
Academic Reading Practice Test 1

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SECTION 1

Grocery Stores

A At the beginning of the 20th century, grocery stores in the United States were full-service. A customer would ask a clerk behind the counter for specific items and the clerk would package the items, which were limited to dry goods. If they want to save some time, they have to ask a delivery boy or by themselves to send the note of what they want to buy to the grocery store first and then go to pay for the goods later. These grocery stores usually carried only one brand of each good. There were early chain stores, such as the A&P Stores, but these were all entirely full-service and very time-consuming.



B In 1885, a Virginia boy named Clarence Saunders began working part-time as a clerk in a grocery store when he was 14 years old, and quit school when the shopkeeper offered him full time work with room and board. Later he worked in an Alabama coke plant and in a Tennessee sawmill before he returned to the grocery business. By 1900, when he was nineteen years old, he was earning \$30 a month as a salesman for a wholesale grocer. During his years working in the grocery stores, he found that it was very inconvenient and inefficient for people to buy things because more than a century ago, long before there were computers, shopping was done quite differently than it is today. Entering a store, the customer would approach the counter (or wait for a clerk to become available) and place an order, either verbally or, as was often the case for boys running errands, in the form of a note or list. While the customer waited, the clerk would move behind the counter and throughout the store, select the items on the list--some from shelves so high that long-handled grasping device had to be used--and bring them back to the counter to be tallied and bagged or boxed. The process might be expedited by the customer calling or sending in the order beforehand, or by the order being handled by a delivery boy on a bike, but otherwise it did not vary greatly. Saunders, a flamboyant and innovative man, noticed that this method resulted in wasted time and expense, so he came up with an unheard-of solution that would revolutionize the entire grocery industry: he developed a way for shoppers to serve themselves.

C So in 1902 he moved to Memphis where he developed his concept to form a grocery wholesale cooperative and a full-service grocery store. For his new "cafeteria grocery", Saunders divided his grocery into three distinct areas: 1) A front "lobby" forming an entrance and exit and checkouts at the front. 2) A sales department, which was specially designed to allow customers to roam the aisles and select their own groceries. Removing unnecessary clerks, creating elaborate aisle displays, and rearranging the store to force customers to view all of the merchandise and over the shelving and cabinets units of sales department were "galleries" where supervisors were allowed to keep an eye on the customers while not disturbing them. 3) And another section of his store is the room only allowed for the clerks which was called the "stockroom" or "storage room" where large refrigerators were situated to keep fresh products from being perishable. The new format allowed multiple customers to shop at the same time, and led to the previously unknown phenomenon of impulse shopping.



Though this format of grocery market was drastically different from its competitors, the style became the standard for the modern grocery store and later supermarket.

D On September 6, 1916, Saunders launched the self-service revolution in the USA by opening the first self-service Piggly Wiggly store, at 79 Jefferson Street in Memphis, Tennessee, with its characteristic turnstile at the entrance. Customers paid cash and selected their own goods from the shelves. It was unlike any other grocery store of that time. Inside a Piggly Wiggly, shoppers were not at the mercy of shop clerks. They were free to roam the store, check out the merchandise and get what they needed with their own two hands and feet. Prices on items at Piggly Wiggly were clearly marked. No one pressured customers to buy milk or pickles. And the biggest benefit at the Piggly Wiggly was that shoppers saved money. Self-service was a



positive all around. "It's good for both the consumer and retailer because it cuts costs," noted George T. Haley, a professor at the University of New Haven and director of the Center for International Industry Competitiveness. "If you looked at the way grocery stores were run previous to Piggly Wiggly and Alpha Beta, what you find is that there was a tremendous amount of labor involved, and labor is a major expense." Piggly Wiggly cut the fat.

E Piggly Wiggly and the self-service concept took off. Saunders opened nine stores in the Memphis area within the first year of business. Consumers embraced the efficiency, the simplicity and most of all the lower food prices. Saunders soon patented his self-service concept, and began franchising Piggly Wiggly stores. Thanks

to the benefits of self-service and franchising, Piggly Wiggly ballooned to nearly 1,300 stores by 1923. Piggly Wiggly sold \$100 million — worth \$1.3 billion today — in groceries, making it the third-biggest grocery retailer in the nation. The company's stock was even listed on the New York Stock Exchange, doubling from late 1922 to March 1923. Saunders had his hands all over Piggly Wiggly. He was instrumental in the design and layout of his stores. He even invented the turnstile.

