

Title: Final Quiz over Matter: Properties and Change - 15

Name _____ Score _____

1. Which of the following has the ability to change the state of matter?

- A. Heat B. Wind C. Light D. Sound

2. The ice cubes in a freezer are melting. Which change most likely is causing the ice cubes to melt?

- A. A decrease in the mass of the ice cubes
B. An increase in the mass of the ice cubes
C. A decrease in the temperature inside the freezer
D. An increase in the temperature inside the freezer.

3. Which of these is an example of water changing measured from water vapor to liquid?

- A. Moist forming on a mirror when you breath on it
B. Sweat forming on your body when you exercise
C. Ice cubes melting when you put them in a warm liquid
D. Rivers drying up during a very hot summer

4. A student put 200 ml of water into a pot on a burner, and heats the water to boil. When the pot is taken off the burner, it contains only 180ml of water. What happens to the rest of the water?

- A. It was used up.
B. It condensed.
C. It was absorbed by the heat.
D. It turned into water vapor.

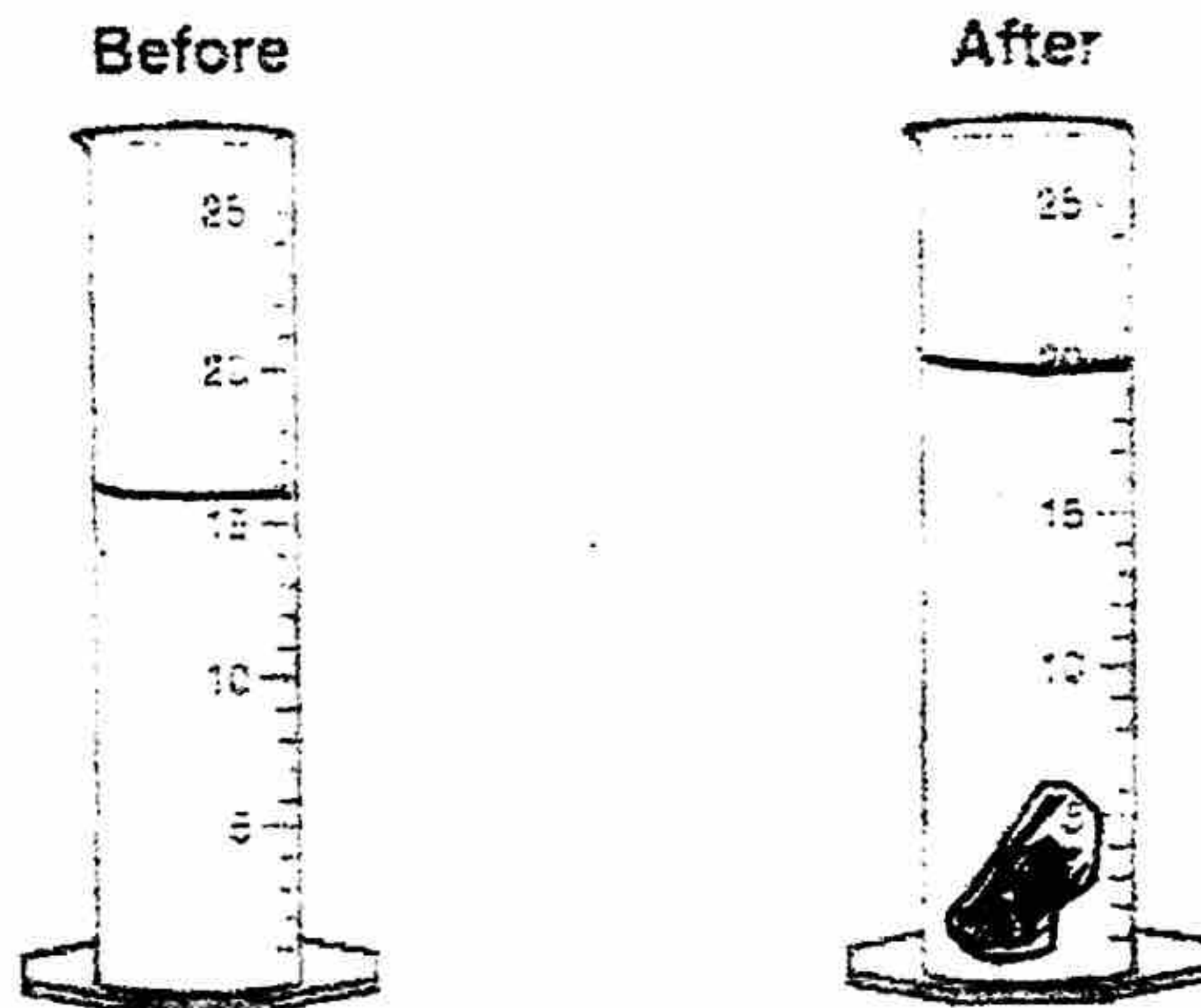
5. What is the simplest form matter can be in?

