# Particles matter — How much do you know?

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Which scenario described below indicates a physical change has occurred in a substance?
2. A bowl of water is placed in the freezer
3. Bacon and eggs are cooked for breakfast
4. Glow sticks are snapped, shaken slightly and then begin to glow
5. While out camping, wood is lit in a campfire and is used for cooking
6. Which one of the following combination of terms defines the changes of state between solids and liquids?
7. Sublimation and deposition
8. Evaporation and condensation
9. Melting and freezing
10. Distillation and condensation
11. Which one of the following combination of terms define the changes of state between solids and gases?
12. Sublimation and deposition
13. Evaporation and condensation
14. Melting and freezing
15. Distillation and condensation
16. When a water jug is placed in a refrigerator, the liquid in the container is cooled. During this process the particles in the liquid:
17. Move to the bottom of the jug
18. Lose their energy and move more slowly
19. Have cold energy added to them
20. Get smaller and smaller
21. Draw diagrams to show the arrangement of particles in solids, liquids and gases. Describe the movement of the particles in each phase.

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| --- | --- | --- | --- |
|  | Solid | Liquid | Gas |
| Arrangement of the particles |  |  |  |
| Description of particle movement |  |  |  |

1. Complete the cloze activity

In a room which has a temperature of 200 C:

* Substances that are solids must have a melting and a boiling point \_\_\_\_\_\_\_\_\_\_ 20o C.
* Substances that are liquids must have a \_\_\_\_\_\_\_\_\_\_\_ below 20o C and a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ above 20o C.
* Substances that are gases must have a \_\_\_\_\_\_\_\_\_\_\_ and a \_\_\_\_\_\_\_\_\_\_ point \_\_\_\_\_\_\_\_\_\_\_20oC.

1. Complete the table below, stating whether the substance is a solid, a liquid, or a gas at 20o C.

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| --- | --- | --- | --- |
| Substance | Melting  Point  (oC) | Boiling  Point  (oC) | Solid?  Liquid?  Gas? |
| A | -189 | -186 |  |
| B | 714 | 1640 |  |
| C | -39 | 357 |  |
| D | 44 | 280 |  |

1. Use the Particle Model of Matter to explain the following situations.
2. Jaymee noticed that her washing dries more quickly when the temperature is 26oC than when the temperature is 16oC. Use the particle model of matter to explain why this happens.

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1. Callum’s dad works in an air conditioned office where eveerthing is always cool. On a typical day when he leaves the office and goes outside into the warm humid air, his glasses fog up. Explain the process that causes this to occur?

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