efficient service, and good pay. If a young man chooses his vocation so that his best abilities and enthusiasms will be united with his daily work, he has laid the foundations of success and happiness. But, if his best abilities and enthusiasm are separated from his daily work or do not find in it fair scope and opportunity for exercise and development; if his occupation is merely a means of making a living, and the work he loves to do is sidetracked into the evening hours or pushed out of his life altogether, he will be only a fraction of the man he ought to be. Efficiency and success are largely dependent on adaptation.

GQ (17)

The general tone of this selection might well be attacked by a group:

- (1) interested in advice for young men in college.
- (2) interested in equal rights for women.
- (3) demanding that jobs and interests coincide.
- (4) seeking an understanding by business of the problems of youth.

(5) condemning the deterioration of the use of proper English.

GR (18)

The author expresses the thought that the correct choice of job or career is important to:

(1) the individual involved and his parents.

(2) only the individual involved.

(3) society in general.

(4) the individual and society at large.

(5) the employer and the job-seeker.

GS (19)

Proper adaptation of the worker to his occupation will produce:

(1) happiness and social adjustment.

(2) happiness and rapid advancement.

(3) efficiency and success.

(4) social adjustment and efficiency.

(5) rapid advancement and success.

GT (23)

When choosing a vocation, a young person should ideally consider surveying his personal:

(1) abilities.

(2) ambitions.

(3) resources.

(4) limitations.

(5) all of the above.

Appendix M: Data Collected by the Instrument

This is a sample data collection record.

```
:diss-all,12px,1788,1969,m,instructional_technology,corrected,5,4,3,1,5,5,5,3,2,2,2,4,1,1,2,2,3,4,3,
4,1,4,1,3,,137,14,16,31,46,18,19,21,19,16,33,15,63,31,19,19,15,18,17,42,22,21,30,16,,
MNUWDKIOPJHSXCQTRBLVAFGE,111111111111000000000000_,
1,2,3,4,_1,2,3,4,_1,4,2,3,_4,1,2,3,,27,142,64,30,76,32,34,16,15,19,96,44,19,18,18,74,30,72,33,30,,
KLNOMFGHIJABCDEPRSTQ,111111111111000000000000
```

FIELD-BY-FIELD EXPLANATION OF THE SAMPLE DATA

:diss-all (literal)

refers to the data type. diss-all includes all data collected by the instrument.

12px (literal)

refers to the type style. This entry indicates 12 point, Palatino, and both type rendering technologies. There are six distinct styles (08px, 08hx, 10px, 10hx, 12px, and 12hx)

1788 (ssn)

is a sample identifier. This is the last four digits of the subjects student id number or social security number. This value is used to help differentiate subjects.

1969 (year)

Is a sample date of birth.

M (gender)

Is a reported gender. M designates male while F designates female.

instructional_technology (major)

is a major or career.

corrected (vision)

refers to the participants self-reported vision when the test was taken. Options are normal, corrected, and bad.

5,4,3,1,5,5,5,3,2,2,2,4,1,1,2,2,3,4,3,4,1,4,1,3 (chapmananswers)

refers to the specific answers to the items on the Chapman-Cook speed of reading test. The values are given in absolute order (the order of the original paper version of the test) and not in the order the participant encountered them in (which is completely randomized)

, (literal)

a blank field is included to make the data easier to read

137,14,16,31,46,18,19,21,19,16,33,15,63,31,19,19,15,18,17,42,22,21,30,16 (chapmantime)

represents the amount of time answering each question. The time amounts are given in ticks (60ths of a second). As with all data streams, the order is absolute and matched the formal test and not the order encountered.

MNUWDKIOPJHSXCQTRBLVAFGE (orderbackup)

Chapman-Cook randomized order. All 24 items are presented in a completely randomized way. This variable is called orderbackup because the actual variable order is cannibalized as the instrument runs.

111111111110000000000000 (trt)

refers to the rendering technology (anti-alias / orthochromatic) for each question on the Chapman-Cook section of the test. The order refers to the order in which items appear and not to the order of the test. In this example, Items MNUWDKIOPJHS are orthochromatic while XCQTRBLVAFGE are anti-aliased. Because the participants sees all the anti-alias items in one set and all the orthochromatic items in one set, the only two possibilities for this field are:

111111111110000000000000 orthochromatic first, anti-alias second
000000000001111111111111 anti-alias first, orthochromatic second

,1,2,3,4,,1,2,3,4,_,1,4,2,3,_,4,1,2,3, (greanswers)

refers to the student answers to the GRE questions. The underline indicates that the space bar was pressed (the normal response to reading a passage) while 1, 2, 3, 4, and 5 are appropriate responses to the GRE comprehension questions. The items are presented in the “idealized” order: Mars P2345, Monkeys P2345, Rivers P2345, Work P2345.

, (literal)

a blank field is included to make the data easier to read

27,142,64,30,76,32,34,16,15,19,96,44,19,18,18,74,30,72,33,30 (greorder)

represent the amount of time answering each question. The time amounts are given in ticks (60ths of a second). As with all data streams, the order is absolute and matched the idealized order and not the order encountered.