- A. Atom B. Proton C. Neutron D. Electron

6. Which list contains only objects made up of atoms?

- A. steel, water, sand, dolphin
B. light, rocks, apple, squire
C. palm tree, electricity, salt, air
D. paper, vinegar, heat, helium

7. Students fill a graduated cylinder with 16 ml of water. They place a rock into the cylinder and observe the change in water level.



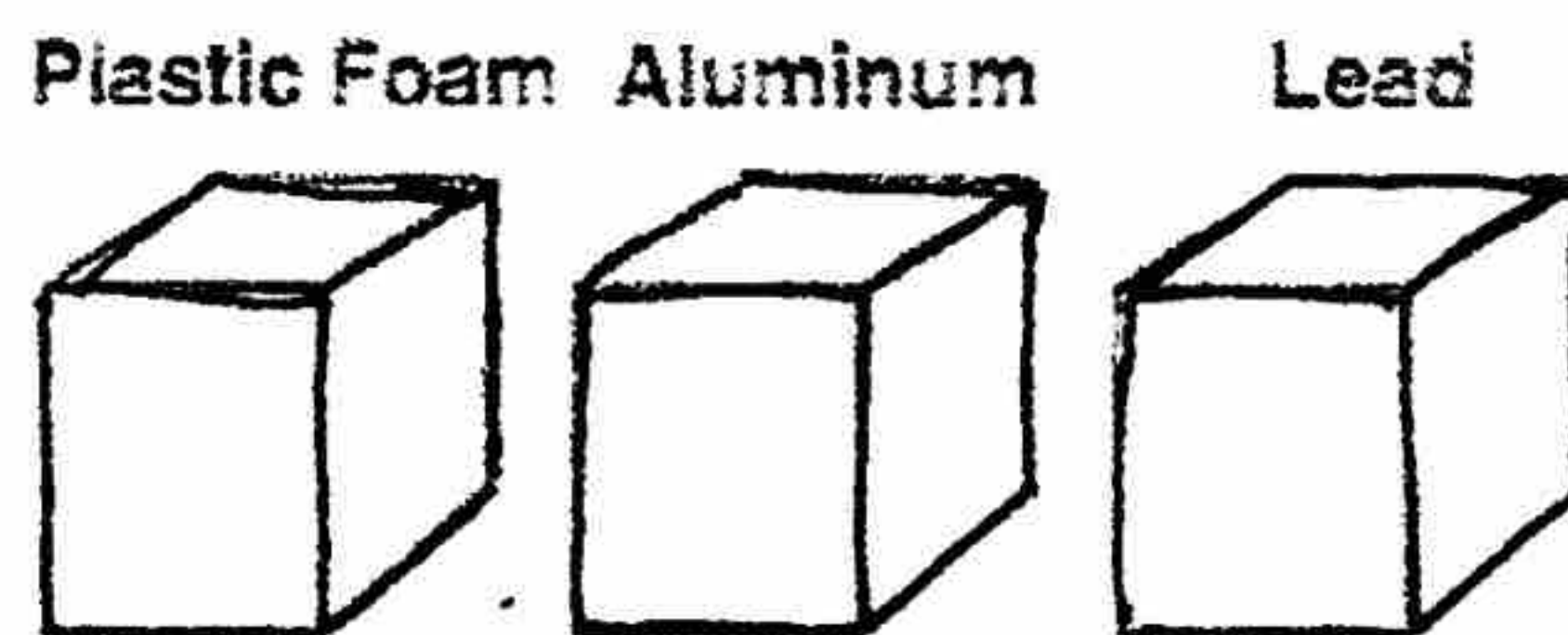
Which property of the rock is most likely being

