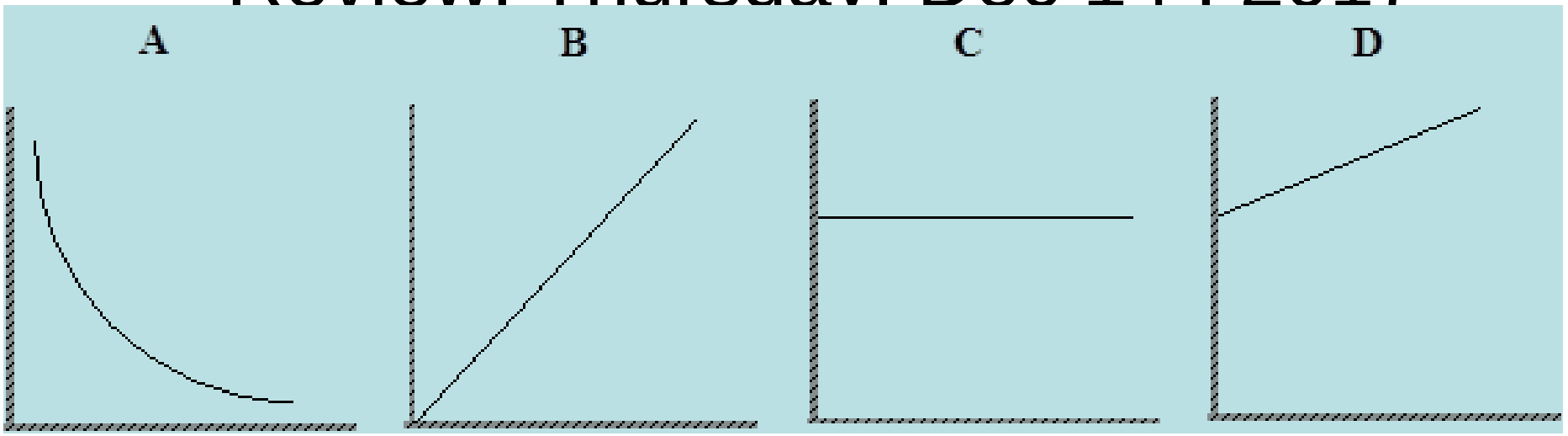
Review. Thursday. Dec 14 . 2017



2. **Which graph represents the relationship between the pressure of a gas and its volume? A**
3. **Which graph represents the relationship between the pressure of a gas and the absolute (Kelvin) temperature? B**
4. **Which graph represents the relationship between the pressure of a gas and the Celsius temperature? D**
5. **Which graph represents the relationship between the pressure of a gas and the number of particles? B**
6. **Which graph shows constant pressure? C**

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3. The effect of pressure on volume was tested and following data was obtained.

Pressure (N/cm^2)	Volume (mL)
0.35	980
0.70	400
1.03	320
1.40	220

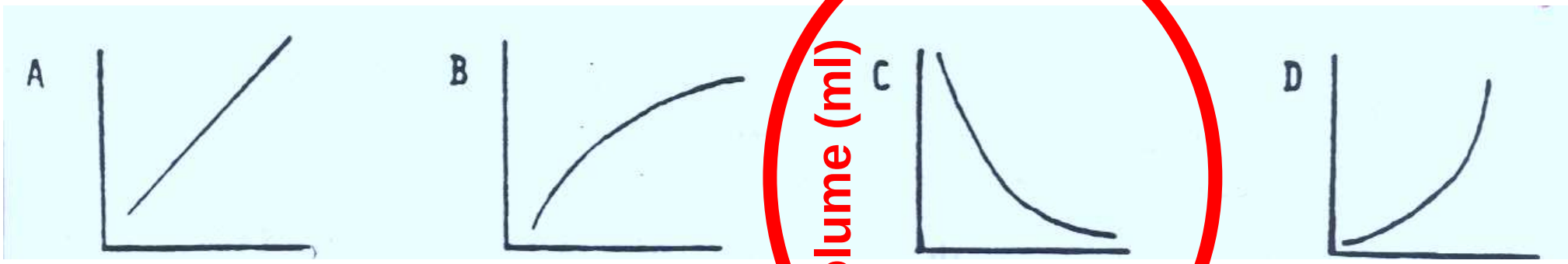
Pressure increasing or decreasing?

