

Matter Unit Test

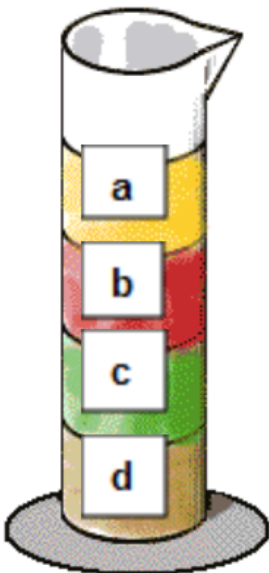
1. The change of state that occurs when a gas becomes a liquid is called _____.
 - a. condensation
 - b. boiling
 - c. evaporation
 - d. freezing

2. The atoms in which of the following states of matter has the most movement?
 - a. solid
 - b. ice
 - c. liquid
 - d. gas

3. A rock has a density of 8 g/ml. If the rock's mass is 2g, what is the rock's volume?
 - a. 0.25 ml
 - b. 4 ml
 - c. 16 ml
 - d. 2 ml

4. A block has a density of 17.3 g/ml. If the rock's volume is 15.6 cm^3 , what is the block's mass?
 - a. 259.9 g
 - b. 269.9 g
 - c. 270.9 g
 - d. 280.9 g

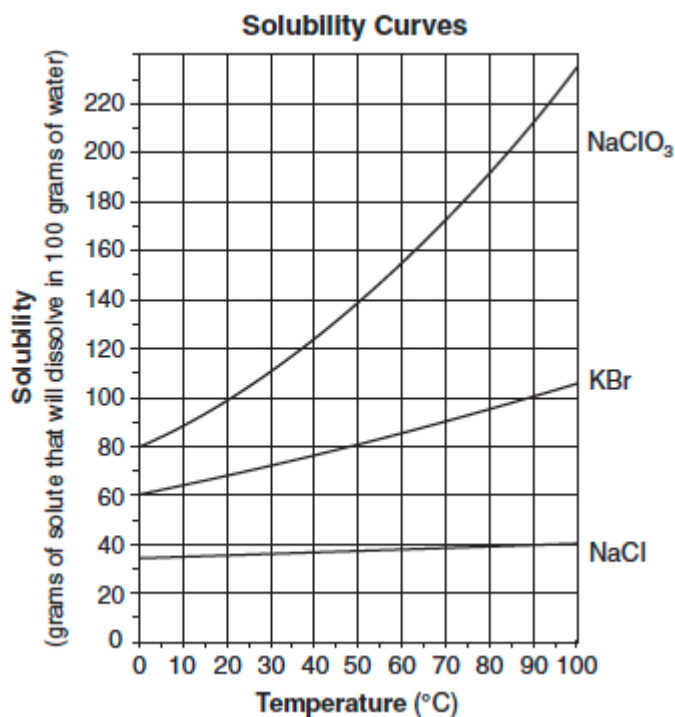
5. Look at the graduated cylinder and chart below. Which letter represents where Canola Oil would be?



Liquid	Density (g/ml)
corn syrup	1.38
ether	1.2
canola oil	.93
salt water	1.1

- a. at the top
- b. between a and c
- c. between c and d
- d. at the bottom

6. The graph below shows the solubility of three substances in 100 grams of water at various temperatures.

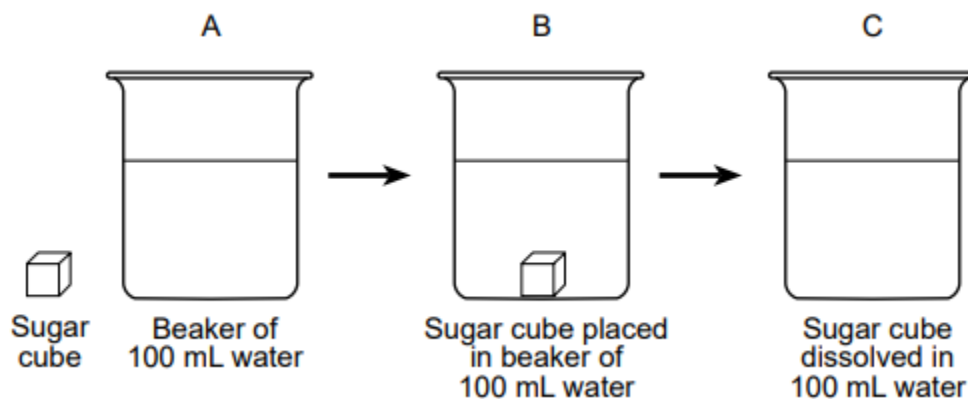


Approximately how many grams of KBr will dissolve in 100 grams of water at 60°C?

