Science
Forever Facts

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3	1. The 5 main food groups are: carbohydrates, protein, fruit and vegetables, dairy and fats and sugars. 2. Animals which just are plants are called herbivores, animals which just eat meat are called carnivores and animals which eat both are called omnivores. 3. The adult human body has 206 bones. 4. The names of a few of the bones in the human body are: skull, ribs, humerus, vertebrae, pelvis, ulna, carpals, radius, femur, phalanges, patella, tibia, tarsals, fibula, and metatarsals. 5. The 3 jobs of the skeleton are to help us move, support and protect. 6. Depending on its characterises, a skeleton can be identified as either a endoskeleton, exoskeleton or hydrostatic skeleton. 7. A vertebrate is an animal with a backbone. An invertebrate is an animal without a backbone. 8. There are 650+ muscles in the human body. 9. Muscles work in pairs.	1. A force is a push or a pull that can make an object move, change shape, or stop 2. Magnets can move objects, even without touching them 3. Like poles (North-North or South-South) ***repel*** each other and ***push away*** 4. Unlike poles (North-South or South-North) ***attract*** each other and ***pull together*** 5. Some materials are attracted to magnets, while others are not. 6. Materials that are attracted to magnets are called **magnetic materials** e.g iron, steel and nickel 7. Materials that are not attracted to magnets are called **non-magnetic material** e.g. plastic, wood, and glass	1. You need light to see things and dark is the absence of light. 2. Light is reflected from surfaces. 3. Light from the sun can be dangerous and there are ways to protect our eyes. 4. Shadows are formed when the light from a light source is blocked by an opaque object. 5. Translucent materials only allow some light to pass through. 6. Transparent materials allow all light to pass through them.	British Science Week	1. Flowering plants are made up of roots, a stem, leaves and flowers. 2. Roots anchors the plant and absorb nutrients and minerals. 3. The flower attracts insects, helps pollination and uses pollen to make new seeds. 4. Leaves makes food for the plant using sunlight and carbon dioxide from the air (photosynthesis). 5. The stem holds the plant up and carries nutrients and minerals from the roots to the leaves. 6. Plants require air, light, water, nutrients from soil and room to grow. 7. Water is transported through the flower using a process called capillary action. The water transports up the stem to the rest of the flower. 8. Pollination happens when an insect carries pollen from the male part of the flower (stamen) to the female part (pistil). 9. For seeds to have the best chance of growing, they need to be transported away from the plant that produced them. Otherwise they would be in competition with each other for light, water and nutrients. This is called seed dispersal. 10. Seeds can be dispersed by animals, the wind, by explosion and by water.	1. Rocks can have different properties. They can be hard or soft, durable, acidic, dull or shiny, have crystals or layers, have a rough or smooth texture, be permeable or impermeable and have air pockets. 2. Igneous rock is formed from magma or lava. Examples include: obsidian, granite and basalt. 3. Sedimentary rock is formed by layers of sediment being pressed down hard and sticking together. Examples include: chalk, sandstone and limestone. 4. Metamorphic rock starts out as igneous or sedimentary rock but changes due to being exposed to extreme heat or pressure. Examples include: marble, quartzite and slate. 5. Soil is a mixture of minerals, air, water and organic matter. 6. A fossil is the preserved remains or traces of a dead organism. 7. Fossils are formed in a process called fossilisation: 8. A plant or animal dies and gets covered in sediment. 9. Over time, more layers bury the remains and the pressure turns the layers into sedimentary rock. 10. Sediment enters the mould to make a cast fossil. 11. Water carries minerals into the remains. The minerals replace the original material, turning the remains into stone. 12. Over time, erosion may uncover the fossils, allowing them to be found.