F However Saunders was forced into bankruptcy in 1923 after a dramatic spat with the New York Stock Exchange and he went on to create the "Clarence Saunders sole-owner-of-my-name" chain, which went into bankruptcy.

G Until the time of his death in October 1953, Saunders was developing plans for another automatic store system called the Foodelectric. But the store, which was to be located two blocks from the first Piggly Wiggly store, never opened. But his name was well-remembered along with the name Piggly Wiggly.

Questions 1-5

The reading Passage has seven paragraphs **A-G**.

Which paragraph contains the following information?

Write the correct letter **A-G**, in boxes **1-5** on your answer sheet.

NB You may use any letter more than once.

- 1 How Clarence Saunders' new idea had been carried out.
- 2 Introducing the modes and patterns of groceries before his age.
- 3 Clarence Saunders declared bankruptcy a few years later .
- 4 Descriptions of Clarence Saunders' new conception.
- 5 The booming development of his business.

Questions 6-10

Answer the questions below.

Write **ONLY ONE WORD AND/OR A NUMBER** from the passage for each answer.

- 6 When Clarence Saunders was an adolescent, he took a job as a in a grocery store.
- 7 In the new innovation of grocery store, most of the clerks' work before was done by
- 8 In Saunders' new grocery store, the section where customers finish the payment was called
- 9 Another area in his store which behind the public area was called the, where only internal staff could access.
- 10 At where customers were under surveillance.

Questions 11-13

Choose the correct letter, **A, B, C** or **D**.

Write your answers in boxes 11-13 on your answer sheet.

11 Why did Clarence Saunders want to propel the innovation of grocery stores at his age?

- A Because he was an enthusiastic and creative man.
- B Because his boss wanted to reform the grocery industry.
- C Because he wanted to develop its efficiency and make great profit as well.
- D Because he worried about the future competition from the industry.


12 What happened to Clarence Saunders' first store of Piggly Wiggly?

- A Customers complained about its impracticality and inconvenience.
- B It enjoyed a great business and was updated in the first twelve months.
- C It expanded to more than a thousand franchised stores during the first year.
- D Saunders were required to have his new idea patented and open more stores.

13 What left to Clarence Saunders after his death in 1953?

- A A fully automatic store system opened soon near his first store.
- B The name of his store the Piggly Wiggly was very popular at that time.
- C His name was usually connected with his famous shop the Piggly Wiggly in the following several years.
- D His name was painted together with the name of his famous store.

Mapping

- A Today, the mapmaker's vision is no longer confined to what the human eye can see. The perspective of mapmaking has shifted from the crow's nest of the sailing vessel, mountain top and airplane to 'new orbital heights. Radar, which bounces microwave radio signals off a given surface to create images of its contours and textures, can penetrate jungle foliage and has produced the first maps of the mountains of the planet Venus. And a combination of sonar and radar produces charts of the seafloor, putting much of Earth on the map for the first time. 'Suddenly it's a whole different world for us,' says Joel Morrison, chief of geography at the U.S. Bureau of the Census, 'Our future as mapmakers - even ten years from now - is uncertain.'
- 
- B The world's largest collection of maps resides in the basement of the Library of Congress in Washington, D.C. The collection, consisting of up to 4,6 million map sheets and 63,000 atlases, includes magnificent bound collections of elaborate maps - the pride of the golden age of Dutch cartography*. In the reading room scholars, wearing thin cotton gloves to protect the fragile sheets, examine ancient maps with magnifying glasses. Across the room people sit at their computer screens, studying the latest maps. With their prodigious memories, computers are able to store data about people, places and environments - the stuff of maps - and almost instantly information is displayed on the screen in the desired geographic context, and at the click of a button, a print-out of the map appears.
- C Measuring the spherical Earth ranks as the first major milestone in scientific cartography. This was first achieved by the Greek astronomer Eratosthenes, a scholar at the famous Alexandrian Library in Egypt in the third century BC. He calculated the Earth's circumference as 25,200 miles, which was remarkably accurate. The longitudinal circumference is known today to be 24,860 miles.
- D Building on the ideas of his predecessors, the astronomer and geographer Ptolemy, working in the second century AD, spelled out a system for organising maps according to grids of latitude and longitude. Today, parallels of latitude are often

spaced at intervals of 10 to 20 degrees and meridians** at 15 degrees, and this is the basis for the width of modern time zones. Another legacy of Ptolemy's is his advice to cartographers to create maps to scale. Distance on today's maps is expressed as a fraction or ratio of the real distance. But mapmakers in Ptolemy's time lacked the geographic knowledge to live up to Ptolemy's scientific principles. Even now, when surveyors achieve accuracies down to inches and satellites can plot potential missile targets within feet, maps are not true pictures of reality.