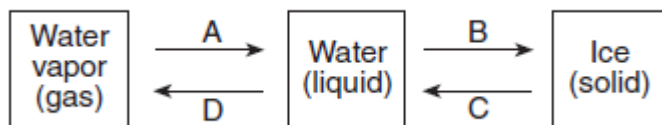
- a. 75g
- b. 90g
- c. 100g
- d. 160g

Use the information below to answer questions 7-8.

A sugar cube was placed into a beaker containing 100 mL of water at room temperature and completely dissolved into the water. This process is represented by the series of diagrams labeled A, B, and C below.



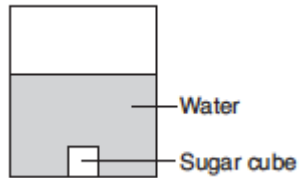
7. In this experiment, which substance is the solute?
- a. water
 - b. beaker
 - c. sugar cube
 - d. temperature
8. Describe one way that the dissolved sugar at C could be separated from the water.
- a. filtration
 - b. sifting
 - c. flotation
 - d. evaporation
9. Which state of matter has a definite shape and a definite volume?
- a. solid
 - b. liquid
 - c. gas
 - d. all of them
10. In the diagram below, identify what process is happening at point D.



- a. condensation
- b. freezing
- c. melting
- d. evaporation

11. If a wooden block were cut into eight identical pieces, the density of each piece compared to the density of the original block would be
- a. The same
 - b. Lesser
 - c. Greater

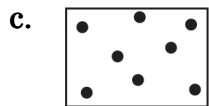
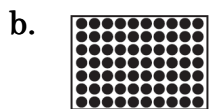
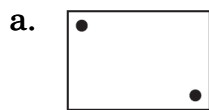
12.



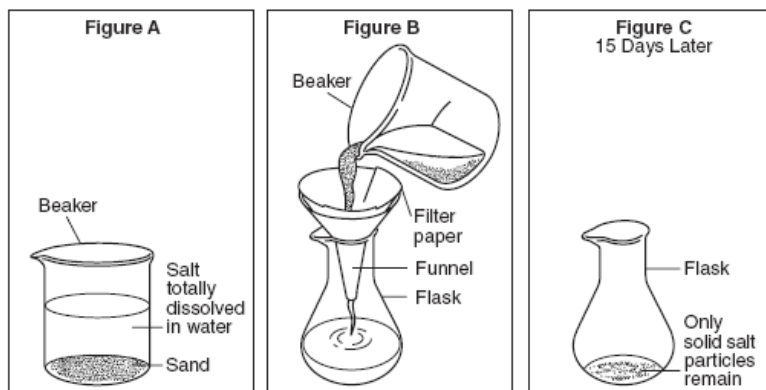
The diagram above shows a sugar cube in a container of water. What could be done to increase the rate the sugar dissolves?

- a. Add another sugar cube.
 - b. Remove half of the water.
 - c. Use a smaller container.
 - d. Increase the temperature of the water.
13. A mixture of sand and iron filings could most easily be separated by
- a. dissolving in water
 - b. heating over a burner
 - c. using a magnet
 - d. using filter paper

14. Which diagram best represents molecules of matter in the solid phase?



15. Base your answer on the experimental procedure shown in the diagram:



Which substance will remain in the filter paper?

- a. water
- b. salt
- c. sand
- d. saltwater

16.