, (literal)

a blank field is included to make the data easier to read

KLNOMFGHIJABCDEPRSTQ (greorder)

is the random order of the GRE test items. This field is randomized on a macro level and also on a microlevel. The order of the question clusters is ordered first. When considering the 20 individual screens, they represent four passages and four questions per passage. Therefore the first randomization determines the order of the sections. In essence, the data is broken into chunks ABCDE/FGHIJ/KLMNO/PQRST. The macro randomization in this example swaps the items into the order KLMNO/FGHIJ/ABCDE/PQRST. Next, four smaller randomization to randomize the presentation order of the four questions within each chunk. Note that the first item in each

chunk is a text passage without a question. This item must be the first item in that chunk. The four individual randomizations in this example are KLNOM, FGHIJ, ABCDE, and PRSTQ.

1111111111100000000000 (gretrt)

indicates the technology rendering technology (TRT) encountered for each item on the GRE section of the test. The rendering technology is also “chunked” to allow for a more consistent user experience. Of the sixteen (2^4) possible binary combinations, exactly six include two (equally balanced) number of 1 values and 0 values. The six possible arrays are:

```
1111111111100000000000
1111100000011111000000
1111100000000000011111
0000011111111111000000
0000011111000000111111
0000000000011111111111
```

DIRECTOR LINGO THAT SENDS DATA TO THE SERVER

```
-- sendall
```

```
on enterFrame
  global networksend
```

```
-- THIS SENDS EVERYTHING AT THE END...
```

```
  put “http://www.art.vt.edu/diss-all,12px,” & field “ssn” & “,” & field “year” & “,” & field
  “gender” & “,” & field “major” & “,” & field “chapmananswers” & “,” & field “chapmantime” &
  “,” & field “orderbackup” & “,” & field “trt” & field “greanswers” & “,” & field “gretime” & “,”
  & field “greorder” & “,” & field “gretrt” into field “sendthis”
  put “Sendthis = “, field “sendthis”
```

```
  if networksend = TRUE then
    set gnetID = getNetText (field “sendthis”)
  end if
```

```
end
```

Appendix N: Instrument workflow description by Director Label

DIRECTOR LABELS IN THE INSTRUMENT

start

is used as a jump point. Does no processing.

dem

collects demographic data from the participants. The following frame verifies the format of the data. If the data isn't valid, it returns to the dem screen.

ccrand

builds the randomization arrays for the Chapman-Cook portion of the test. The first frame determines the order of the individual items while the second determines which items will be provided in which type rendering technology (TFT, anti-alias vs. orthochromatic).

ccsamp

provides the participant with a sample item similar to the items on the Chapman-Cook test.

cc

Primes the global variables and the master control structure for the Chapman-Cook section. This procedure determines which item is next based on the randomized order stored in "order" and determines an offset. The code also accesses the TRT variable to determine whether to use crisp anti-alias (cccrisp) or non anti-alias (ccnone). When the participant presses a response (space, 1, 2, 3, 4, or 5), the program will return to cc. CC will store the response and time in two data arrays (chapmananswers, chapmantime) and proceed to the next item.

cccrisp

a placeholder that indicates the beginning of the Chapman-Cook items in crisp rendering technology. cccrisp is item A; cccrisp+1 is item B and so on.

ccnone

a placeholder that indicates the beginning of the Chapman-Cook items in none rendering technology. ccnone is item A; ccnone+1 is item B and so on.

gre

is the end of the Chapman-Cook section and the beginning of the GRE section. This item also sends partial data to the server as a diagnostic tool.

grerand

builds the randomization arrays for the GRE portion of the test. The first frame determines the order of the individual items while the second determines which items will be provided in which type rendering technology (TFT, anti-alias vs. orthochromatic). Note that randomization occurs on a macro level (order of passages and related passages) and micro level (the order of questions associated with each passage). This randomization is described in greater detail elsewhere.

grecc

srimes the global variables and the master control structure for the GRE section. This procedure determines which item is next based on the randomized order stored in “order” and determines an offset. The code also accesses the TRT variable to determine whether to use crisp anti-alias (greccrisp) or non anti-alias (grenone). When the participant presses a response (space, 11, 2, 3, 4, or 5), the program will return to cc. CC will store the response and time in two data arrays (greanswers, gretime) and proceed to the next item.

greccrisp

a placeholder that indicates the beginning of the GRE verbal comprehension items in crisp rendering technology. greccrisp is item A; greccrisp+1 is item B and so on.

grenone

a placeholder that indicates the beginning of the GRE verbal comprehension items in none rendering technology. greone is item A; grenone+1 is item B and so on.

done

sends the gre data to the server as a diagnostic tool. The following frame sends all of the collected data to the server.

rerun

sends the user back to the demographic screen. This is not technically the ideal place to jump to but exists for technical reasons to guarantee the integrity of data sent to the server