Volume increasing or decreasing?

IV: Pressure

DV: Volume

Which of the graphs shows the data correctly?



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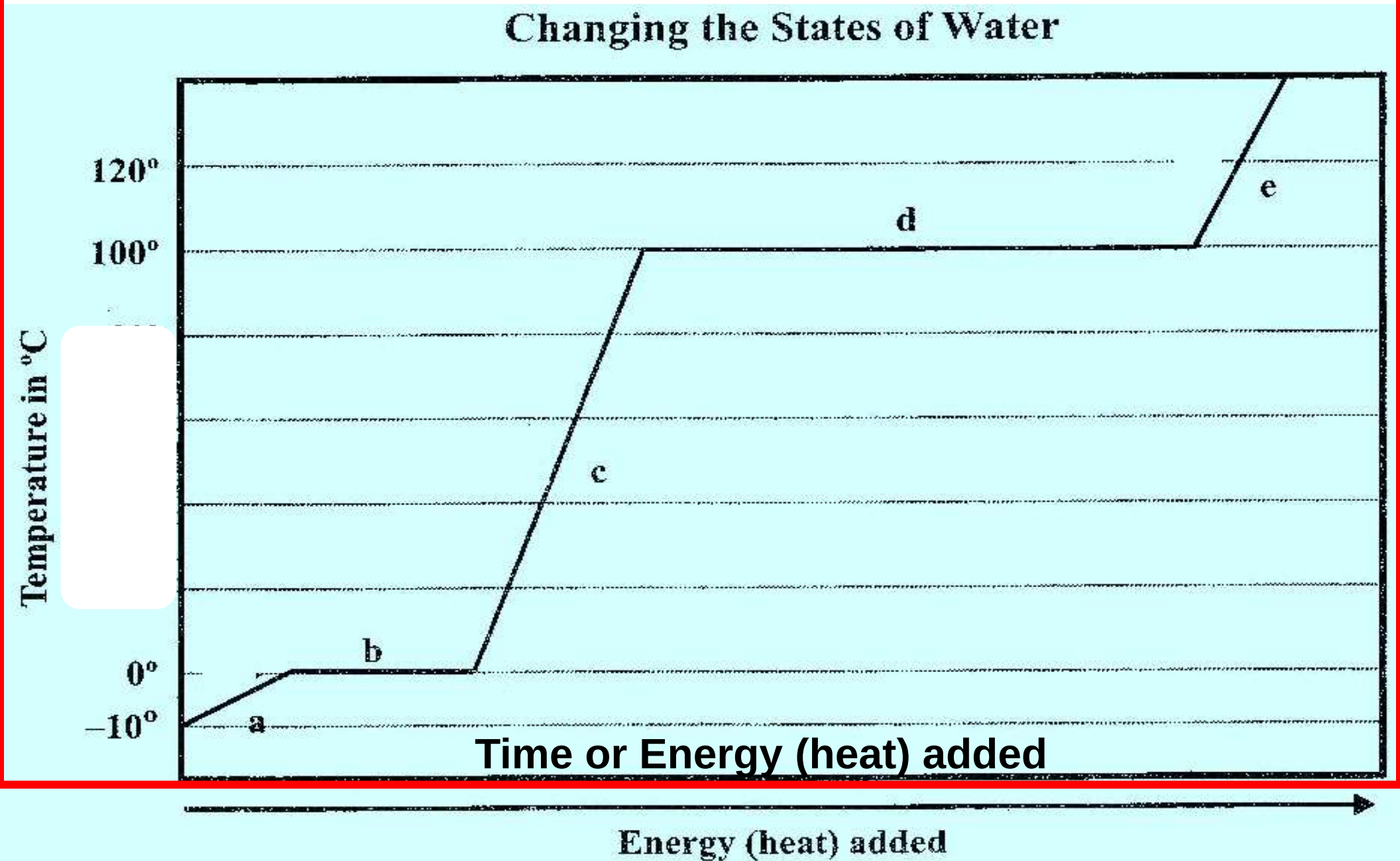

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2. **What phase is a?**

   solid

3. **What phases exist together at b?**

   Solid & liquid

5. **What phase is c?**

   liquid

6. **What phases exist together at d?**

   Liquid and gas

7. **What phase is e?**

   gas

8. **What section of the graph above represents melting?**

   B

9. **What section of the graph above represents boiling?**

   D

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10. Where is phase energy increasing?

b & d

11. Where is thermal energy increasing?

a, c, & e

12. Which state has the highest kinetic energy?

gas, it has the most or fastest motion.

