

TEXT 1.

Bacteria are extremely small living things. While we measure our own sizes in inches or centimeters, bacterial size is measured in microns. One micron is a thousandth of a millimeter a pinhead is about a millimeter across. Rod shaped bacteria are usually from two to four microns long, while rounded ones are generally one micron in diameter Thus if you enlarged a founded bacterium a thousand times, it would be just about the size of a pinhead. An adult human magnified by the same amount would be over a mile(1.6 kilometers) tall.

Even with an ordinary microscope, you must look closely to see bacteria. Using a magnification of 100 times, one finds that bacteria are barely visible as tiny rods or dots One cannot make out anything of their structure. Using special stains, one can see that some bacteria have attached to them wavy - looking "hairs" called flagella. Others have only one flagellum. The flagella rotate, pushing the bacteria though the water. Many bacteria lack flagella and cannot move about by their own power while others can glide along over surfaces by some little understood mechanism.

From the bacterial point of view, the world is a very different place from what it is to humans To a bacterium water is as thick as molasses is to us. Bacteria are so small that they are influenced by the movements of the chemical molecules around them. Bacteria under the microscope, even those with no flagella, often bounce about in the water. This is because they collide with the water molecules and are pushed this way and that. Molecules move so rapidly that within a tenth of a second the molecules around a bacterium have all been replaced by new ones even bacteria without flagella are thus constantly exposed to a changing environment.

1. Which of the following is the main topic of the passage?
(A) The characteristics of bacteria
(B) How bacteria reproduce
(C) The various functions of bacteria
(D) How bacteria contribute to disease
2. Bacteria are measured in
(A) inches
(B) centimeters
(C) microns
(D) millimeters
3. Which of the following is the smallest?
(A) A pinhead
(B) A rounded bacterium
(C) A microscope
(D) A rod-shaped bacterium
4. According to the passage, someone who examines bacteria using only a microscope that magnifies 100 times would see
(A) tiny dots
(B) small "hairs"
(C) large rods
(D) detailed structures
5. The relationship between a bacterium and its flagella is most nearly analogous to which of the following?
(A) A rider jumping on a horse's back
(B) A ball being hit by a bat
(C) A boat powered by a motor
(D) A door closed by a gust of wind
6. In line 16, the author compares water to molasses, in order to introduce which of the following topics?
(A) The bacterial content of different liquids
(B) What happens when bacteria are added to molasses
(C) The molecular structures of different chemicals
(D) How difficult it is for bacteria to move through water

TEXT 2.

The term 'virus is derived from the Latin word for poison. or slime. It was originally applied to the noxious stench emanating from swamps that was thought to cause a variety of diseases in the centuries before microbes were discovered and specifically linked to illness. But it was not until almost the end of the nineteenth century that a true virus was proven to be the cause of a disease.

The nature of viruses made them impossible to detect for many years even after bacteria had been discovered and studied. Not only are viruses too small to be seen with a light microscope, they also cannot be detected through their biological activity, except as it occurs in conjunction with other organisms. In fact, viruses show no traces of biological activity by themselves. Unlike bacteria, they are not living agents in the strictest sense. Viruses are very simple pieces of organic material composed only of nucleic acid, either DNA or RNA, enclosed in a coat of protein made up of simple structural units. (Some viruses also contain carbohydrates and lipids.) They are parasites, requiring human, animal, or plant cells to live. The virus replicates by attaching to a cell and injecting its nucleic acid.' once inside the cell, the DNA or RNA that contains the virus' genetic information takes over the cell's biological machinery, and the cell begins to manufacture viral proteins rather than its own.

1. Which of the following is the best title for the passage.
(A) New Developments in Viral Research (B) Exploring the Causes of Disease
(C) DNA: Nature's Building Block (D) Understanding Viruses
2. Before microbes were discovered It was believed that some diseases were caused by
(A) germ-carrying insects (B) certain strains of bacteria
(C) foul odors released from swamps (D) slimy creatures living near swamps
3. The word "proven" in line 4 is closest meaning to which of the following.
(A) Shown (B) Feared (C) Imagined (D) Considered
4. The word "nature" in line 6 is closest in meaning to which of the following?
(A) Self-sufficiency (B) Shapes (C) Characteristics (D) Speed
5. The author implies that bacteria were investigated earlier than viruses because
(A) bacteria are easier to detect (B) bacteria are harder to eradicate
(C) viruses are extremely poisonous (D) viruses are found only in hot climates
6. All of the following may be components of a virus EXCEPT
(A) RNA (B) plant cells (C) carbohydrates (D) a coat of protein

TEXT 3.

In the past oysters were raised in much the same way as dirt farmers raised tomatoes – by transplanting them. First, farmers selected the oyster bed, cleared the bottom of old shells and other debris, then scattered clean shells about. Next, they "planted" fertilized oyster eggs, which within two or three weeks hatched into larvae. The larvae drifted until they attached themselves to the clean shells on the bottom. There they remained and in time grew into baby oysters called seed or spat. The spat grew larger by drawing in seawater from which they derived microscopic particles of food. Before long farmers gathered the baby oysters transplanted them in other waters to speed up their growth, then transplanted them once more into another body of water to fatten them up.

Until recently; the supply of wild oysters and those crudely farmed were more than enough to satisfy people's needs. But today the delectable seafood is no longer available in abundance. The problem has become so serious that some oyster beds have vanished entirely.

Fortunately, as far back as the early 1900's marine biologists realized that if new measures were not taken, oysters would become extinct or at best a luxury food. So they set up well equipped hatcheries and went to work. But they did not have the proper equipment or the skill to handle the eggs. They did not know when, what, and how to feed the larvae. And they knew little about the predators that attack and eat baby oysters by the millions. They failed, but they doggedly kept at it. Finally, in the 1940's a significant breakthrough was made.

The marine biologists discovered that by raising the temperature of the water, they could induce oysters to spawn not only in the summer but also in the fall, winter, and spring. Later they developed a technique for feeding the larvae and rearing them to spat. Going still further, they succeeded in breeding new strains that were resistant to diseases, grew faster and larger, and flourished in water of different salinities and temperatures. In addition, the cultivated oysters tasted better.

1. Which of the following would be the best title for the passage?
(A) The Threatened Extinction of Marine Life
(B) The Cultivation of Oysters
(C) The Discoveries Made by Marine Biologists
(D) The Varieties of Wild Oysters
2. In the first paragraph, the production of oysters is compared to what other industry?
(A) Mining B) Fishing C) Banking D) Farming
3. In the passage, which of the following is NOT mentioned as a stage of an oyster's life?
(A) Debris B) Egg C) Larvae D) Spat
4. When did scientists discover that oysters were in danger?
(A) In the early part of the 19th century (B) At the beginning of this century
(C) In the 1940's (D) Just recently
5. According to the passage, which of the following words best describes the efforts of the marine biologists working with oysters?
(A) Persistent (B) Intermittent (C) Traditional (D) Fruitless
6. In the passage, the author mentions that the new strains of oyster are
(A) cheaper (B) shaped differently

(C) better textured

(D) healthier

7. In what paragraph does the author describe successful methods for increasing the oyster population?

(A) First

(B) Second

(C) Third

(D) Fourth

8. Which of the following best describes the organization of the passage?

(A) Step by step description of the evolution of marine biology

(B) Discussion of chronological events concerning oyster production

(C) Random presentation of facts about oysters

(D) Description of oyster production at different geographic locations