

## • Reading Comprehension 7 Level 11

**Directions:** Read the passage. Then answer the questions below.

I mean what I say: **science in education**, not education in science. The difference between the two is by no means a case of tweedledum and tweedledee. Education in science means the systematic teaching of science so as to train for careers in science. Scientific men are exceedingly useful members of a community, as are engineers, bakers, blacksmiths, artists, and bankers. But we can't all be bakers, and we can't all be painters of watercolors. "It takes all sorts to make a world." A community entirely composed of scientific men would fail to feed itself, clothe itself, house itself, and keep itself supplied with amusing light literature. Education in science produces specialists, and specialists, though useful and valuable persons in their fields, are no more the staple of a civilized community than lawyers or ballet dancers.

What the world at large really needs is due recognition of the true value of science in education. We don't all want to be made into first class anatomists or surgeons. But we do all want a competent general knowledge of anatomy at large, and especially of human anatomy; of physiology at large, and especially of human physiology. We don't all want to be analytical chemists, but we do all want to know enough about oxygen and carbon to understand the most common phenomena of combustion, chemical combination, and animal or vegetable life. We don't all want to be zoologists and botanists, but we do all want to know enough about plants and animals to walk through life intelligently, and to understand the meaning of the things that surround us. We want a general acquaintance with the results rather than with the methods of science.

The mass of scientific opinion has always gone the other way; but then scientific opinion means only the opinion of men of science. Scientists appreciate the education needed to make men specialists more than the education needed to fit them for the general exigencies and emergencies of life. We don't want authorities on the nuances of interstellar gasses, but well informed citizens. What common sense really demands, then, is education in all the sciences: a knowledge of what is known rather than knowledge of each successive step by which men came to know it.

### Questions

- 1) Based on information in the passage, it can be inferred that the author considers it important that everyone understand the
  - A. components of an atom
  - B. properties of chemical equations
  - C. scientific names of common plants
  - D. human digestive system
  - E. formula for calculating the distance of stars
  
- 2) The author apparently believes that scientists
  - A. are not as useful to society as lawyers or bakers
  - B. lack fundamental writing and social skills
  - C. are smarter than painters or blacksmiths
  - D. discount the value of general courses of study
  - E. are better educated than engineers or bankers

- 3) Based on information in the passage, it can be understood that the author would likely find all of the following proverbs to be true of the pursuit of “science in education” except for which one?
- A. One should exercise moderation in all things.
  - B. It is better to know a little bit about everything than everything about nothing.
  - C. One must be able to see the forest through the trees.
  - D. Knowledge does not come to one in the details.
  - E. A jack of all trades is a master of none.
- 4) The primary purpose of the passage is to
- A. create more diversified and productive communities
  - B. discredit the value of science in a liberal arts education
  - C. encourage interest in and appreciation for non-science-related careers
  - D. describe why scientists are valuable to communities
  - E. promote science education that is useful for all citizens
- 5) Which of the following questions is answered in the passage?
- A. Why is job diversification in communities important?
  - B. What is the best way to learn about combustion?
  - C. How popular are careers in the science fields?
  - D. When should specialized science training for a career begin?
  - E. Why are scientists useful members of their communities?
- 6) The author apparently believes that for those not interested in a science-related career, it is more useful to know the \_\_\_\_\_ than the \_\_\_\_\_ of science.
- A. reasons ... conclusions
  - B. process ... meaning
  - C. findings ... procedures
  - D. facts ... theories
  - E. details ... steps

## Answers and Explanations

1) **D**

In paragraph 2, the author states, “We do all want a competent general knowledge of anatomy at large, and especially of human anatomy; of physiology at large, and especially of human physiology.” From this, it can be inferred that the author considers it important for everyone to know about the human digestive system, as it is a matter of general human physiology. This inference is further confirmed by the author’s statement in the final paragraph that “we don’t want authorities on the nuances of interstellar gasses, but well informed citizens.” We can infer that the author would consider knowledge of the human digestive system the kind of practical information that would make for well informed citizens. Therefore **(D)** is correct. Choices **(A)**, **(B)**, **(C)**, and **(E)** each refer to specific scientific knowledge that a specialist might hold as opposed to the “competent general knowledge” valued by the author. Therefore they are incorrect.

2) **D**

In paragraph 3, the author states, “Scientists appreciate the education needed to make men specialists more than the education needed to fit them for the general exigencies and emergencies of life.” This means that, in the author’s opinion, scientists place more value on an education that provides career-specific training than an education made up of general courses of study that equip them for life. In other words, he believes that scientists discount the value of general courses of study and raise the value of courses geared toward a specific skill or career. Therefore **(D)** is correct. In paragraph 1, the author writes that “scientific men are exceedingly useful members of a community, as are engineers, bakers, blacksmiths, artists, and bankers.” Later on in this paragraph, the author writes that scientists, “though useful and valuable persons in their fields, are no more the staple of a civilized community than lawyers or ballet dancers.” Based on this information we can understand that the author believes scientists are as useful to society as bakers and lawyers, not less useful. This means **(A)** is incorrect. In paragraph 1, the author writes: “A community entirely composed of scientific men would fail to feed itself, clothe itself, house itself, and keep itself supplied with amusing light literature.” However, he does not imply here that scientists lack fundamental writing and social skills. Instead, he makes the point that a community needs people with a variety of skills and careers. Therefore **(B)** is incorrect. The author does not state or imply that any person with a specific career is necessarily smarter than a person with a different career, so **(C)** is incorrect. The author does not state or imply that any person with a specific career is necessarily better educated than a person with a different career, so **(E)** is incorrect.