- A. mass B. volume C. length D. temperature

8. When water is changing from a liquid to a gas, what occurs?

- A. The atoms lose electrons
B. A new compound is formed
C. Molecules spread farther apart
D. Hydrogen is separated from oxygen

9. A student examined blocks made of different substances. The blocks all had the same length, width, and height.



Which statement most likely describes the blocks?

- A. The blocks have the same hardness.
B. The blocks have the same density.
C. The blocks have different masses.
D. The blocks have different volumes

10. What is the smallest unit of an element that retains the properties of that element?

- A. electron B. molecule C. neutron D. atom

11. During a lab investigation, students listed some properties of zinc in a table.

Zinc Properties

Appearance	Bluish-white, shiny
Density	7.14 g/cm ³
Magnetism	No
Reactivity with hydrochloric acid	Forms zinc chloride and hydrogen gas

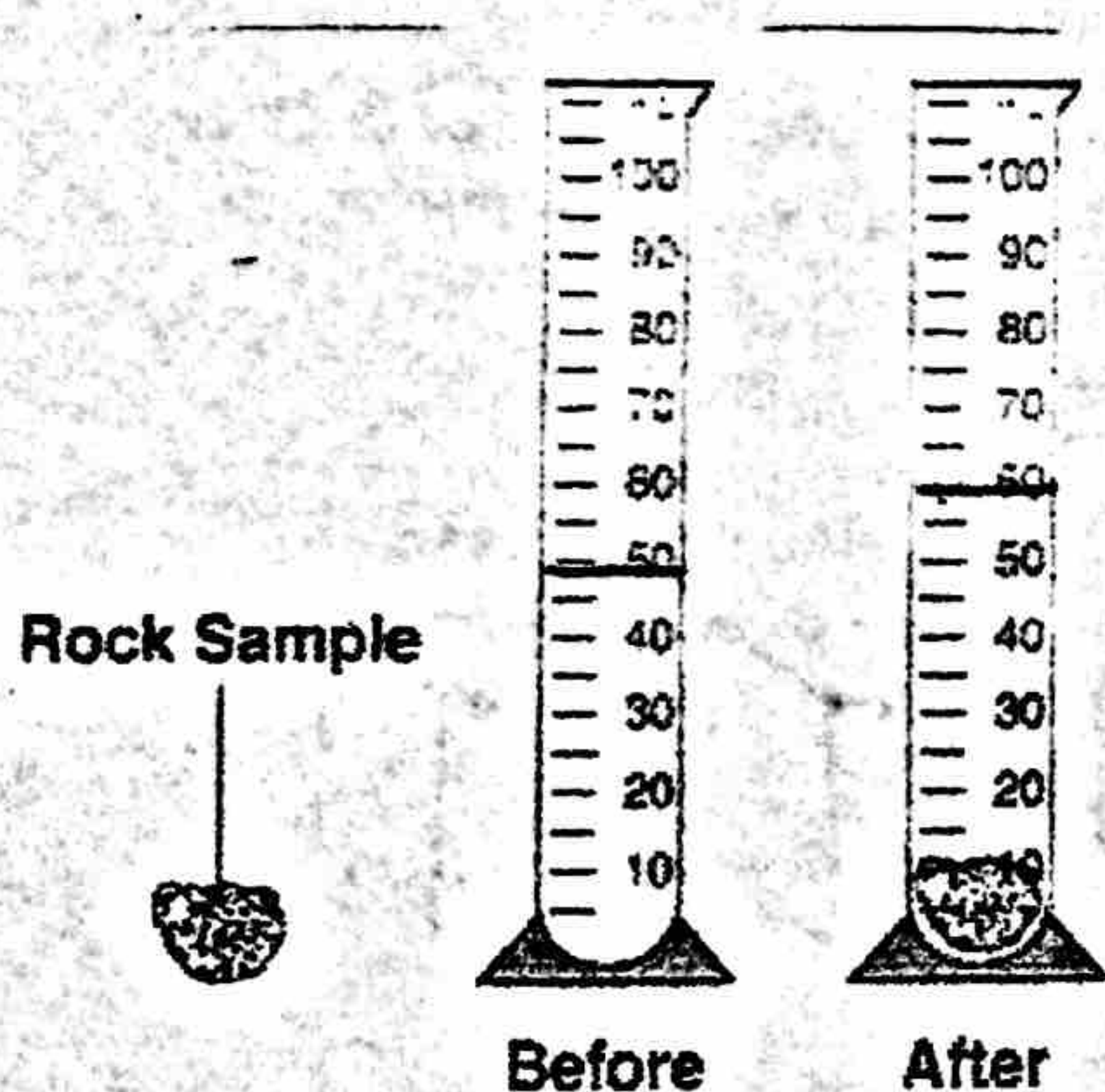
Which is the physical property of zinc that indicates that a cubic centimeter of it will sink in water?

