

Assessment

The Science of Physics

Section Quiz: What Is Physics?

Write the letter of the correct answer in the space provided.

- _____ 1. Physics is concerned with which of the following matters?
- applying physics principles
 - describing the physical world
 - making predictions about a broad range of phenomena
 - all of the above
- _____ 2. Measuring temperature would most likely involve which major area in physics?
- optics
 - thermodynamics
 - relativity
 - vibrations and wave phenomena
- _____ 3. A physicist who studies the behavior of submicroscopic particles is working in which area within physics?
- mechanics
 - electromagnetism
 - relativity
 - quantum mechanics
- _____ 4. After making observations and collecting data that leads to a question, a physicist will then
- formulate and test hypotheses by experimentation.
 - state conclusions.
 - interpret the results.
 - revise the initial hypotheses.
- _____ 5. How many variables may be tested legitimately in any one experiment?
- as many as a physicist can handle
 - three
 - one
 - five
- _____ 6. Why do physicists use models?
- They are usually easy to build.
 - They are helpful when explaining fundamental features.
 - They are usually inexpensive.
 - none of the above

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- _____ **7.** Which of the following represents a system?
- a.** flag blowing in the wind
 - b.** ball rolling on the ground
 - c.** picture hanging on the wall
 - d.** all of the above

- _____ **8.** Models can do all of the following *except*
- a.** explain every aspect of natural phenomena.
 - b.** help build hypotheses.
 - c.** guide experimental design.
 - d.** make predictions in new situations.

- 9.** Describe a situation that uses the processes of the scientific method. Explain how the scientific processes are used in that situation.

- 10.** What is the first step toward simplifying a complicated situation, and what are three ways to summarize a complicated situation?
