

Grade 6 Science



Texas Assessment Review and Practice

Includes

- Review and Practice for Grade 6 TEKS
- TEKS practice items in 4 reporting categories
 - Matter and Energy
 - Forces, Motion and Energy
 - Earth and Space
 - Organisms and Environment*plus* Scientific Investigation and Reasoning Skills
- TEKS Practice Test A and Practice Test B

SAMPLER

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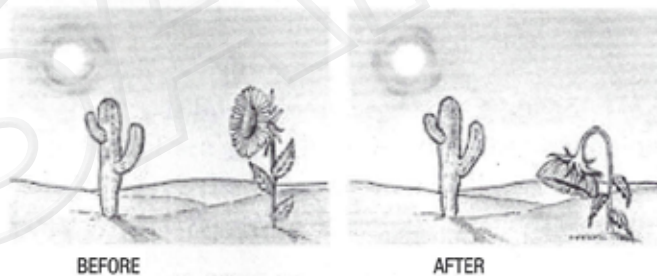
6.12.E

(12) **Organisms and environments.** The student knows all organisms are classified into Domains and Kingdoms. Organisms within these taxonomic groups share similar characteristics which allow them to interact with the living and nonliving parts of their ecosystem. The student is expected to: (E) describe biotic and abiotic parts of an ecosystem in which organisms interact;

(3) **Scientific investigation and reasoning.** The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: (A) in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;

STANDARD REVIEW

An organism's environment consists of all the things that affect an organism. These things can be divided into two groups. All of the organisms that live together and interact with one another make up the biotic part of the environment. The abiotic part of the environment consists of the nonliving factors, such as water, soil, light, and temperature.



Abiotic factors affect whether an organism can survive. Hot, dry heat from the Sun and a limited water supply can cause some plants to die.

In natural communities, the size of populations of different organisms can vary greatly. This variation happens because everything in the environment affects every other thing. Populations also affect every other population. Populations cannot grow without stopping because the environment contains a limited amount of food, water, living space, and other resources. A resource that is so scarce that it limits the size of a population is a limiting factor. For example, food becomes a limiting factor when a population becomes too large for the amount of food available. When two or more individuals or populations try to use the same resource, such as food, water, shelter, space, or sunlight, it is called competition. Because resources are in limited supply in the environment, their use by one individual or population decreases the amount available to other organisms.

Changes in temperature, light, soil composition, and other abiotic factors can limit the size of a population. For instance, fewer plants survive during the winter months because of freezing temperatures. Also, the amount of sunlight decreases, so that plants make less food. Members of animal populations that depend on these plants may go hungry or die as their food supply becomes more limited.

6.12.E

The largest population that an environment can support is known as the carrying capacity. When a population grows larger than its carrying capacity, limiting factors in the environment cause individuals to die off or leave. As individuals die or leave, the population decreases and returns to a size that the environment can support. Sometimes the abiotic factors and limited resources can cause every member of the population to die. The population then becomes extinct.

6.12.E

STANDARD PRACTICE

- 1 What term describes all nonliving factors in an environment?
 - A Abiotic
 - B Biotic
 - C Zoological
 - D Biological

- 2 A dry season has resulted in less available grass for grazing animals. Which of the following is NOT a likely response for the animal population?
 - F To find another food source
 - G To eat rabbits and other small animals
 - H To move to a different location
 - J To begin to die off

- 3 A dock was built over a large bed of sea grass in a manatee habitat. The dock shaded the bed of sea grass from the sun. The population of manatees decreased in the area even though the manatees could still swim under the dock. Why did the population of manatees decrease?
 - A The sea grass grew too thick.
 - B The manatees swam to another area to eat sea grass.
 - C The sea grass was poisoned.
 - D The sea grass died because the dock shaded it from the sun.