3) **E**

In paragraph 2, the author offers his vision of what “science in education” should accomplish: “We do all want to know enough about plants and animals to walk through life intelligently, and to understand the meaning of the things that surround us. We want a general acquaintance with the results rather than with the methods of science.” Based on this information, we can infer that “science in education” is a way to create what the author calls “well informed citizens,” people with a basic working knowledge of science. In contrast, in paragraph 1, the author defines “education in science” as: “the systematic teaching of science so as to train for careers in science,” or in other words, something that “produces specialists.” Based on this information we can infer that “science in education” produces general knowledge whereas “education in science” produces specialized knowledge. The saying “a jack of all trades is a master of none” means that knowing a small amount of information about a great many things does not equip one for mastery in any area, or that specific knowledge is better than general knowledge. Since the author indicates that for “science in education,” generalization is preferable to specificity, it can be inferred the author would not likely find this saying to be true of the pursuit of “science in education.” Therefore **(E)** is correct. Choices **(A)**, **(B)**, **(C)**, and **(D)** all contain sayings that indicate a value of general, broad knowledge over specific, deep knowledge. This means the author would likely find them to be true of the pursuit of “science in education,” and therefore they are incorrect.

4) **E**

The purpose of a passage is directly related to its content. In paragraph 1, the author recognizes that not everyone is destined to become a scientist—and indeed that we would not want a community made up only of scientists. In paragraph 2, the author emphasizes the importance of a broad and practical understanding of science for most people, rather than the specialized understanding required of those who become scientists. In paragraph 3, the author states that common sense “demands” that science education be designed to prepare people to be “well informed citizens,” as opposed to “specialists.” Based on this information, we can determine that the main idea of the passage is that while it is valuable for everyone to learn science, a general scientific education is more useful for all citizens than specialized scientific training. This means the primary purpose is to promote science education that is useful for all citizens. Therefore **(E)** is correct. Although the author would likely support more diversified and productive communities, he does not seek to create them by writing this passage. This means **(A)** is incorrect. The author does not discredit the value of science in a liberal arts education or elsewhere, but rather he argues for teaching useful, general scientific information. This makes **(B)** incorrect. The focus of the passage is on how science should be taught, not on non-science-related careers, so **(C)** is incorrect. Although the author states that scientists are valuable to communities, he does not describe why this is so. This eliminates **(D)**.

5) **A**

In paragraph 1, the author writes: “Scientific men are exceedingly useful members of a community, as are engineers, bakers, blacksmiths, artists, and bankers. But we can’t all be bakers, and we can’t all be painters of watercolors. ‘It takes all sorts to make a world.’ A community entirely composed of scientific men would fail to feed itself, clothe itself, house itself, and keep itself supplied with amusing light literature.” These lines answer the question, why is job diversification in communities important? Therefore **(A)** is correct. Although the author says in paragraph 2 that it is useful to learn about combustion, he does not identify the best way to do so. This eliminates **(B)**. The passage does not provide information about the popularity of science-related careers, so **(C)** is incorrect. The passage does not provide information about when specialized training for a science career should begin, so **(D)** is incorrect. While the author states that scientists are useful members of their communities, he does not specifically explain why this is so or what they contribute. This eliminates **(E)**.

6) **C**

In paragraph 2, the author states that for general citizens, the focus of science education should be on “general acquaintance with the results rather than the methods of science.” In paragraph 3, he reiterates that the focus should be on “knowledge of what is known rather than knowledge of each successive step by which men come to know it.” This means that for those not interested in a science-related career, it is more useful to know the results, or findings, than the successive steps, or procedures, of science. Therefore **(C)** is correct. The author argues that it is the conclusions, not the reasons behind them, which are most useful to the average person. This means **(A)** is incorrect. The author argues that the process, or “each successive step by which men come to know” science, is not very useful to someone who is not going to become a scientist, so **(B)** is incorrect. The author compares the usefulness of knowing the results of science versus knowing the procedures of science, not the usefulness of facts versus theories. This eliminates **(D)**. Although the author argues that it is more useful for people to know the results of science than “each successive step by which men come to know” these results, he does not necessarily argue that details are more useful than steps. In fact, throughout the passage, he argues for the value of general knowledge over details. This means **(E)** is incorrect.