- A. Appearance
 B. Density
 C. Reactivity with hydrochloric acid
 D. Magnetism

12. Which does 12.0 grams represent?

- A. mass B. volume C. speed D. force

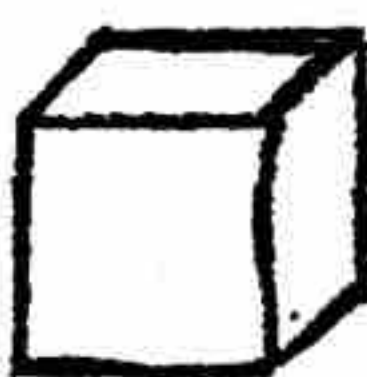
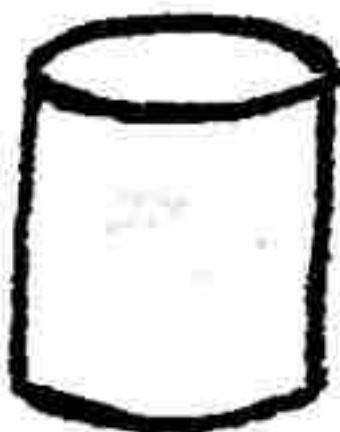
13. The drawing was part of a lab report turned in by a student.



By looking at the change in the level of the water, which property of the rock sample was the student most likely measuring?

- A. mass B. weight C. volume D. buoyancy

14. The drawing shows the volume and densities of the two objects.

Object		
Volume	8 cm ³	8 cm ³
Density	0.33 g/cm ³	1.1 g/cm ³

Which factor best accounts for the difference in densities?

- A. mass B. shape C. height D. texture

15. Mercury and gold are both metals. Unlike gold, mercury cannot be used to make jewelry because it is a liquid at room temperature. The difference in the state of matter is an example of which type of property?

- A. chemical B. electrical C. nuclear D. physical

16. The masses and volumes of four cubes are shown.

Masses and Volumes of Cubes

Cube	Mass (g)	Volume (cm ³)
1	50	25
2	100	10
3	125	5
4	150	10

Which cube has the highest density?

- A. Cube 1
 B. Cube 2
 C. Cube 3
 D. Cube 4

17. A student is pouring equal amounts of water, maple syrup, and cooking oil into a glass beaker and looking at how the layers settle. Which property of the liquids is the student most likely comparing?

- A. Density
 B. Mass
 C. Temperature
 D. Volume

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19. Paula determines a property of a marble using a balance and a graduated cylinder. What property is Paula most likely determining by using both tools?

- A. density
- B. length
- C. mass
- D. volume

20. Aluminum is an element. Which of the following best describes the smallest particle of aluminum that retains all the properties of aluminum?

- A. a molecule
- B. an atom
- C. a proton
- D. an electrons

21. Which substance is composed of only one type of atom?

- A. water
- B. gold
- C. salt
- D. sugar

22. Materials made of the same substance will have characteristics in common. Which property is most likely to remain constant (the same) in different samples of the same material?

