

Dog Kennel Hill Primary - Science

Topic: States of Matter

Year: 4

Strand: Physics

What should I already know?

- Distinguish between an object and the material from which it is made.
- Identify and name a variety of everyday materials, including wood, plastic, glass, water and rock.
- Describe the simple physical properties of a variety of everyday materials.
- Compare and group together a variety of everyday materials on the basis of their physical properties.
- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.
- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.
- Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.
- Describe in simple terms how fossils are formed when things that have lived are trapped within rock.
- Recognise that soils are made from rocks and organic matter.

Vocabulary

Matter	Another name for 'material': what an object is made of; not just fabric.
Temperature	A measurement of how hot or cold something is.
Thermometer	A device or instrument used to measure temperature.
Melting	When a solid turns into a liquid.
Freezing	When a liquid turns into a solid.
Melting point	The temperature at which a solid melts.
Freezing point	The same temperature as a material's melting point. This is the temperature at which a liquid turns into a solid.
Evaporation	When a liquid turns into a gas, below its boiling point.
Boiling point	The temperature at which a liquid turns into a gas.
Condensing	The process when a gas turns into a liquid.
Water cycle	How water moves around to create clouds, rain and the weather.

What will I know by the end of the unit?

What are the properties which I can compare and group?	A material may exist in three states: solid, liquid, and gas.
What are the different states of matter?	A sample of a material in the solid state, can be held by hands and can form into a pile. When a material is in the liquid state, it cannot be held by hands and it forms a pool. In the gas state, a material escapes from an unsealed container. It spreads out to fill all the space available, and takes the shape of the entire container.
How can you change a material's state?	Materials change state when they are heated or cooled by freezing, melting and boiling. You can also measure and research the temperature at which this happens in degrees Celsius (°C). Some state change processes can be reversed.
What happens when heating and cooling materials?	Some materials change state when they are heated or cooled. They can evaporate or create condensation. The rate of evaporation can differ with temperature.

Significant People

Joseph Priestley (a British scientist) discovered oxygen in 1774. He also answered questions such as why and how things burn.



Diagram

