The purpose of this activity is to cover what was talked about in the power point presentation

Part 1: Properties of the states of matter

1. Label each image as a soldi, liquid or gas.

|  |  |  |
| --- | --- | --- |
| How do molecules in a solid differ from those in a liquid or gas? - Quora | How do molecules in a solid differ from those in a liquid or gas? - Quora | How do molecules in a solid differ from those in a liquid or gas? - Quora |
|  |  |  |

1. List two traits for each state of matter.

|  |  |  |
| --- | --- | --- |
| Solid | Liquid | Gas |
|  |  |  |
|  |  |  |

1. What property of the states of matter is water an exception to?

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1. What is the difference between crystalline and amorphous solid?

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Part 2: Changing between states of matter

1. What are the points at which a phase change occurred called?

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1. Why does the temperature stay the same as a substance is undergoing a phase change?

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1. Why can substances skip a phase through sublimation or deposition

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1. What are examples of sublimation and deposition you can see in daily life?

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Part 3: Heat energy and its role

1. What is the difference between heat and temperature?

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1. Label each phase change as endo or exothermic.

|  |  |
| --- | --- |
| Phase change | Endo or exo |
| melting |  |
| Freezing |  |
| Evaporation |  |
| Condensation |  |
| Sublimation |  |
| Deposition |  |

1. How does heat effect the molecules in a substance that is not changing states?

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1. What is the name of the law that states energy can not be created or destroyed?

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Answer key

The purpose of this activity is to cover what was talked about in the power point presentation

Part 1: Properties of the states of matter

1. Label each image as a soldi, liquid or gas.

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| How do molecules in a solid differ from those in a liquid or gas? - Quora | How do molecules in a solid differ from those in a liquid or gas? - Quora | How do molecules in a solid differ from those in a liquid or gas? - Quora |
| Liquid | Solid | Gas |

1. List two traits for each state of matter.

|  |  |  |
| --- | --- | --- |
| Solid | Liquid | Gas |
| Definite shape and definite volume | No definite shape but definite volume | No definite shape and no definite volume |
| Molecules are strongly attracted to each other | Molecules move around each other but are still attracted | Molecules are not attracted to each other |

1. What property of the states of matter is water an exception to?

When it in its solid form it is less dense than its liquid form allowing it to float

1. What is the difference between the formation of crystalline and amorphous solids?

Crystalline have repeating patters of molecules while amorphous are arranged randomly

Part 2: Changing between states of matter

1. What are the points at which a phase change occurred called?

Melting/freezing point and evaporating/condensing point

1. Why does the temperature stay the same as a substance is undergoing a phase change?

The heat energy is being added or taken away to change the binding energy between molecules rather then increase or decrease the kinetic energy (temperature)

1. Why can substances skip a phase through sublimation or deposition

The energy change is extremely rapid and passes the liquid phase and goes straight to solid or gas.

1. What are examples of sublimation and deposition you can see in daily life?

Frost occurs is when water goes from a gas to a solid, Solid air fresheners shift to a gas to scent the room

Part 3: Heat energy and its role

1. What is the difference between heat and temperature?

Heat energy is the amount of thermal energy relative the mass of a substance while temperature describes the kinetic energy of the molecules in a substance.

1. Label each phase change as endo or exothermic.

|  |  |
| --- | --- |
| Phase change | Endo or Exo |
| melting | Endo |
| Freezing | Exo |
| Evaporation | Endo |
| Condensation | Exo |
| Sublimation | Endo |
| Deposition | Exo |

1. How does heat effect the molecules in a substance that is not changing states?

It causes them to move around more and start to sperate when heat is added even when not near the melting/evaporating point. This causes the substance to expand slightly as its molecules are still moving a part just not as drastically as a phase change.

1. What is the name of the law that states energy cannot be created or destroyed?

First law of thermodynamics