

Suzy's World

Steam - How does steam power things?

Fact

- Steam is made when the water is heated so hot it turns into fast moving steam.
- The steam is moving so fast it wants to take up more space and it tries to escape from the container you're heating it in.
- When you heat water in a pot with a lid the steam builds up a lot of pressure.
- The pressure builds up until it is so strong it raises the lid and escapes. When enough steam has escaped the pressure lowers the lid falls back in place with a rattle.
- Steam pressure is used to power the engines of the TSS Earnslaw. The engineer controls the steam to build up pressure, so it can be used to push the pistons, to turn the crankshafts, which turns the propellers that push the Earnslaw through the water.



Do you know

- James Watt invented the steam engine
- Fuel like coal and oil is burnt in a huge furnace in a boiler room to heat the water to make steam.
- Steam engines have been used to power ships and trains for many years.
- Thermal power plants generate electricity by using steam power.



Experiments you can do

Steam can burn so make sure there's an adult nearby when you use your eyes ears and hands for this experiment.

Watch an electric jug come to the boil. Listen to the sound the water makes as it boils.

What happens to the noise?

You can even feel the water begin to boil by placing your hands on the bench beside the jug (don't touch the jug because it will become very hot).

The sound and the vibration that happens when the water begins to boil is caused by the tiny bubbles of steam that form near the element on the bottom and around the sides of the jug.

As the water moves faster the bubbles of steam float to the top of the water and burst letting out steam. You can hear the pop and feel it as a vibration through the bench top.

If your jug has a gauge on the side you can see the vibrations make the little ball or marker move too.

Other Investigations

When you have your bath or shower tonight watch where the steam from the water goes.

Does it drop down and float along the floor or does it rise up into the air? Why does it do that?

What makes the steam change back into water? Make a prediction then find out by talking to your family, teacher or by going to the library.

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