13. Which state has the lowest kinetic energy?

solids, it moves the least & slowest

14. As you move from solid to liquid to gas on the heating curve, is energy being absorbed or released by the water?

absorbed

15. What is this process called?

heating

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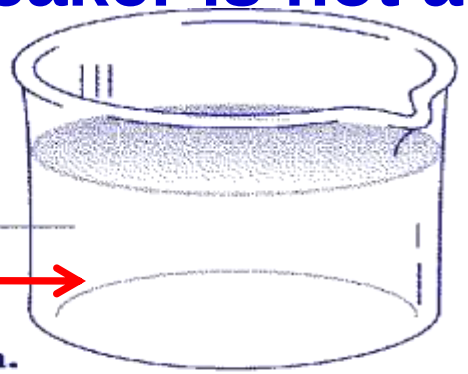
Draw the beakers.

1. Identify the homogeneous mixture(s)
2. Identify the heterogeneous mixture(s)
3. Identify which beaker is not a mixture?

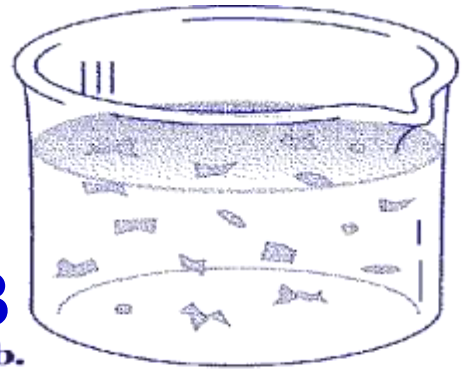
Objectives: Sketch particle diagrams that distinguish compounds, elements and mixtures, and types of mixtures.

