

## **Curriculum Big Ideas**

### **Science**

- Chemical and physical properties of materials can be explained by the structure and arrangement of atoms, ions, and molecules and the forces between them.
- Isaac Newton defined his three laws of motion. These laws can be verified in many common experiments, and they explain how and why objects move when forces are applied to them.
- Electricity is a form of energy resulting from the existence of charged particles, either statically as an accumulation of charge or dynamically as a current.
- The total amount of energy in the Universe is always the same but can be transferred from one energy store to another during an event.
- Earth is a system of systems which influences and is influenced by life on the planet.
- Organisms are organised on a cellular basis and have a finite lifespan.
- Organisms require a supply of energy and materials for which they are often dependent on each other.
- DNA is a chemical code that makes up the hereditary material that is used to pass traits on from parent to offspring.
- All life grows and changes over long periods of time through the processes of evolution and natural selection.
- Scientific explanations, theories and models are those that best fit the evidence available at a particular time.
- The diversity of scientific phenomena requires a diversity of methods and instruments to generate and test scientific explanations.
- The knowledge produced by science is used in engineering and technologies to create products to serve human ends.
- Applications of science often have ethical, social, economic and political implications.