

Reception	
Everyday Materials	This unit will introduce pupils to a range of basic materials and their properties. They will learn to name and identify wood, plastic, metal, glass, rock, brick, water and other materials, many of which will be familiar to them. Pupils will understand that these materials can be made into many different objects and will learn to distinguish between an object and the material from which it is made. Pupils will also use touch and sight to identify a number of simple properties of materials, and test materials, such as paper and fabric to compare their properties.
Looking at Animals	During this unit pupils will learn about a variety of familiar and less familiar animals, including fish, amphibians, reptiles, birds and mammals. They will identify and name, look closely at and compare and contrast many different animals. Pupils will also name their body parts, describe their physical features and mimic how they move. Pupils will be introduced to the terms 'carnivore', 'herbivore' and 'omnivore'. They will also apply their ideas about animals, as they think about pets that may live with them and how these might be looked after if they need to visit a vet for treatment.
Our Changing World: Animal Antics	Pupils will make observations of animal life in the school grounds, investigate the variety of birds they see and learn about caring for different animals over time; from a familiar pet cat or dog to a collection of garden snails.
Our Changing World: Plants	This unit will provide pupils with an opportunity to apply much of their early knowledge and understanding of plants. This will include identifying and naming, describing and comparing, for example, flowers and trees in their local environment.
Our Changing World: Sensing Seasons	Pupils will experience 'our changing world', as they observe the effects that changing seasons and weather have on them and on the world around them. They will use their senses as they consider what clothing they should wear in different weather conditions and during different seasons of the year. They will carry out seasonal 'scavenger hunts' to collect evidence of the changing seasons and use that evidence to answer science questions.
Plant Detectives	In this unit pupils are introduced to a wide variety of plants, including trees, which are to be found within their immediate environment. They will explore and investigate what is familiar, and what they see every day around them, such as garden plants, wild plants and trees in school grounds or close by that they can observe first-hand themselves.

Using Our Senses

Pupils will develop their knowledge and understanding of the human body. They will identify and name simple parts of the body, as they draw and label a life size version of themselves or a class mate. Pupils are introduced to the concept of five senses that help them to find out about the world around them and link those senses to particular parts of their body.

Year 1	
Our Changing World	In this unit pupils will observe animals in their habitats and notice how they change through the year. They will use this developing understanding of the different animals living in a habitat to build up simple food chains. Pupils will begin to learn about animal life cycles by observing how an animal changes over time and by going out to look for baby animals, such as birds on a canal or river or lambs on a farm. They will work scientifically by making careful observations over time, using simple equipment and recording their observations in a range of different ways.
Take Care	In this unit pupils will begin to learn about different ways to keep themselves healthy. They will consider the importance of eating a range of different types of food. During the unit they will also start to learn about the importance of exercise and hygiene. Pupils will work scientifically by identifying and classifying food, using tables, and Venn and Carroll diagrams. They will also make observations and collect data while carrying out exercises, and use their observations and ideas to suggest answers to questions.
Materials: Good Choices	Pupils will consolidate their understanding that one type of object can be made from different materials and one material can be used for a number of different objects. They will continue to develop their understanding of the simple physical properties of materials and consider in more detail how these properties make materials useful for particular purposes. During this unit the pupils will test a range of different materials for different purposes. They will also have an opportunity to think about creative and unusual uses of everyday materials, and find out about John Dunlop who invented rubber pneumatic tyres.
Materials: Shaping Up	In this unit pupils are introduced to different ways of changing the shapes of objects made from different materials. They identify materials that can be changed by the actions of squashing, bending, twisting and stretching, and link these actions with the properties of the materials that allow them to be changed. They will discover that some materials have different properties according to how they are shaped and what they are made into, and will choose materials for uses according to their properties. They will also learn that pushes and pulls can cause movement or a change in shape. Pupils will apply their knowledge by making clay models and catapults.
The Apprentice Gardener	Pupils will be introduced to growing plants from bulbs and from seeds, learning the sequence of germination, and comparing and contrasting the requirements of germinating seeds with those of mature plants to maintain healthy growth. Pupils will record a series of observations using labelled drawings and photographs in diaries. They will use their existing knowledge and their observations to make predictions at the start and during investigations.
What Is In Your Habitat?	In this unit pupils will begin to learn about different habitats, how the living things are suited to the habitat and the interactions between the living organisms within a habitat. During the unit they will explore the habitat by identifying things that are living, once-lived and never-lived. They will construct food chains that show how living things depend on each other. Pupils will also consider how living things are suited to a particular habitat.

Growing Up

Pupils will consider the basic needs of humans for survival (food, water, air), the need for warmth and shelter, and additional needs for health and wellbeing. They will identify simple differences between living and non-living things and they are introduced to the sequence of the human life cycle, first through considering how they have changed since birth.

Year 2	
Our Changing World	In this unit pupils will build on work about plants by going outside and observing plants in the local area at different times of the year. They will observe how the leaves on deciduous trees change greatly through the year, whereas those on evergreen plants change less dramatically. They will observe that seeds, berries and flowers are visible on different plants throughout the year according to their different life cycles. Pupils will also observe how the quantity and variety of insect life varies at different times of the year and in different weather conditions.
Amazing Bodies	Pupils will build on their knowledge of the human body developed in Key Stage 1. They will revisit the importance of eating the right amounts of different types of food, but will extend this knowledge to understand that the food we eat provides us with the nutrition that our bodies require to remain healthy. They will learn about the range of nutrients that humans need to consume in the correct amounts and the role that these nutrients play in keeping our bodies healthy. They will also learn that humans and some other animals have skeletons and muscles for support, protection and movement.
Can You See Me?	Pupils will start their formal look at light; they will learn about how we see objects, the ways in which different objects reflect different amounts of light and how these ideas can be applied to staying safe at night. Pupils will explore what causes a shadow, as well as how the shape and size of a shadow can be affected by its position. They will also learn how exposure to sunlight can cause harm, and about ways by which they can protect themselves. Pupils will ask and answer their own questions about light and shadow as well as investigate how some materials block more light than others.
How Does Your Garden Grow?	In this unit pupils will build on their experiences of identifying and growing plants in Key Stage 1. They will revise the names of the main parts of a plant (root, stem/trunk, leaf and flower) introduced in Year 1, learning their functions and how these relate to their appearance and structure. They will learn about the absorption and transport of water and nutrients and the role of the leaf in making food for the plant. Pupils will ask and answer their own questions about plants through classifying, observing over time, conducting fair test investigations and using secondary sources.
Rock Detectives	In this unit pupils will work as 'Rock Detectives' establishing core knowledge and understanding of rocks, their relationship to soils and how fossils have formed over time. Pupils will identify and name rocks, describing and comparing their observable properties and sorting them using a key. They will identify ways in which rocks are used in the local environment and suggest why the properties of certain rocks make them suitable for particular purposes. Pupils will also consider how rocks are affected by weathering over time and work scientifically to carry out tests to establish the hardness and permeability of different kinds of rocks.
The Power of Forces	Pupils will explore how forces can make objects start to move, speed up, slow down or change direction. They will compare how things move on different surfaces. Pupils will also identify that magnets attract some materials and not others and that these are known as magnetic materials. They will learn that some metals, but not all, are magnetic and that all non-metals are non-magnetic. Pupils will learn that magnets have two poles and that two magnets will attract or repel each other, depending on which poles are facing.