- E However, just as the compass improved navigation and created demand for useful charts, so the invention of the printing press in the 15th century put maps in the hands of more people, and took their production away from monks, who had tended to illustrate theology rather than geography. Ocean-going ships launched an age of discovery, enlarging both what could and needed to be mapped, and awakened an intellectual spirit and desire for knowledge of the world.
- F Inspired by the rediscovered Ptolemy, whose writing had been preserved by Arabs after the sacking of the Alexandrian Library in AD 931, mapmakers in the 15th century gradually replaced theology with knowledge of faraway places, as reported by travelling merchants like Marco Polo.
- G Gerhardus Mercator, the foremost shipmaker of the 16th century, developed a technique of arranging meridians and parallels in such a way that navigators could draw straight lines between two points and steer a constant compass course between them. This distortion formula, introduced on his world map of 1569, created the 'Greenland problem'. Even on some standard maps to this day, Greenland looks as large as South America - one of the many problems when one tries to portray a round world on a flat sheet of paper. But the Mercator projection was so practical that it is still popular with sailors.
- H Scientific mapping of the land came into its own with the achievements of the Cassini family - father, son, grandson and great-grandson. In the late 17th century, the Italian-born founder, Jean-Dominique, invented a complex method of determining longitude based on observations of Jupiter's moons. Using this technique, surveyors were able to produce an accurate map of France. The family continued to map the French countryside and his great-grandson finally published their famous Cassini map in 1793 during the French Revolution. While it may have lacked the artistic appeal of earlier maps, it was the model of a social and geographic map showing roads, rivers, canals, towns, abbeys, vineyards, lakes and even windmills. With this achievement, France became the first country to be completely mapped by scientific methods.
- I Mapmaking has come a long way since those days. Today's surveyors rarely go into the field without being linked to navigation satellites. Their hand-held receivers are



the most familiar of the new mapping technologies, and the satellite system, developed and still operated by the US Defense Department, is increasingly used by surveyors. Even ordinary hikers, sailors and explorers can tap into it for data telling them where they are. Simplified civilian versions of the receivers are available for a few

hundred dollars and they are also the heart of electronic map displays available in some cars. Cartography is pressing on to cosmic frontiers, but its objective is, and always has been, to communicate a sense of 'here' in relation to 'there', however far away 'there' may be.

Questions 14 - 18

Choose the correct letter, A, B, C or D.

Write the correct letter in boxes 14~18 on your answer sheet.

14 According to the first paragraph, mapmakers in the 21st century

- A** combine techniques to chart unknown territory.
- B** still rely on being able to see what they map.
- C** are now able to visit the darkest jungle .
- D** need input from experts in other fields.

15 The Library of Congress offers an opportunity to

- A** borrow from their collection of Dutch maps.
- B** learn how to restore ancient and fragile maps.
- C** enjoy the atmosphere of the reading room.
- D** create individual computer maps to order.

16 Ptolemy alerted his contemporaries to the importance of

- A** measuring the circumference of the world.
- B** organising maps. to reflect accurate ratios of distance.
- C** working. out the distance between parallels of latitude.
- D** accuracy and precision in mapping.

17 The invention of the printing press

- A** revitalised interest in scientific knowledge.
- B** enabled maps to be produced more cheaply.
- C** changed the approach to mapmaking.
- D** ensured that the work of Ptolemy was continued.

18 The writer concludes by stating that

- A** mapmaking has become too specialised.
- B** cartographers work in very harsh conditions.
- C** the fundamental aims of mapmaking remain unchanged.
- D** the possibilities of satellite mapping are infinite.

Questions 19 - 21

Look at the following list of achievements (Questions 19-21) and the list of mapmakers below.

Match each achievement with the correct mapmaker, A, B, C or D.

Write the correct letter, A, B, C or D, in boxes 19-21 on your answer sheet.

19 came very close to accurately measuring the distance round the Earth

20 produced maps showing man-made landmarks

21 laid the foundation for our modern time zones

List of Mapmakers

A Mercator

B Ptolemy

C Cassini family

D Eratosthenes

Questions 22 - 26

Complete the summary below.

Choose **NO MORE THAN TWO WORDS** from the passage for each answer.

