

## Science - Year 5

### Autumn 1

#### Earth & Space

- The sun does not move.
- The Earth moves around (orbits) the sun.
- The Earth rotates (spins) on its axis.
- The Earth does a full rotation once every 24 hours.
- It takes 365 days and 6 hours (1 year) to orbit the sun.
- The sun is a huge star that Earth and the other planets in our solar system orbit around.
- The moon orbits the Earth.
- The planets in the solar system are: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.
- Daytime happens when the side of Earth is facing towards the Sun.
- Night happens when the side of Earth is facing away from the Sun.

### Autumn 2

#### Forces

- Gravity is a pulling force
- It pulls all things with mass towards the centre of the earth.
- Earth's gravity is what keeps you on the ground and what causes objects to fall.
- Mass is the amount of material that is in an object. Usually weighed in kg and g.
- Mass is not the same as weight because weight changes due to gravity.
- Friction is a force that acts between objects and surfaces when trying to move.
- Air resistance is a type of friction that happens between the air and another object (like a plane).
- Water resistance is a type of friction that slows things down in the water.

### Spring 1

#### Materials - Properties

- Materials can be grouped based on their properties.
- Properties are the characteristics used to describe a material.
- Certain materials are used for specific jobs due to their properties.
- Durable means something is hard-wearing / strong.
- Transparency is where something is transparent (see-through).
- Electrical conductivity is how well electrical current can travel through something.
- Thermal conductivity is how well something can create heat.
- Magnetism is how well something is attracted to a magnetic force.
- Properties example: Glass is used for windows because it is hard, durable and transparent.

### Spring 2

#### Living Things and Their Habitats

- Life cycles are the different stages that take place for a mammal, an amphibian, an insect and a bird to become an adult.
- Butterflies go through metamorphosis to become an adult.
- Amphibians such as frogs are laid in eggs, then once hatched go through changes before becoming an adult.
- Birds are hatched from eggs; they are looked after by their parents until they can live independently.

### Summer 1

#### Materials - Changes

- Sieving is where small and large materials can be separated by allowing the smaller ones to fall through the holes in the sieve.
- Filtering is where the solid particles get caught in the filter, but the liquid moves through it.
- Solubility is where something can be dissolved in water.
- Evaporating is where the liquid changes into a gas leaving the solid part behind.
- Some changes are reversible – meaning they can go back again such as ice and water.
- Some changes are irreversible because they form a new material – for example burning wood produces a new substance ash.

## Summer 2

### Animals Including Humans

- Humans are mammals.
- Gestation is the length of time it takes for an offspring to develop before it is born.
- Humans change as they grow from a baby to an adult.
- A human changes from: a foetus to a baby (infant), to a child, teenager (adolescent), early adult, middle adult, late adult (elderly).
- Puberty is the physical developments and changes from a child to an adult.
- In Puberty changes will include growing taller, hair growing over the body and pubic areas, voice changes, skin changes (oilier), muscles grow in boys, sweat glands produce more sweat and all body parts grow.