Year 4	1. Particles in a solid are close together and cannot move. They are materials that keep their shape unless a force is applied to them. 2. Particles in a liquid are close together but can move around each other. They take the shape of their container. 3. Particles in a gas are spread out. Gases completely fill the container or room they are in. They can be easily compressed. 4. A solid can change to a liquid when it is heated and reaches its melting point. 5. A liquid can change to a gas when it is heated. This is called evaporation. 6. A gas can turn back to a liquid when it is cooled. This is called condensation. 7. A liquid can turn back to a solid when freezing occurs. 8. The higher the temperature, the quicker the rate of evaporation.	1. Electricity is energy that can be converted into other types of energy such as light, heat, sound or movement. 2. An electrical appliance is a device that uses electricity to perform a function such as a microwave or torch. 3. Mains electricity is mainly created at a power station and travels down large cables to where it is needed. 4. Batteries store chemical energy. The chemicals generate electricity. 5. A simple circuit can involve cells, wires, bulbs, switches and buzzers. 6. A simple circuit needs a complete loop with a battery. 7. A switch opens and closes a circuit. 8. A conductor is a material that allows electricity to pass through it. 9. An insulator is a material that does not allow electricity to pass through it. 10. Metals are good conductors of electricity. 11. Electricity can be dangerous, causing anything from a minor electric shock to serious burns and even death!	1. Your mouth is where food goes in and where it is chewed to make it softer and smaller so it is easier to swallow. 2. The oesophagus is a muscular tube that connects your mouth to your stomach. 3. The stomach contains strong digestive acids and enzymes that break the food down to a liquid substance called chyme. 4. The small intestine is where nutrients, vitamins and minerals are absorbed into the body. 5. The large intestine is where water is absorbed into the body which pushes the now solid waste into the rectum. 6. We have 4 types of teeth: incisors, canines, pre molars and molars. 7. Incisors are for biting and cutting; canines for ripping and tearing, pre molars and molars are for crushing and grinding. 8. Eating too many sugary and acidic foods can cause tooth decay. 9. A food chain shows a transfer of energy. 10. Plants are producers (make their own food) and are found at the beginning of a food chain. 11. Any animal that eats a producer is called a primary consumer. 12. All primary consumers are herbivores because they only eat plants. 13. Secondary consumers eat primary consumers. They can either be an omnivore or carnivore. 14. All secondary consumers are predators because they kill and eat other animals.	British Science Week	1. Sounds are made when objects vibrate. 2. The size of the vibration is called the amplitude. 3. Sound waves travel through a medium such as a gas, solid or liquid to the ear. 4. Sounds travel in waves and carry energy from one place to another. 5. The volume of a sound is how loud or how quiet it is. 6. Louder sounds have a higher amplitude, and quieter sounds have a smaller amplitude. 7. Pitch is how high or low a sound is. 8. Instruments with strings can have different pitches. Tighter and thinner strings produce a high pitch. Looser and thicker strings produce a low pitch. 9. Sounds get fainter as the distant from the sound source increases.	1. Classification is grouping living things by looking at similarities and differences between them. 2. Living things can be grouped in a number of ways such as invertebrates and vertebrates. 3. Vertebrates can be divided into smaller groups: mammals, fish, birds, reptiles and amphibians. 4. Invertebrates can be divided into smaller groups such as insects and arachnids. 5. Classification keys are questions that let us find out which groups living things belong to. 6. Environments change all the time e.g. during different seasons but sometimes changes to an environment can be negative. 7. Rainforests can be affected by deforestation, forest fires, pollution, hunting, oil extraction and over fishing.
