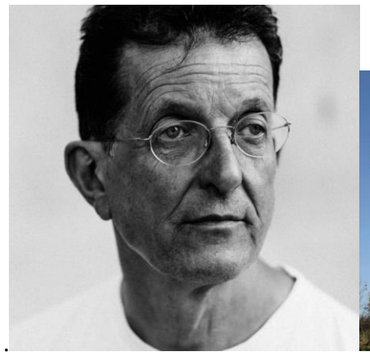
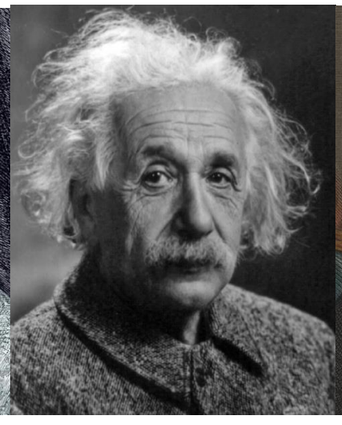
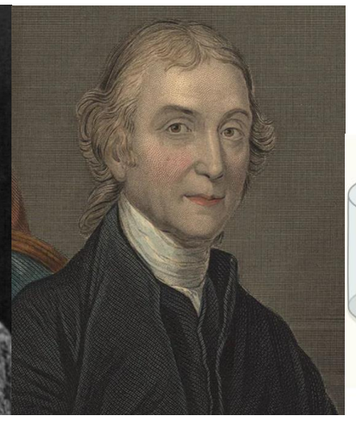
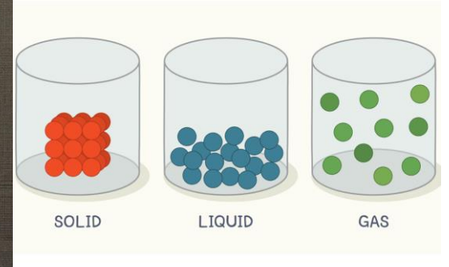
Knowledge Organiser

States of Matter	Year 4 Summer 2

	Prior Knowledge	New Knowledge	Future Knowledge
Science	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. (Y3) The Water Cycle (Y3)	Compare and group materials together, according to whether they are solids, liquids or gases. 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. Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. (Y5)
Art & Design	Barbara Hepworth Artist Study: To manipulate malleable materials e.g. rolling, pinching, pulling, impressing. To know how to cover and join objects for structure/form. To develop joining with clay (e.g. pinch, cross hatching, slip, coil techniques). (Y3)	Antony Gormley Artist Study: To plan with annotations finishing decoration with accurate application. To develop joining with mixed media (i.e. modroc, clay) to add more detail. To deliberately use effects and techniques for a given purpose.	Brunel Architect Study: Use appropriate tools with increasing accuracy. Join materials using appropriate methods Join and combining materials with temporary, fixed or moving joinings Use the design criteria to inform their decisions about ways to proceed Justify their decisions about materials and methods of construction. Make suggestions as to how their design could be improved. (Y5)

Key Questions	Key Individuals	Key Vocabulary
What are states of matter? How do gases become liquids? How do liquids become gases? How do solids become liquids? How do liquids become solids? How do particles behave differently in solids, liquids and gases?	**Antony Gormley** (1950-) a Sculptor, famous for works, including the Angel of the North. **Jan Baptist van Helmont** (1579–1644) first gave the name gas to what is now known to be carbon dioxide. Until that time, gases were called airs or spirits or vapours. **Albert Einstein** (1879-1955) one of the most famous scientists of all time, Einstein conducted many experiments into the various states of matter, resulting in his Theory of Relativity. **Joseph Priestley** (1733-1804) created the first carbonated water.	**Matter** - what an object is made of. **Melting point** - the temperature at which a solid melts **Freezing point** - the temperature at which a liquid turns into a solid. **Boiling point** - the temperature at which a liquid turns into a gas. **Evaporation** - when a liquid turns into a gas, below its boiling point. **Condensation** - the process when a gas turns into a liquid.



Knowledge Organiser

Curriculum Leaflet	Year 4 Summer 2

Year 4 will be exploring the topic: 'States of Matter'. This unit of work will have a specific focus on developing the children's knowledge, skills and understanding in the solids, liquids and gases. In Art, we will be learning about Antony Gormley, focussing on the different sculptures he has created and his life.

Maths

Maths Unit

Statistics

- To interpret charts
- Comparison, sum and difference of continuous data
- Reading and creating line graphs

Properties of shape

- Identify, compare and order angles
- Features of triangles, quadrilaterals and polygons
- Understanding symmetry

Position and direction

- Describe position using coordinates
- Plotting coordinates on a grid
- Translating a shape or point using coordinates on a grid

English

We will be studying:
The Miraculous Journey of Edward Tulane **by Kate DiCamillo**

Character Description

Character description with a focus on the face and hands of an 'evil' character. Use of precise adjectives, similes and prepositional phrases. Emphasis on building tension of what might happen in writing. Accurate use of inverted commas to show direct speech.

Letter Writing

Children will write a letter in the role of Edward Tulane to Abilene recounting everything he has been through on his journey. To be able to propose changes to grammar and vocabulary to improve consistency, including accurate use of pronouns in sentences.

Poetry

With a focus on expanded noun phrases children will write a poem about how Edward Tulane learnt to love. Performing their own compositions, using appropriate intonation, volume, and movement so that meaning is clear.

Home

Families can support learning in the following ways:

- With adult support, investigate how household items change their state of matter - For example, What changes an ice cube into a different state of matter? What does it become and why?
- Categorise different items at home into solids, liquids and gases. Compare them to observe any similarities of differences.
- Research Antony Gormley - Which type of art is he most known for? Sketch some of his artwork.
- Find where Antony Gormley's work is available to see around London. Visit with an adult or see if you can find them on Google Maps.
- Accessing weekly home learning tasks via Google Classroom
- Supporting the development of times tables skills via regular practice on Times Tables Rock Stars
- Reading daily at home.
- Accessing MyMaths for weekly maths homework (KS2)