- A. density
- B. mass
- C. shape
- D. volume

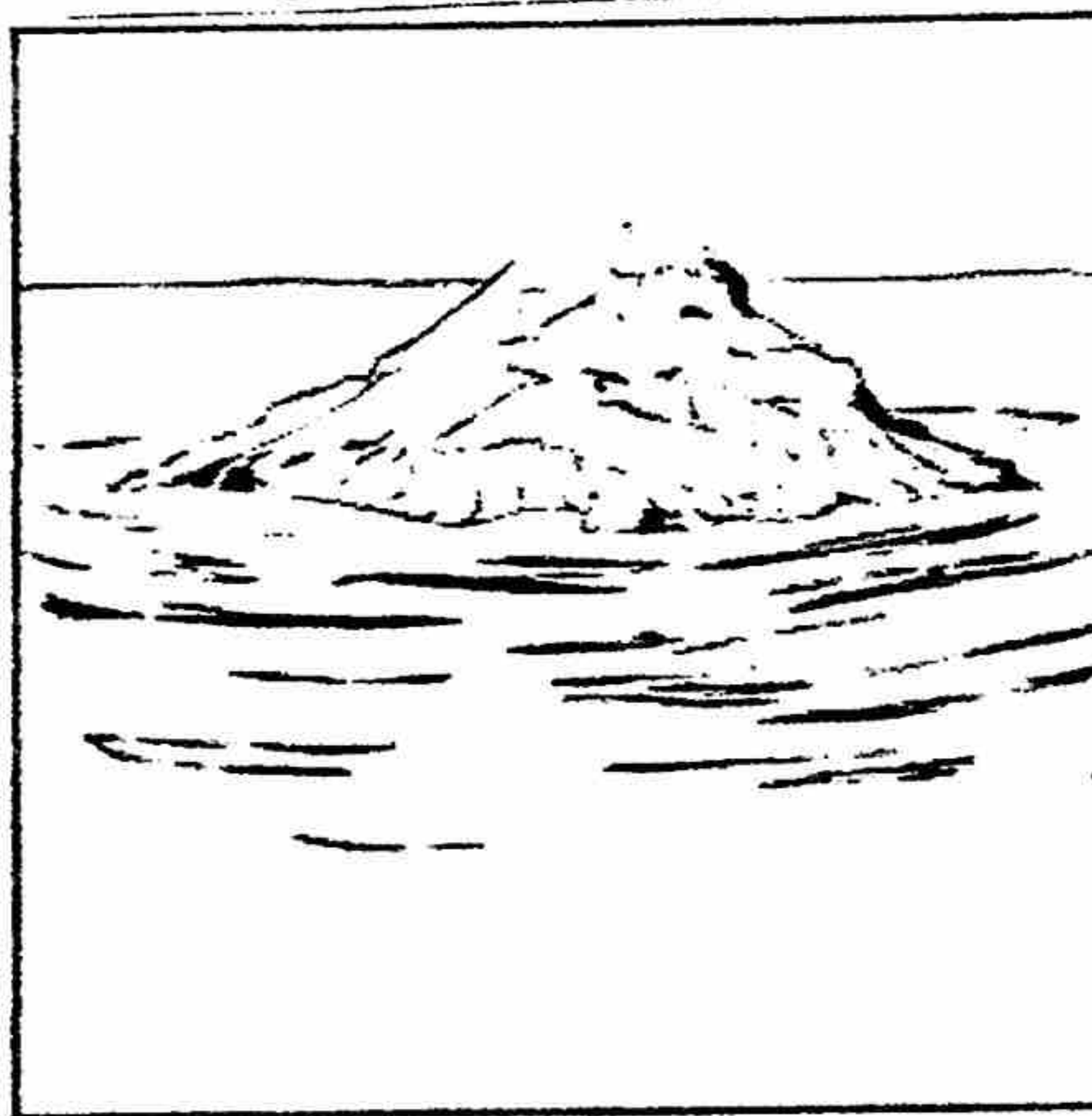
23. What are the three common states of matter?

- A. liquid, gas, vapor
- B. gas, liquid, fluid
- C. solid, gas, liquid
- D. solid, vapor, liquid

24. The metal lid on a glass jar is hard to open so it is held under warm, running water. What causes the jar to open easily after it was held under the water?