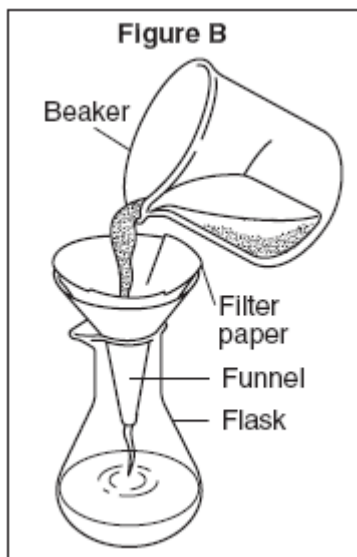
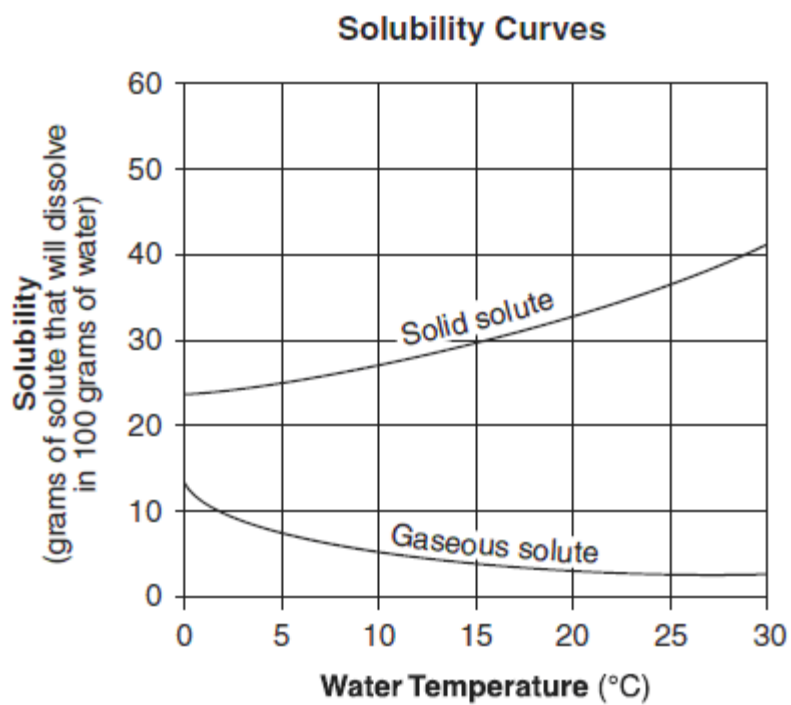


Figure B shows a beaker containing water, salt, and sand being poured through filter paper. This combination of substances is an example of a

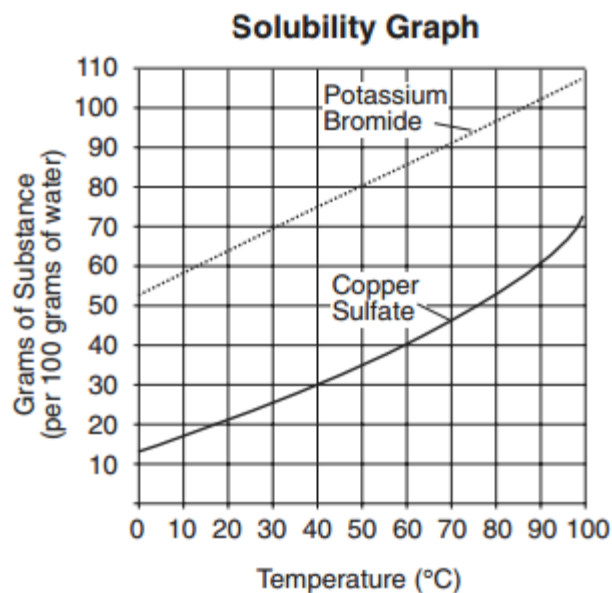
- a. mixture
- b. compound
- c. molecule
- d. titration

17. Calculate the difference in solubility between the gas and solid solute at 15°C.



- a. 35 g
- b. 30 g
- c. 25 g
- d. 5 g

18. The graph below shows the solubility of two different chemical compounds.

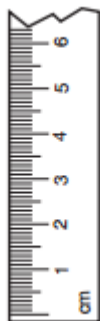


Compared to copper sulfate, approximately how many more grams of potassium bromide would dissolve at 90°C?

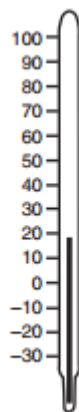
1. 20
 2. 40
 3. 60
 4. 80
19. Which state of matter has neither definite shape nor a definite volume?
- a. solid
 - b. liquid
 - c. gas
 - d. none of them

20. Which instrument could be used to determine the volume of an irregularly shaped solid?

1.



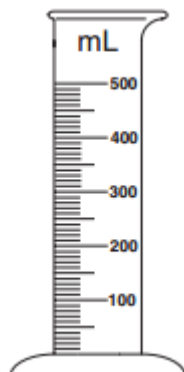
2.



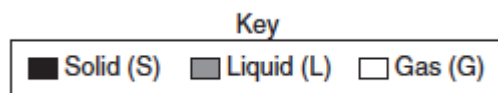
3.



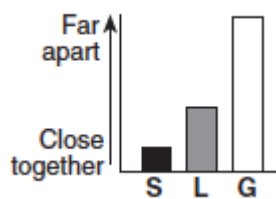
4.



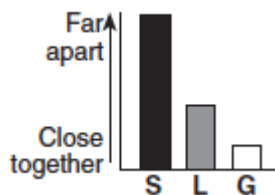
21. Which graph best represents the relative distance between the particles of most substances in their solid, liquid, and gas states?



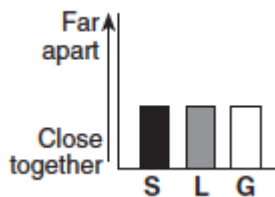
1.



