

STUDY GUIDE

● Science Is Everywhere

Read each group of terms. Circle the two terms that are most related. In the spaces provided, explain how the terms are related. Write your answers in complete sentences.

1. matter, animals, energy

2. knowledge, pure science, technology

3. pure science, technology, applied science

4. sunlight, matter, energy

5. rocks, matter, energy

6. electricity, sunlight, matter

7. hardness, observing, questioning

For each term listed, write a definition using your own words.

8. technology: _____

9. physical science: _____

Answer the following question with complete sentences on the lines provided.

10. How does "pure" science differ from technology?

● Finding Out

In each of the following statements, a term has been scrambled. Unscramble the term and write it on the line provided.

- _____ 1. The steps needed to find the solution are usually obvious in an *sciereex*.
- _____ 2. A process that uses certain skills to solve a problem is *tacilric kinthing*.
- _____ 3. An explanation based on many observations supported by experimental results is a *yethor*.
- _____ 4. A "rule of nature" that sums up related observations and experimental results to describe a pattern in nature is a *scenicifit wal*.
- _____ 5. An educated guess about the possible solution to a problem is a *pythoshise*.
- _____ 6. An idea, system, or structure that represents something that is being explained is a *domel*.
- _____ 7. A hypothesis can be tested by conducting an *expertemin*.
- _____ 8. The solution is not obvious, and important information is missing in a *blepmor*.
- _____ 9. Using your senses to gather information is called *stiobanroev*.
- _____ 10. Physical science is concerned with the study of energy and *tramet*.
- _____ 11. A theory must be based on many observations and supported by *taxlpeermnie* results.
- _____ 12. Solving a problem involves finding missing *timrifonona*.

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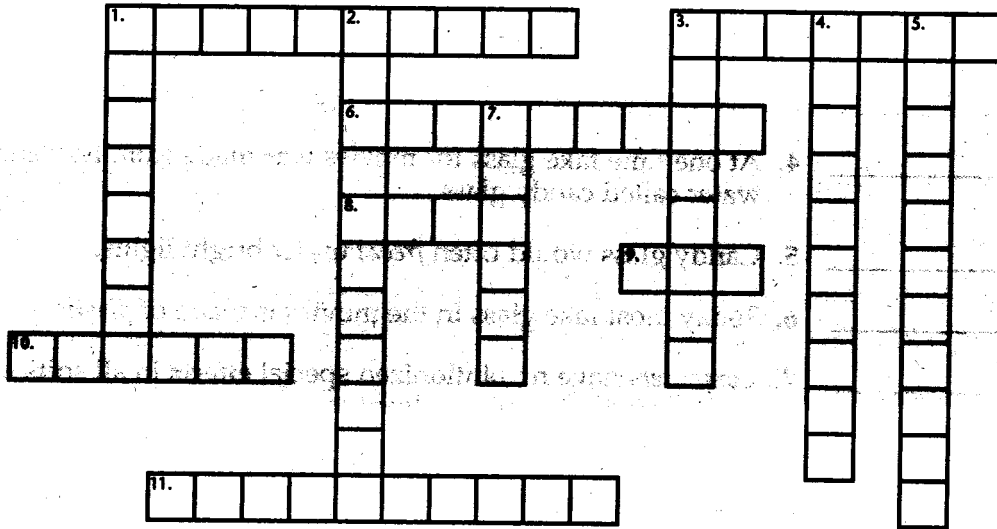
● Getting Real with Special Effects

Determine whether the italicized term makes each statement true or false. If the statement is true, write the word "true" in the space provided. If the statement is false, write in the blank the term that makes the statement true.

- _____ 1. *Technology* has helped make movie special effects more realistic.
- _____ 2. Polyurethane *alloys* can be molded, cut, or carved into realistic looking boulders.
- _____ 3. *Fiberglass* can be used to create lightweight imitation rocks.
- _____ 4. At one time fake glass for movies was made from hardened *salt water* called *candy glass*.
- _____ 5. *Candy glass* would often *freeze* under bright lights.
- _____ 6. Today most fake glass in the movies is made of *plastic*.
- _____ 7. *Computers* have revolutionized special effects in all sorts of films—from cartoons to action adventures.
- _____ 8. Some animated films use claymation, a process in which clay figures are *photographed* one frame at a time and moved slightly between frames.
- _____ 9. A technique called *slow-motion*, which uses computers to move *cameras* and clay figures at the same time, makes claymation a much smoother effect.
- _____ 10. To create the sounds of dinosaurs for a movie, sound engineers may first study paleontologists' theories of how *extinct* animals may have sounded.

● Exploring Science

Solve the following crossword puzzle by using the clues provided.



Across

Down

1. test of a hypothesis
3. the standard for comparison in an experiment
6. factor that depends on the value of the independent variable; ___ variable
8. science that seeks knowledge rather than application
9. A rule of nature that sums up related observations and experimental results is a scientific ___.
10. explanation based on many observations that are supported by experimental results
11. a testable idea about the likely solution to a problem

1. The steps required to find a solution are usually obvious in a(n) ___.
2. variable in an experiment that is adjusted by the experimenter; ___ variable
3. factor that doesn't vary in an experiment
4. applied science
5. process of using the senses to gather information
7. one part of the study of physical science