- A. The water increased the pressure under the lid.
- B. The jar shrunk with the warm water.
- C. The water acted as a lubricant between the glass and the metal.
- D. The metal lid expanded under warm water.

25. An iceberg is shown in the illustration below.



Why does the iceberg float instead of sinking to the bottom of the ocean?

- A. The water is more dense than the ice
- B. The ice weighs less than the water
- C. The ice has a greater salt concentration than the water
- D. The water has currents that force the ice upward.

26. Which statement best describes an atom?

- A. Atoms are the smallest particles of matter that are still elements.
- B. Atoms are composed of one or more elements in a fixed ratio
- C. Atoms are broken down by physical means into subatomic particles.
- D. Atoms are tiny energy packets that produce a beam of light.

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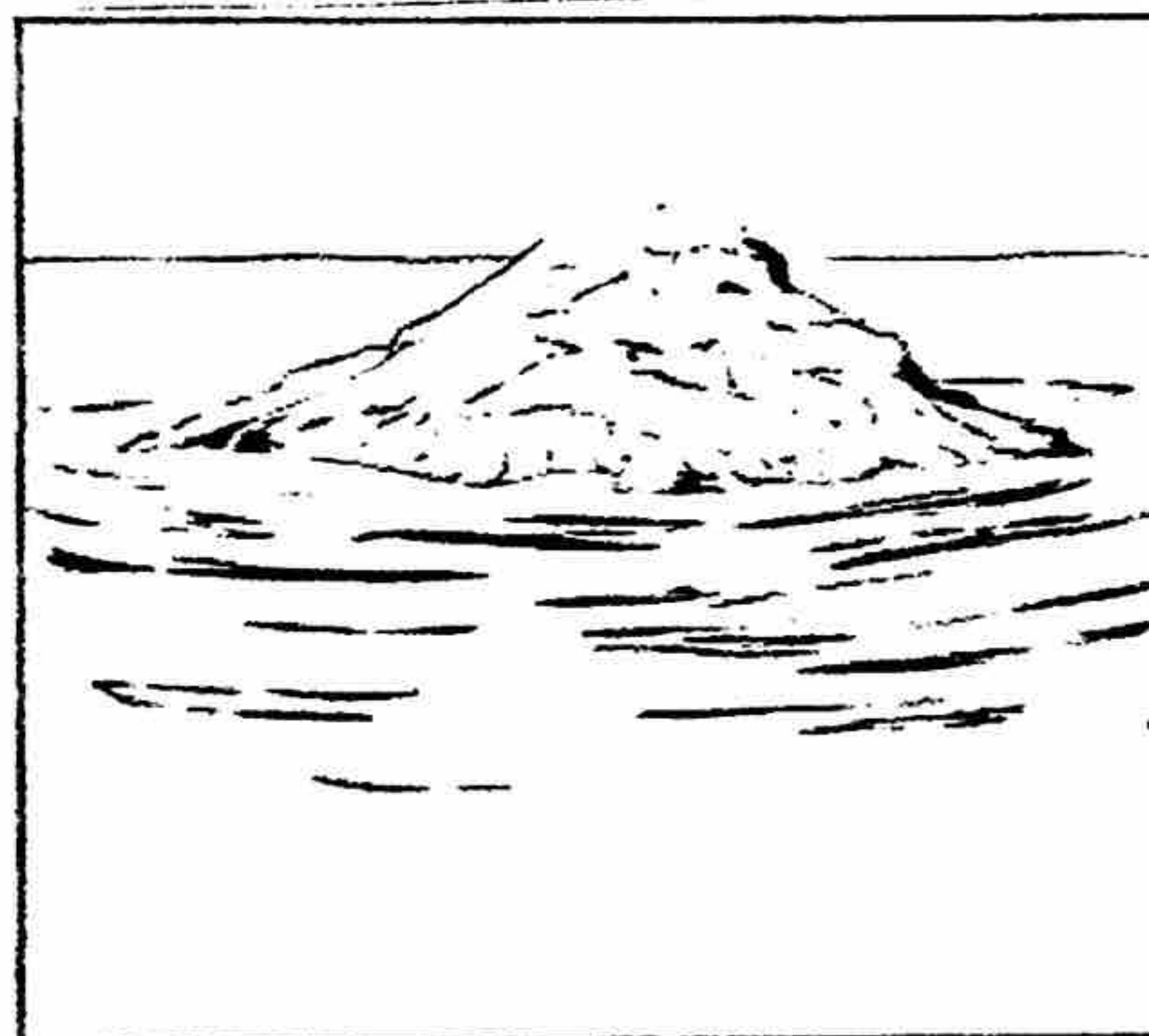
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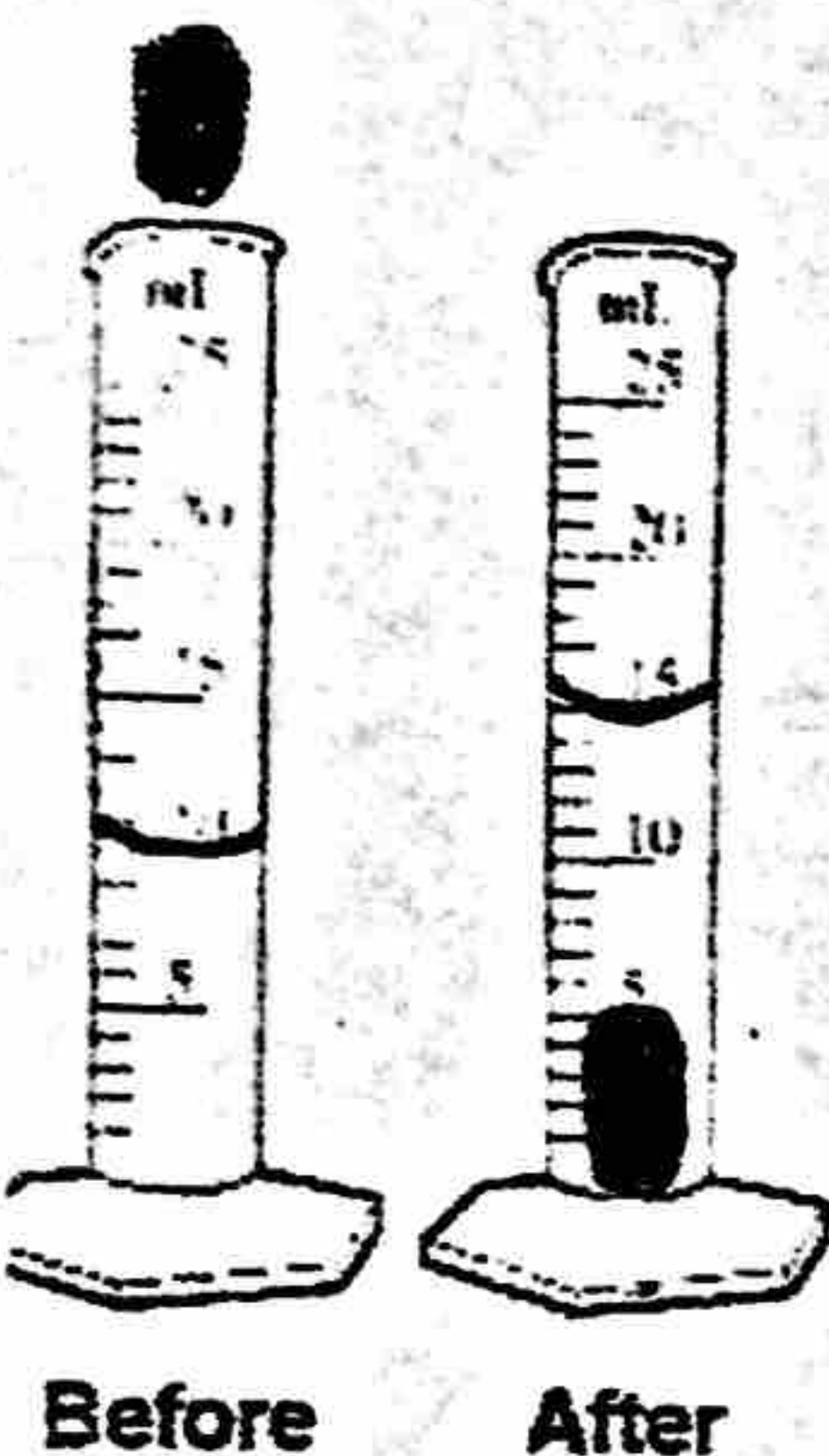
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27. Which statement is true about atoms?
- A. Atoms are made of molecules.
 - B. Atoms have an electrical charge.
 - C. Atoms have the same weight.
 - D. Atoms make up the smallest unit of matter and can be seen by using special tools.