Salt water solution

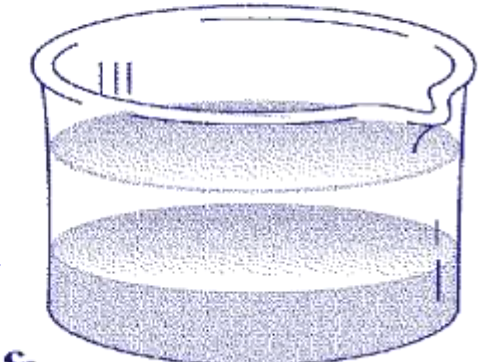
A



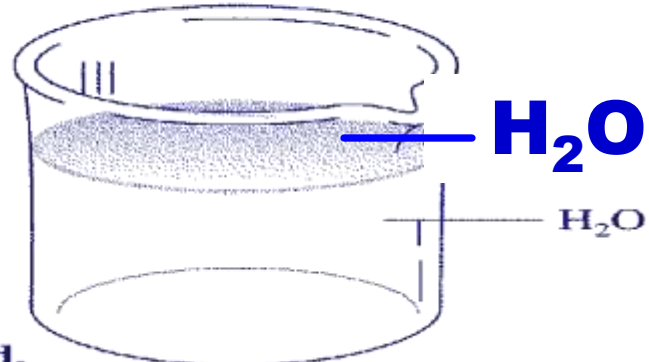
B



C



D



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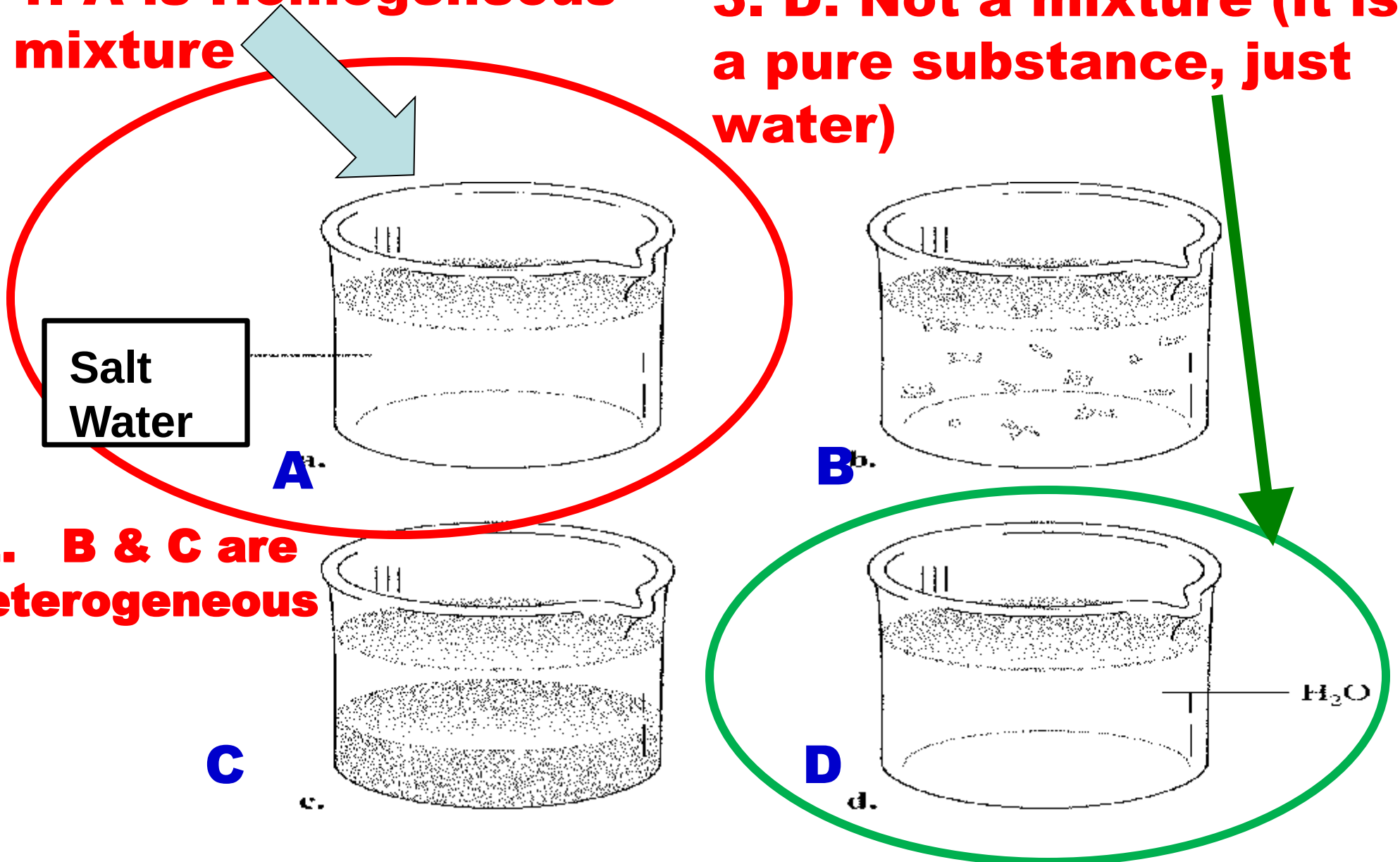
1. A is Homogeneous mixture

3. D: Not a mixture (it is a pure substance, just water)



2. B & C are heterogeneous

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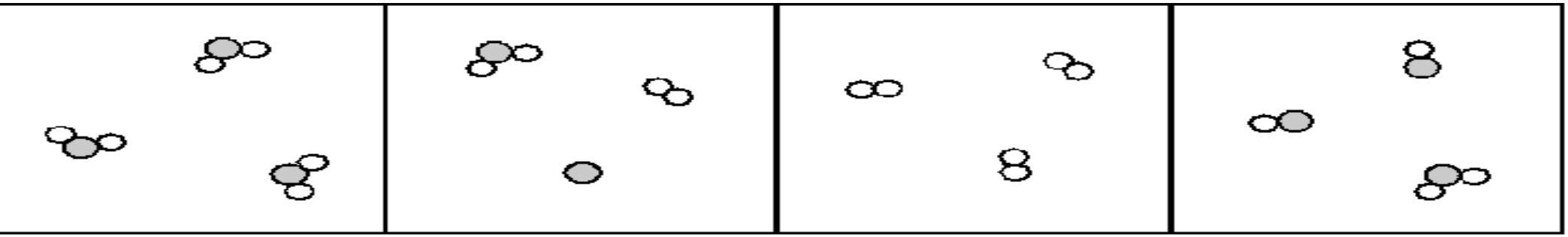
Unit 4, Worksheet 1



