HEARTS Academy Trust

Knowledge Organiser

Science: States of Matter	Year 3/4	Theme: Cause and Effect

Autumn Term B 2023

Prior Knowledge

Y1—
•distinguish between an object and the material from which it is made (1-Everyday materials)
•identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock (1-Everyday materials)
•describe the simple physical properties of a variety of everyday materials (1-Everyday materials)
•compare and group together a variety of everyday materials on the basis of their simple physical properties (1-Everyday materials)

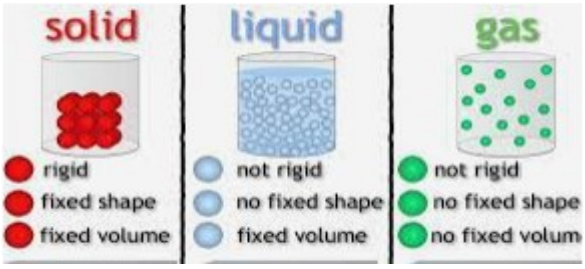
Y2—
•identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses (2-Everyday materials)
•find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching (2-Everyday materials)

Application of Knowledge

•compare and group materials together, according to whether they are solids, liquids or gases (4-States of Matter)

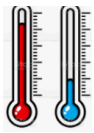
•observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) (4-States of Matter)

•identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature (4-States of Matter)



What I will know by the end of this topic

What are the different states of matter?
Solid, liquid, gas



What happens when some materials are heated or cooled?
They melt when heated and solidify when cooled.

What do we measure and record temperatures in?
Degrees Celsius

What are the different phases of the Water cycle?
Evaporation, condensation, precipitation

What does evaporation mean?
When liquid turns into water vapour (gas)

What does condensation mean?
When vapour cools and turns into liquid

Vocabulary

Solids	Solid is the state in which matter maintains a fixed volume and shape
Liquids	Liquid is the state in which matter adapts to the shape of its container but varies only slightly in volume;
Gases	gas is the state in which matter expands to occupy the volume and shape of its container.
Boiling	Boiling is the rapid vaporisation of a liquid, which occurs when a liquid is heated to its boiling point
Evaporation	Evaporation is the process by which water changes from a liquid to a gas or vapour.
Condensation	Condensation is the process of water vapour turning back into liquid water
Water cycle	The water cycle is the path that all water follows as it moves around Earth in different states
Properties	In science, property means a characteristic or trait that you can use to describe matter by observation, measurement, or combination.
classify	arrange (a group of people or things) in classes or categories according to shared qualities or characteristics.
temperature	the degree or intensity of heat present in a substance or object