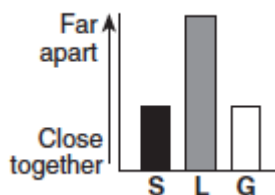
2.



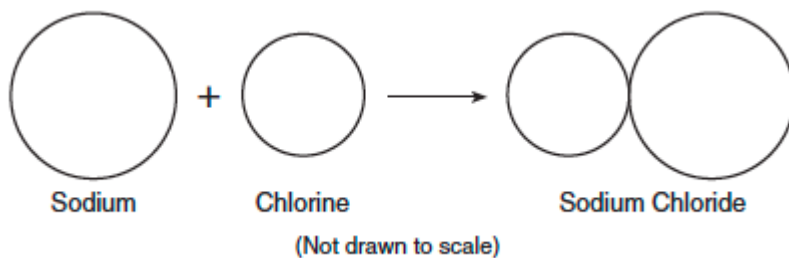
3.



4.



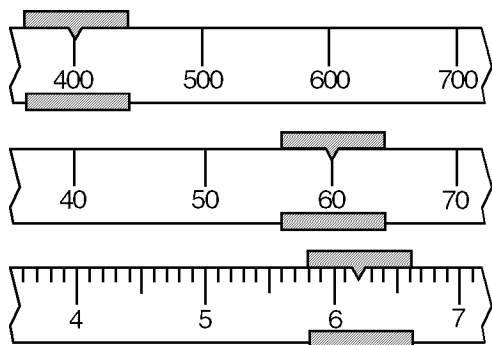
22. The diagram below represents a sodium atom bonding to a chlorine atom to form sodium chloride.



Which statement is supported by this diagram?

1. Sodium chloride is an element.
 2. Sodium chloride is a mixture.
 3. Sodium chloride is a compound.
 4. Sodium chloride is composed of only one atom.
23. A substance made up of two or more elements that have been chemically combined is called _____.
- a. a compound
 - b. an atom
 - c. a mixture
 - d. a solution

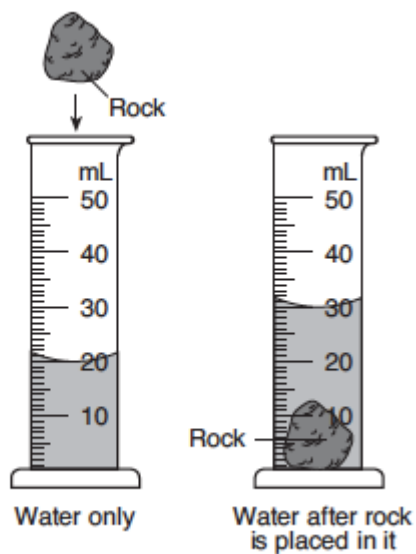
24. The diagram below represents a portion of a triple-beam balance.



What is the total mass in grams of the object being measured?

1. 460.2 g
2. 461.6 g
3. 466.2 g
4. 466.6 g

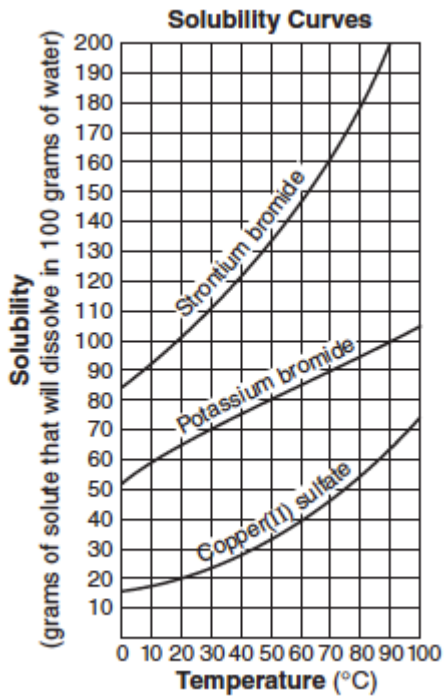
25. The diagram below shows a rock being placed in a graduated cylinder containing water.



Use displacement to find the volume of the rock Note: $1 \text{ mL} = 1 \text{ cm}^3$.

- a. 20 mL
- b. 30 mL
- c. 50 mL
- d. 10 mL

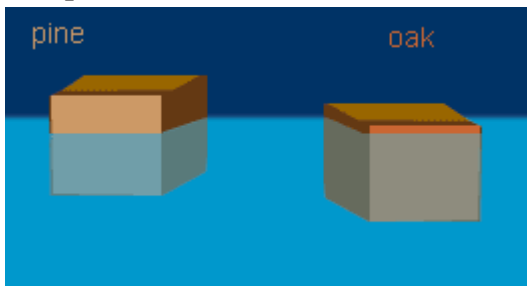
26.



