Physical Science Quiz
Study Guide

1. George's dad was moving cars out of his family's driveway. The driveway was located in strong sunlight. George observed that the family's white car was cooler inside than the family's black car. He wants to do an experiment to see whether color makes a difference in the amount of radiant energy a metal surface absorbs. What should he do next?
   a. Communicate results
   b. Plan an experiment
   c. Analyze data
   d. Draw conclusions
2. Two students are comparing some substances. They are using properties of hardness, flexibility, and texture. Which types of substances are they most likely comparing?
   a. Solids, Liquids, and Gases
   b. Gases
   c. Solids
   d. Liquids
3. Ms. Tyler's class is doing a demonstration to show that solids, liquids, and gases all have mass. They use a pan balance for solids and liquids. What is the best way for them to show that air has a mass?
   a. Put an empty bottle on the pan balance.
   b. Heat water to show it changing into water vapor.
   c. Use a fan to make a current of air.
   d. Compare the masses of an air-filled balloon to an empty balloon.
4. Mathew is planning an experiment. Why will his experiment be difficult to draw a valid conclusion?

Setup A: A flowerpot with 50 grams of soil, 5 bean seedlings, 100 mL of water each day, and 8 hours of light each day.
Setup B: Identical flowerpot with 50 grams of soil, 5 bean seedlings, 200 mL of water each day, and 6 hours of light each day.
Setup C: Identical flowerpot with 50 grams of soil, 5 bean seedlings, 150 mL of water each day, and 7 hours of light each day.

   a. He is testing more than one variable
   b. He shouldn't use identical flowerpots
   c. He should use bean seeds instead of bean seedlings
   d. He did not include a prediction
5. Ms. Claussen's class made a list of properties of matter. They included mass, volume, color, texture, and temperature. These properties of matter can be used in different ways. What is one thing that CANNOT be done by directly observing these kinds of properties?

a. Classify a substance as a solid, liquid, or gas.
b. Change one substance into another.
c. Compare two substances.
d. Identify a substance.

6. Jessica wants to make a scarf as a gift for each of her friends. She needs to know their favorite color so she can choose the fabric to match. What skill is Jessica using when she identifies their favorite colors?
   a. Create a hypothesis
   b. Form an opinion
   c. Collect data
   d. Draw conclusions
7. Ms. Francois' class used properties of matter to sort some picture cards into groups. What are the names of the three groups they made?

Group A: Glass of Milk Cup of Hot Chocolate	Group B: A table A composition book	Group C: Steam from a pot of boiling water Air in a balloon

   a. Group A: Solid; Group B; Liquid; Group C: Gas
   b. Group A: Gas; Group B: Solid; Group C: Liquid
   c. Group A: Liquid; Group B: Gas; Group C: Solid
   d. Group A: Liquid; Group B: Solid; Group C: Gas
8. You have a 2-liter bottle that is filled with juice halfway. The rest is filled with a colored gas. What would most likely happen if you pumped some of the gas out of the bottle?
   a. The top of the juice would rise above halfway.
   b. The top of the juice would drop below halfway.
   c. The top of the gas would drop below halfway.
   d. The top of the juice and gas would stay at the same level.
9. Erica observed the temperature of a 100 mL jar of water as it was freezing. What was Erica doing when she made this chart?

Water Temperature	Time (Hours)
65 F	0
41 F	1
36 F	2
34 F	3
32 F	4

   a. interpreting her data
   b. controlling her variables
   c. drawing conclusions
   d. observing and recording her observations

Answer Key:

1. B
2. C
3. D
4. A
5. B
6. C
7. D
8. D
9. D