

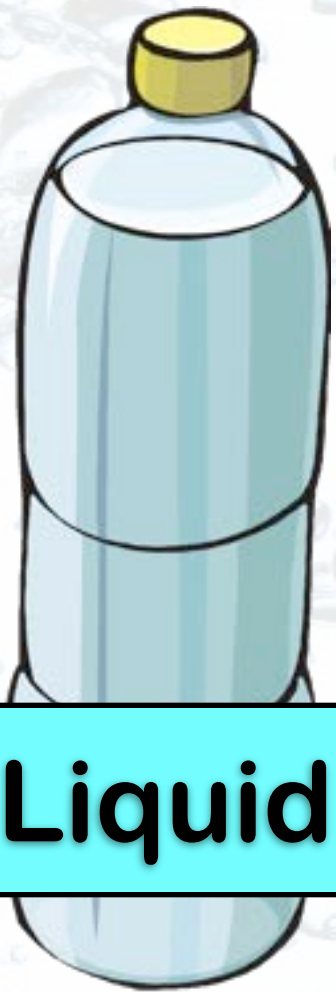
States of Matter

Learning Objective:

Observe that materials change state when they are heated or cooled.

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These pictures all show water but in different states. One is liquid, one is solid and one is gas. How did the water change to become each of these different things?



Liquid



Solid



Gas

**Think, pair, share
your ideas!**



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Lots of materials can exist as both solids and liquids depending on the temperature. When water freezes at 0 °C it turns into a solid but when it warms up again it becomes a liquid.



Can you think of any other materials that can melt and solidify again?

Think, pair, share your ideas!



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Do you think these objects would melt? Why?



Rock



Metal jug

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Most metals melt at very high temperatures. Water boils at 100 °C. Have a look at these different melting temperatures for metals to compare...

Metal	Melting Temperature
Aluminium	659 °C
Brass	940 °C
Cast iron	1260 °C
Copper	1083 °C
Gold	1063 °C
Iron	1530 °C
Tin	232 °C

Melting metals is important because that is how metal objects are shaped. The metal is melted down and then poured into moulds to make it the correct shape. When it cools, it turns into a solid again.

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Rocks are also able to melt, again at very high temperatures. When a volcano erupts it spews molten rock called lava. Lava is formed deep in the earth where the hot temperatures melt rock.



When the pressure inside the earth becomes too powerful, the lava explodes out of the volcano. Eventually, the lava cools down again to become solid rock.

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