The diagram above shows the solubility for three different solids. What is the relationship between temperature and solubility of these substances?

- a. as temperature increases, solubility decreases
- b. as temperature increases, solubility increases
- c. temperature does not affect solubility

27. The picture below shows two blocks of wood floating in water.



Which block most likely has a density of 0.7g/cm^3 ?

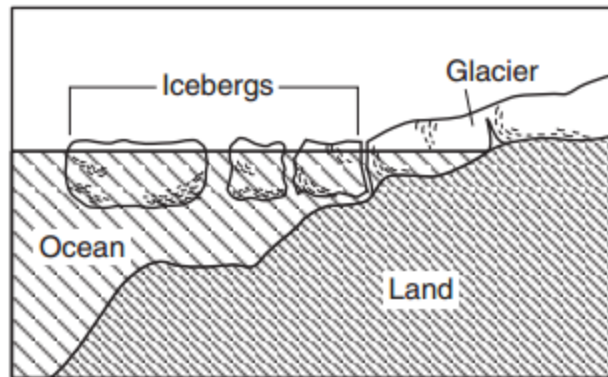
- a. pine
- b. oak

Use the information below to answer question 28.

Base your answers to the following questions on the information and cross section below and on your knowledge of science.

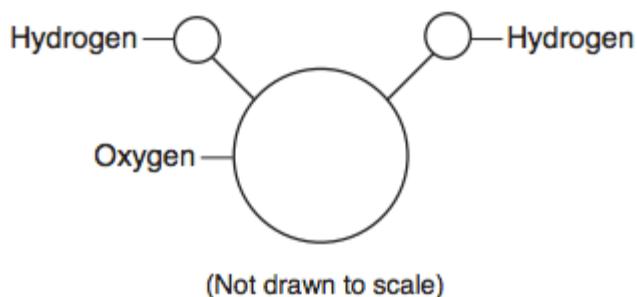
Icebergs

Floating pieces of glacial ice are called icebergs. Huge pieces of glacial ice near a coast may break off and fall into the ocean, as shown in the cross section below. Only about onetenth of the total iceberg is visible above the surface of the water.



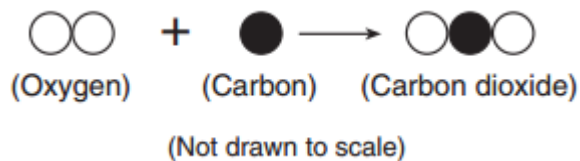
28. Why does an iceberg float in the ocean?
- a. the iceberg is more dense than the ocean water
 - b. the iceberg is less dense than the ocean water
 - c. the iceberg and ocean water have the same density

Copy of Base your answers to questions 32 and 33 on the model of a water molecule below and on your knowledge of science.



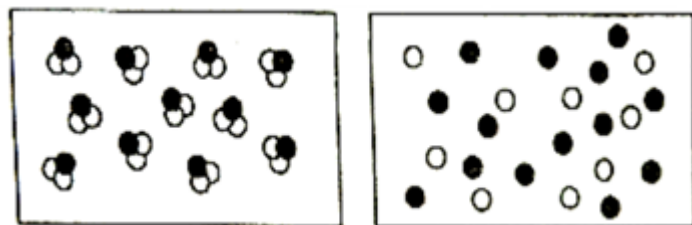
29. What does this model represent?
- 1. a single atom
 - 2. a cell
 - 3. a mixture
 - 4. a compound

30. The diagram below represents two atoms in a molecule of oxygen that combine chemically with one atom of carbon to form a carbon dioxide molecule.



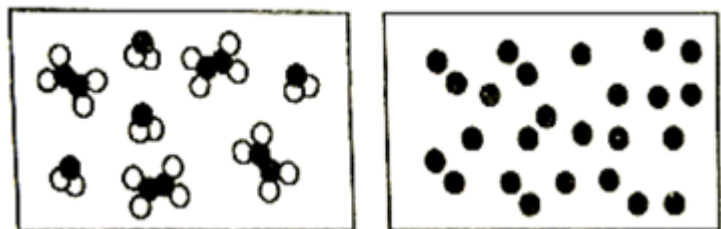
Carbon dioxide is an example of

1. a mixture
 2. an element
 3. a solution
 4. a compound
31. Which diagram shows a mixture of elements?



a

b



c

d

- a. diagram a
- b. diagram b
- c. diagram c
- d. diagram d