Cycle 2 – Years 5 and 6	Autumn	Spring	Summer
	Forces Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identify the effects of air resistance, water resistance and friction, that act between moving surfaces. Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect. Space Describe the movement of the Earth and other planets relative to the sun in the solar system. Describe the movement of the moon relative to the Earth. Describe the sun, Earth and moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. Global Warming (sustainability) Children explored gases and their properties in Year 4, when they learnt about states of matter. They are now introduced to the term "greenhouse gases", which are gases that are contributing to global warming. Children do not need to identify and name each greenhouse gas and its effects on the planet, but should be able to use the term "greenhouse gases". (National Curriculum Links: Working Scientifically)	Properties of materials 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. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Animals including humans Describe the changes as humans develop to old age. Life cycles Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals. Reproduction A Children should understand that fertilisation is the process by which a male sperm cell and female egg cell join to form a new life. They should also understand that sexual reproduction results in offspring that are not identical to the parents. Teachers are mindful of cultural sensitivities when teaching this step and ensure school policies are followed throughout. Describe the life process of reproduction in some plants and animals.	Reversible and irreversible changes Demonstrate that dissolving, mixing and changes of state are reversible changes . Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda Plastic pollution (sustainability) Children should be able to explain how plastic pollution affects organisms in the ocean and on land. They should also identify achievable ways to reduce plastic pollution, such as using reusable bags, using recyclable plastic water bottles instead of buying bottled water and recycling and buying items made from more environmentally friendly materials. (National Curriculum Links: Working Scientifically) Reproduction B In this small step, children look at their results from the plant cloning investigation they started in summer Block 1. They will have observed changes in growth over time and should now measure the final length of the plants. Children should also be given the opportunity to create questions for further investigation in relation to reproduction in plants