

Date: \_\_\_\_\_





Name: \_\_\_\_\_

Class: \_\_\_\_\_

1 Which of the following objects has positive buoyancy?

- A A duck
- B A piece of cement
- C A steel hammer
- D A 42-inch television

2 Which of the following objects has negative buoyancy?

- A  ship
- B  inner tube
- C  beach ball
- D  rock

3 When does a submarine have neutral buoyancy?

- A When it is floating on top of the water
- B When it has sunk to the bottom of the ocean
- C When it is suspended between the surface of the ocean and the ocean floor
- D Immediately after it is launched

4 You drop a rock into a glass of water, and the water level rises by 40 milliliters. What can you conclude about the rock from this?

- A It has a mass of 40 grams
- B It has a density of 40 grams/mL
- C It has a volume of 40 mL
- D It has a weight of 40 newtons

5 Why does a steel cube sink in water?

- A Because it weighs more than the water
- B Because it is denser than the water
- C Because it has a greater volume than the water
- D Because it has a greater mass than the water

6 How do the molecules of a heavy stone compare with the molecules of water within a freshwater lake?

- A The stone's molecules weigh more
- B The stone's molecules have a greater volume
- C The stone's molecules have a greater mass
- D The stone's molecules are packed closer together

7 Why doesn't a steel cruise ship sink in the ocean?

- A Because the inside of the boat is filled with air, which is less dense than water
- B Because steel is less dense than water
- C Because the inside of the boat has people in it, and people are less dense than water
- D Because the weight of the steel boat is small compared to the weight of the entire ocean that surrounds it

8 What can you infer about how density is calculated?

- A It involves dividing a substance's weight by its mass
- B It involves dividing a substance's mass by the mass of water
- C It involves dividing a substance's mass by its volume
- D It involves dividing a substance's length by its height

9 A helium balloon floats in the air. What can you infer about helium?

- A It is less massive than air
- B It has a greater volume than air
- C It has less surface area than air
- D It is less dense than air

10 Which of the following substances is the least dense?

- A A brick
- B A sheet of paper
- C A cloud of hydrogen gas
- D A human being