Write your answers in boxes 22-26 on your answer sheet.

Ancient maps allow us to see how we have come to make sense of the world. They also reflect the attitudes and knowledge of the day. The first great step in mapmaking took place in _____ 22 _____ in the 3rd century BC. Work continued in this tradition until the 2nd century AD but was then abandoned for over a thousand years, during which time maps were the responsibility of _____ 23 _____ rather than scientists. Fortunately, however, the writings of _____ 24 _____ had been kept, and interest in scientific mapmaking was revived as scholars sought to produce maps, inspired by the accounts of travellers. These days, _____ 25 _____ are vital to the creation of maps and radar has allowed cartographers to map areas beyond our immediate world. In addition, this high-tech equipment is not only used to map faraway places, but cheaper versions have also been developed for use in _____ 26 _____.

SECTION 3

A Science plays an increasingly significant role in people's lives, making the faithful communication of scientific developments more important than ever. Yet such communication is fraught with challenges that can easily distort discussions, leading to unnecessary confusion and misunderstandings.



B Some problems stem from the esoteric nature of current research and the associated difficulty of finding sufficiently faithful **terminology** (). Abstraction and complexity are not signs that a given scientific direction is wrong, as some commentators have suggested, but are instead a tribute to the success of human ingenuity in meeting the increasingly complex challenges that nature presents. They can, however, make communication more difficult. But many of the biggest challenges for science reporting arise because in areas of evolving research, scientists themselves often only partly understand the full implications of any particular advance or

development. Since that **dynamic** applies to most of the scientific developments that directly affect people's lives global warming, cancer research, diet studies — learning how to overcome it is critical to **spurring** a more informed scientific debate among the broader public.

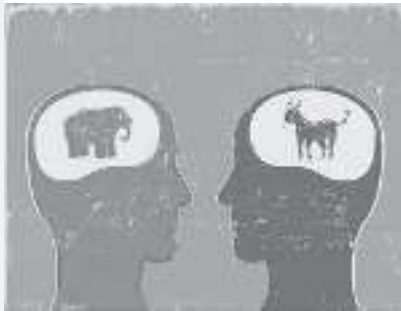
C Ambiguous word choices are the source of some misunderstandings. Scientists often employ colloquial terminology, which they then assign a specific meaning that is impossible to **fathom** without proper training. The term "relativity," for example, is intrinsically misleading. Many interpret the theory to mean that everything is relative and there are no absolutes. Yet although the measurements any observer makes depend on his coordinates and reference frame, the physical phenomena he measures have an invariant description that transcends that observer's particular coordinates. Einstein's theory of relativity is really about finding an invariant description of physical phenomena. True, Einstein agreed with the idea that his theory would have been better named "*Invarianten theorie*." () But the term "relativity" was already entrenched at the time for him to change.

D "The uncertainty principle" is another frequently abused term. It is sometimes

interpreted as a limitation on observers and their ability to make measurements.

E But it is not about intrinsic limitations on any one particular measurement; it is about the inability to precisely measure particular pairs of quantities simultaneously? The first interpretation is perhaps more engaging from a philosophical or political perspective. It's just not what the science is about.

F Even the word "theory" can be a problem. Unlike most people, who use the word to describe a passing conjecture that they often regard as suspect, physicists have very specific ideas in mind when they talk about theories. For physicists, theories entail a definite physical framework embodied in a set of fundamental assumptions about the world that lead to a specific set of equations and predictions — ones that are borne out by successful predictions. Theories aren't necessarily shown to be correct or complete immediately. Even Einstein took the better part of a decade to develop the correct version of his theory of general relativity. But eventually both the ideas and the measurements settle down and theories are either proven correct, abandoned or absorbed into other, more encompassing theories.



G "Global warming" is another example of problematic terminology. **Climatologists** predict more drastic fluctuations in temperature and rainfall — not necessarily that every place will be warmer. The name sometimes subverts the debate, since it lets people argue that their winter was worse, so how could there be global warming? Clearly "global climate change" would have been a better name. But not all problems stem solely from poor word choices. Some stem from the intrinsically complex nature of much of modern science. Science sometimes transcends this limitation: remarkably, chemists were able to detail the precise chemical processes involved in the destruction of the ozone layer, making the evidence that chlorofluorocarbon gases (Freon, for example) were destroying the ozone layer indisputable.

