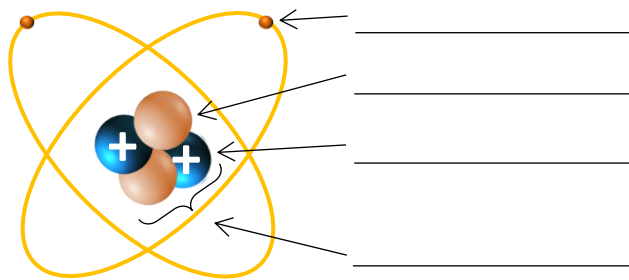


Shedding Light on Heat Episode 2: Changes of State

Name: _____

Part B
Part A

- On Earth, substances are commonly found in 3 states: _____; _____; and _____.
- Label the diagram of the atom on the right.
- Protons have a _____ charge and electrons have a _____ charge.
- The force of attraction between protons and electrons is called an _____ force.
- Briefly describe (at the atomic level) what a solid is.



6. Describe (at the atomic level), what melting is. _____

7. Describe (at the atomic level) what a liquid is. _____

8. Tin melts at 232°C, but iron melts at 1538°C. What does this suggest about the size of the electrostatic force between tin atoms compared to the electrostatic force between iron atoms? _____

Part C

9. Describe what happens to the water molecules in water when it is heated and it reaches boiling point.

10. Describe (at the atomic level) what a gas is. _____

11. Why is it easy to compress gasses, but very difficult to compress solids and liquids?

12. When a gas is cooled it will eventually c_____ and form a liquid. The process is called _____.

13. What are clouds? _____

Part D

- Dry ice is solid _____.
 - Dry ice doesn't melt but _____ directly into a gas.
 - The mist that forms when dry ice is placed in water is not carbon dioxide. What is it? _____
- _____
- _____

17. Use the information in the table to answer the following.

Substance	Melting Point (°C)	Boiling Point (°C)
water	0	100
ethanol (alcohol)	-114.5	78.5
iron	1538	2862

- At a temperature of 57°C, water exists as a _____.
- At a temperature of 122°C, water exists as a _____.
- At a temperature of 89°C, ethanol exists as a _____.
- At a temperature of -100°C, ethanol exists as a _____.
- At a temperature of 1400°C, iron exists as a _____.
- At a temperature of 2600°C, iron exists as a _____.