Year 5	1. The force that pulls things to the centre of Earth is called gravity. 2. Weight is a measure of the strength of gravity acting on an object measured in Newtons (N). 3. Friction is a force between two surfaces and slows a moving object down (same as year 3 key knowledge).	1. Sir Isaac Newton is famously developed his theory of gravity when he saw an apple fall to the ground from an apple tree. 2. Gravity- a pulling force exerted by the Earth (or anything else which has mass). 3. Weight - a pulling force exerted by the Earth (or	1. Some materials dissolve in water. This means they break apart into tiny pieces, spread out in the water and can no longer be seen. This mixture is called a solution. 2. Soluble (will dissolve) Insoluble (will not dissolve) . 3. Reversible reaction - this is a change that can be undone. Irreversible reaction - a	British Science Week	Sexual reproduction of a plant : 1. The stamen is the male part of the flower which holds pollen 2. The carpel is the female part of the flower which contains eggs 3. Pollen travels from the anthers of one flower to the stigma of another- this is called Pollination	1. Puberty is a time in our lives when our bodies change from a child into an adult. This time happens during our teenage years 2. Fertilisation happens when a male sex cell and a female sex cell combine and begin to grow into a foetus

	4. Air resistance is a type of friction between air and another material. 5. Water resistance is a type of force that uses friction to slow things down that are moving through water. 6. Using levers, if the fulcrum is closer to the load it makes it easier to lift. 7. A single pulley changes the direction of force which makes pulling down easier than lifting up. 8. Gears are when two or more wheels with spokes or teeth connect together to help a small force turn into a big force.	anything else which has mass). 4. Mass - a measure of how much matter (or 'stuff') is inside an object.	permanent change (can't be undone). 4. When materials have been mixed together, sometimes it is possible to separate them again (reversible). 5. Sieving – used when there is a mixture of different sized solids. For example: sand and pebbles. 6. Filtering - used when there is a mixture of liquid and an insoluble solid. For example: water and sand. 7. Evaporation - used when there is a mixture of liquid and a soluble solid. For example: water and salt.		4. Plants rely on bees or other insects to carry their pollen while some pollen floats in the wind 5. After pollination, the pollen grain and the egg join together- fertilisation 6. The fertilised egg will develop into a seed Asexual reproduction of a plant: 7. Plant cuttings- some plants stems can grow roots if they are planted in the correct conditions- such as geraniums 8. This allows for people to make lots of copies of the same plant 9. Runners- some plants, like strawberry plants, grow runners which have new plants on the end 10. These plants are an exact copy of the parent plant from which they have grown	3. Women have a special organ called a womb which they grow the foetus in until the baby is ready to be born 4.
Year 6	1. Classification is grouping living things by looking at similarities and differences between them. 2. Animals can be divided into two main groups – vertebrates and invertebrates. 3. Plants can be grouped into flowering and non-flowering and deciduous and evergreen. 4. Micro-organisms are tiny living things such as bacteria, viruses and fungi. 5. Bacteria can cause illness but also be very helpful – they are used to make cheese and yogurt. 6. Mould can cause illness but also be very helpful - penicillin (an antibiotic) is made from mould. 7. Viruses can cause illness but also be very helpful – they can be used to help create vaccines.	1. Voltage is the force that pushes the electricity around the circuit. 2. Adding more cells (or cells with higher voltage) to a circuit increases the brightness of a lamp or the loudness of a buzzer. 3. The way components function depends on the voltage, circuit design, type and condition of the components, and whether the circuit is complete. 4. These are the recognised symbols that represent components in a circuit.	1. The circulatory system is a network within the body that consists of blood, veins, arteries, and the heart. 2. It supplies tissues in the body with nutrients and oxygen, and also transports hormones and removes waste products that the body doesn't need. 3. The heart pumps blood all around your body. 4. Veins are vessels that carry blood to the heart. 5. Arteries are vessels that carry blood away from the heart. 6. Blood is comprised of white blood cells, red blood cells, plasma and platelets. 7. Water and nutrients from food and drinks are absorbed into your body through your intestines. They travel around your body in your blood. 8. A healthy, balanced diet is important because it provides your body with the necessary nutrients to stay healthy and function properly. 9. Exercise is important because it keeps your body strong and healthy. It helps you stay at a good weight, makes your heart and	British Science Week	1. Evolution is the way living things gradually change over time. 2. Fossils show how living things have changed over time. 3. Living things produce offspring with shared characteristics. This is called inheritance. 4. Characteristics can be different within a species. This is called variation. 5. Living things are adapted to their habitats. This means that they have special features that help them to survive. 6. Natural selection is when the best adapted living things are able to survive in their environment. 7. Adaptations to suit an environment can lead to evolution.	1. Light travels in straight lines. 2. When light hits an object, it is reflected and enters our eye. This is how we see the object. 3. A shadow is made when an object blocks light since light cannot get to the area behind the object blocking it (year 3 knowledge). 4. As light travels in straight lines, the outline of the shadow corresponds exactly to the shape of the object blocking the light. Any part of the object that sticks out will block light and create a shadow that mirrors its shape.

			muscles strong, and gives you energy. Exercise also makes you feel happier and less stressed. It can prevent sickness and help you sleep better. 10. Smoking, drinking alcohol, and using drugs can harm your body in different ways:			