H A better understanding of the mathematical significance of results and less insistence on a simple story would help to **clarify**

many scientific discussions. For several months, Harvard was tortured months, Harvard was tortured by empty debates over the relative intrinsic scientific abilities of men and women. One of the more amusing aspects of the discussion was



that those who believed in the differences and those who didn't used the same evidence about gender-specific special ability. How could that be? The answer is that the data shows no substantial effects. Social factors might account for these tiny differences, which in any case have an unclear connection to scientific ability. Not much of a headline when phrased that

way, is it? Each type of science has its own source of complexity and potential for miscommunication. Yet there are steps we can take to improve public understanding in all cases. The first would be to inculcate greater understanding and acceptance of indirect scientific evidence. The information from an unmanned space mission is no less legitimate than the information from one in which people are on board.

I This doesn't mean never questioning an interpretation, but it also doesn't mean equating indirect evidence with blind belief, as people sometimes suggest. Second, we might need different standards for evaluating science with urgent policy implications than research with purely theoretical value. When scientists say they are not certain about their predictions, it doesn't necessarily mean they've found nothing substantial. It would be better if scientists were more open about the mathematical significance of their results and if the public didn't treat math as quite so scary; statistics and errors, which tell us the uncertainty in a measurement, give us the tools to evaluate new developments fairly.

J But most important, people have to recognize that science can be complex. If we accept only simple stories, the description will necessarily be distorted. When advances are subtle or complicated, scientists should be willing to go the extra distance to give proper explanations and the public should be more patient about the truth. Even so, some difficulties are unavoidable. Most developments reflect work in progress, so the story is complex because no one yet knows the big picture.

Questions 27-31

Choose the correct letter, **A, B, C** or **D**.

Write your answers in boxes 27-31 on your answer sheet.

27 Why the faithful science communication important?

- A Science plays an increasingly significant role in people's lives.
- B Science is fraught with challenges public are interested in.
- C The nature of complexity in science communication leads to confusion.
- D Scientific inventions are more important than ever before.

28 What is the reason that the author believe for the biggest challenges for science reporting

- A phenomenon such as global warming, cancer research, diet studies are too complex
- B Scientists themselves often only partly understand the *Theory of Evolution*
- C Scientists do not totally comprehend the meaning of certain scientific evolution
- D Scientists themselves often partly understand the esoteric communication nature

29 According to the 3rd paragraph, the reference to the term and example of "theory of relativity" is to demonstrate

- A theory of relativity is about an invariant physical phenomenon
- B common people may be misled by the inaccurate choice of scientific phrase
- C the term "relativity," is designed to be misleading public
- D everything is relative and there is no absolutes existence

30 Which one is a good example of appropriate word choice:

- A Scientific theory for *uncertainty principle*
- B phenomenon of *Global warming*
- C the importance of *ozone layer*
- D *Freon*'s destructive process on environmental

31 What is surprising finding of the Harvard debates in the passage?

- A There are equal intrinsic scientific abilities of men and women.
- B The proof applied by both sides seemed to be of no big difference.
- C The scientific data usually shows no substantial figures to support a debated idea.
- D Social factors might have a clear connection to scientific ability.

Questions 32-35

Do the following statements agree with the information given in Reading Passage 1?
In boxes 32-35 on your answer sheet, write

TRUE	<i>if the statement is true</i>
FALSE	<i>if the statement is false</i>
NOT GIVEN	<i>if the information is not given in the passage</i>

- 32 "Global warming" scientifically refers to greater fluctuations in temperature and rainfall rather than a universal temperature rise.
- 33 More media coverage of "global warming" would help public to recognize the phenomenon.
- 34 Harvard debates should focus more on female scientist and male scientists
- 35 Public understanding and acceptance of indirect scientific evidence in all cases would lead to confusion

Questions 36-40

Complete the following summary of the paragraphs of Reading Passage, using **no more than two** words from the Reading Passage for each answer. Write your answers in boxes 36-40 on your answer sheet.

Science Communication is fraught with challenges that can easily distort discussions, leading to unnecessary confusion and misunderstandings. Firstly, Ambiguous 36are the source of some misunderstandings.

Common people without proper training do not understand clearly or deeply a specific scientific meaning via the 37 scientists often employed. Besides, the measurements any 38 makes can not be confined to describe in a(n) constant 39 yet the phenomenon can be. What's more, even the word "theory" can be a problem.

Theories aren't necessarily shown to be correct or complete immediately since scientists often evolved better versions of specific theories, a good example can be the theory of 40 Thus, most importantly people have to recognize that science can be complex.