#5. Which of these, are

a. mixtures? _____

b. b. pure substances? _____

c. Which contain only compounds? _____

d. Which contain only elements? _____

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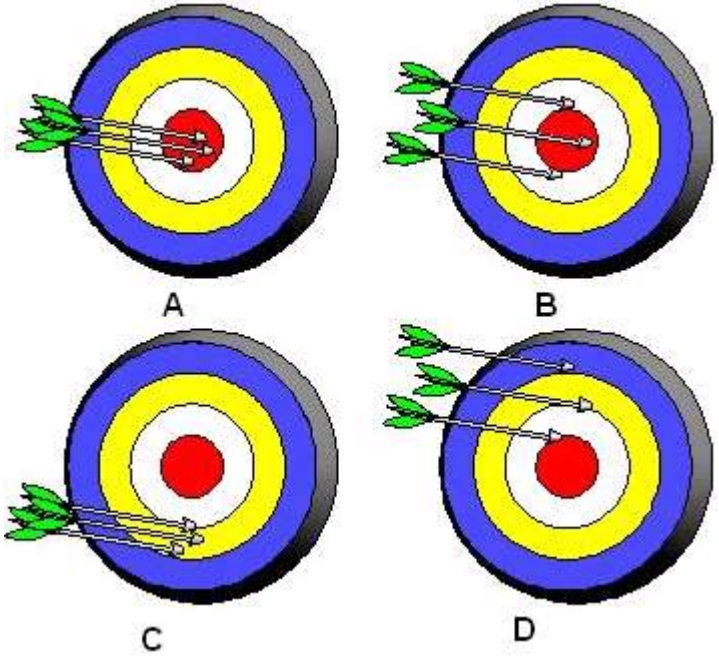
10.



The targets that show good precision are

a. A & B
b. A & C
c. A & D
d. B & C
e. B & D

Review

Pure water boils at 100.0° C. A student conducts an experiment to determine the effect of adding salt (NaCl) to 500 mL of distilled water on the boiling temperature of water. Six trials are conducted on four different samples and the mean results are shown below. Use this information to answer the next 5 questions.

Sample Number	**Amount of Salt (g)**	**Boiling Temperature (C)**						
		Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Trial 6	Mean
1	0	100.06	99.99	100.09	100.05	99.97	100.02	100.03
2	2	102.36	102.29	102.39	102.35	102.27	102.32	102.33
3	5	104.86	104.79	104.89	104.85	104.77	104.82	104.83
4	10	107.56	107.49	107.59	107.55	107.47	107.52	107.53

1. Explain why multiple trials are used in conducting this experiment.

Review

1. Explain why multiple trials are used in conducting this experiment.

To ensure accuracy and precision (or reproducibility or closeness of results) of the results.

2. Explain why multiple samples are used in conducting this experiment.

To provide enough data points to clearly establish a trend between the independent & dependent variables.

3. Explain how the experiment should be controlled. List some specific factors.

All factors should be held constant other than the amount of salt (or concentration) and the temperature of the water: 500 mL of distilled water, pressure, container, room temperature, type of salt.

Review

4. **This experiment includes an experimental control. Explain what an experimental control is and then identify the experimental control used in this experiment and explain why is it necessary to include this experimental control.**

An experimental control is the part of the experiment that is tested without applying the IV (or used zero amount of the IV) or is the part of the experiment that is not tested. In this experiment, boiling pure water (no salt added) is the experimental control. The control shows that the increasing boiling points are caused by the addition of salt.

5. **Write a reasonable hypothesis for this experiment.**

Increasing the amount of solute (or salt or the salt concentration) will increase the boiling point of the water.