- 4 All living species in an environment are described as
 - F abiotic
 - G photosynthetic
 - H biotic
 - J infinite

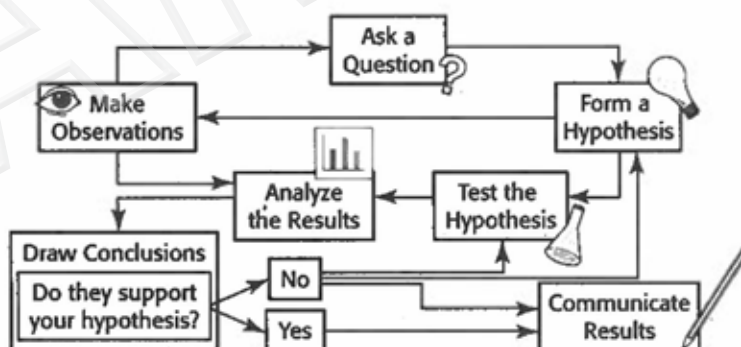
SI.2.B

(2) **Scientific investigation and reasoning.** The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: (B) design and implement experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology;

STANDARD REVIEW

When people do scientific experiments, they try to shed light on the unknown or figure out how the world works. In order to get answers, scientists start with a puzzling question. Then they try to answer their question by making an educated guess. A hypothesis is an educated guess or possible answer to a question. Scientists test their hypotheses by doing an experiment.

Not all hypotheses are useful. A good hypothesis is one that can be tested, regardless of whether or not it addresses the question totally. Know that hypotheses are important if they lead to studies that teach something, even if those hypotheses turn out not to be correct. Know that different scientists can have different answers to the same question even after looking at the same clues.



One way to test a hypothesis is to do a controlled experiment. A controlled experiment compares the results from a control group with the results from experimental groups. The groups are the same except for one factor.

This factor is called a variable. The results of the experiment will show the effect of the variable. In an experiment to test the effect of acid rain on plant growth, the control group would be watered with normal rain water. The experimental group would be watered with acid rain.

SI.2.B

STANDARD PRACTICE

- 1 Which part of the scientific process does NOT have to be accurate to be useful?
- A Hypothesis
 - B Procedure
 - C Analysis
 - D Safe practices
- 2 Which of the following is NOT an example of a hypothesis that can be tested with an experiment?
- F Nonliving things do not grow and develop.
 - G Lipids do not mix with water.
 - H Plant cells contain DNA.
 - J Dogs are better than cats.
- 3 Scientists are conducting research to find out the strength of a brand new medicine. In an experiment with two groups of people, the people in each group received one of two different amounts of the medicine. The people in one group received twice the amount of medicine that the people in the other group received. In this experiment, what does the amount of medicine represent?
- A The experimental group
 - B The control
 - C The variable
 - D The control group
- 4 An environmental scientist suspects that acid precipitation is beginning to affect the pH of certain lakes in Texas. What is the best way to test this hypothesis?
- F Do library research on the harmful effects of acid precipitation in lakes.
 - G Test how acidic water and neutral water affect plants native to Texas.
 - H Count the number of water-plant species found in a Texas lake.
 - J Collect lake-water samples and test the pH of each sample.

PRACTICE TEST A



- 1 The diagram above shows an energy pyramid. How many different animal populations are shown in the energy pyramid?
- 2 Which structures are all living things composed of?
 - F Cells
 - G Eukaryotes
 - H Organs
 - J Prokaryotes
- 3 Which of the following properties could be used to distinguish between an organism in the domain Bacteria and one in the domain Eukarya?
 - A Contains membrane-bound organelles
 - B Uses energy to carry out multiple functions
 - C Uses simple mechanical motion to move around
 - D Is composed of organic chemicals such as amino acids
- 4 Members of which kingdom can survive where most other organisms cannot?
 - F Protista
 - G Fungi
 - H Archaeobacteria
 - J Eubacteria

The Salt-Marsh Ecosystem

- 39 Imagine that you are an ecologist cataloging the interactions in a salt-marsh community. Look at the illustration above of some of the organisms that live in a salt marsh. Which is the abiotic factor in the environment?
- A Cordgrass
 - B Crab
 - C Sparrow
 - D Water
- 40 What is the fewest number of cells that a living organism can have?
- 41 What is a resource that keeps the size of a population from growing too quickly called?
- A A precious resource
 - B A renewable resource
 - C A limiting factor
 - D A restriction