27. The boiling of water results in a physical change in matter from

- A. solid to liquid
- B. gas to solid
- C. solid to gas
- D. liquid to gas

28. An unknown substance with a mass of 56.5 grams is placed in a graduated cylinder.



Density Table

Substance	Density (g/cm ³)
Aluminum	2.7
Gold	19.3
Iron	7.87
Lead	11.3

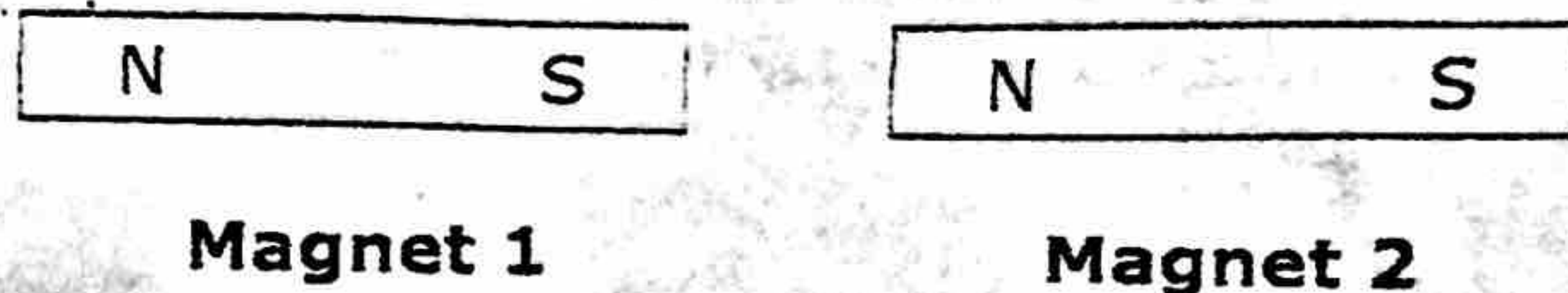
What is the identity of the unknown substance?

- A. aluminum
- B. gold
- C. iron
- D. lead

29. Which is composed of matter?

- A. electricity
- B. an atom
- C. light
- D. heat

30. The diagram below shows two pure iron magnets.



Which is true about these two magnets?

- A. They contain different types of atoms
- B. They contain the same types of atoms but different elements
- C. They contain the same types of atoms and elements.
- D. They contain different types of atoms and elements.

31. How are the atoms in an object affected when the temperature of the object increases?

- A. They join together
- B. They vibrate faster
- C. They vibrate slower
- D. They split apart.

32. In which situation would the atoms in an object begin to move closer together during a phase change?

- A. Heat is removed as a gas turns into a liquid.
- B. Heat is removed as a liquid turns into a gas.
- C. Heat is added as a solid turns into a gas.
- D. Heat is added as a liquid turns into a solid.

33. Sarah has 100 g of each element listed in the chart below, which also provides the melting point for each element.

Melting Point for Elements

Element	Melting Point
copper	1,084°C
gold	1,064°C
lead	327°C
silver	961°C

What would happen if she melted only 50 g of each element?

- A. The melting point for each element would double because the mass was changed.
- B. The melting point for each element would decrease by half because the mass was changed.
- C. The melting process would occur more quickly, but the melting points would remain the same.
- D. The melting process would occur more quickly, but the melting points would be decreased by half.

34. How does 250 mL of water compare to 500 mL of water?

- A. They have the same melting point but different boiling points
- B. They have the same boiling point but different melting points
- C. They have the same volume but different densities.
- D. They have the same density but different volume