

Term	Working Scientifically	Learning intentions
Autumn 1	<ul style="list-style-type: none"> • recognise that they need light in order to see things and that dark is the absence of light • recognise that light from the sun can be dangerous and that there are ways to protect their eyes • recognise that shadows are formed when the light from a light source is blocked by an opaque object 	
Light	<p>Asking Questions</p> <ul style="list-style-type: none"> • ask relevant questions and use different types of scientific enquiries to answer them • set up simple practical enquiries, comparative and fair tests <p>Measuring and Recording</p> <ul style="list-style-type: none"> • make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • record findings using simple scientific language, drawings, labelled diagrams, <p>Concluding</p> <ul style="list-style-type: none"> • identify differences, similarities or changes related to simple scientific ideas and processes • report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • use straightforward scientific evidence to answer questions or to support their findings <p>Evaluating</p> <ul style="list-style-type: none"> • use results to draw simple conclusions, make predictions 	<p>I can identify light sources I can observe and explain how shadows change over the course of a day. I understand and can use the terms 'transparent, translucent, opaque and reflective' to describe objects. I can determine which type (property) of object will make the <i>best</i> shadow. I can explain how shadows change.</p>

Autumn 2

Light
continued

- recognise that they need light in order to see things and that dark is the absence of light
- notice that light is reflected from surfaces
- find patterns in the way that the size of shadows change

Asking Questions

- ask relevant questions and use different types of scientific enquiries to answer them
- set up simple practical enquiries, comparative and fair tests

Measuring and Recording

- make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- gather, record, classify and present data in a variety of ways to help in answering questions

Concluding

- identify differences, similarities or changes related to simple scientific ideas and processes
- report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- use straightforward scientific evidence to answer questions or to support their findings

Evaluating

- use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

I can plan a simple investigation to show how shadows change size

Spring 1

- identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat
- identify that humans and some other animals have skeletons and muscles for support, protection and movement

Animals

Asking Questions

- ask relevant questions and use different types of scientific enquiries to answer them
- set up simple practical enquiries, comparative and fair tests

Measuring and Recording

- make systematic and careful observations and, where appropriate, take accurate measurements using a tape measure
- record findings using simple scientific language, drawings, tables
- gather, record, classify and present data to help in answering questions

Concluding

- identify differences, similarities or changes related to simple scientific ideas and processes
- report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- use straightforward scientific evidence to answer questions or to support their findings

Evaluating

- use results to draw simple conclusions, make predictions for new values, suggest improvements

To understand different types of nutrition

- I can explain how animals obtain their food.
- I can state why animals and humans need the right type of nutrients
- I can identify some of the nutrients and foods needed to maintain good health
- To know that different animals need different amounts of nutrients and the right amount.
- I can compare and group animals by their diet.

- I can identify that humans and some other animals have skeletons
- I can identify different types of skeleton
- I can sort animals according to their type of skeleton
- I can identify and name bones (on a human skeleton)
- I can draw comparisons between human bones and some animal bones
- I can compare bones between modern man and prehistoric man - neanderthals
- I can explain the functions of a skeleton (I can name 3 main functions of a skeleton)
- I know why we need muscles
- I can set up a simple investigation
- I can record my findings using the appropriate scientific language

	and raise further questions	
Spring 2	<ul style="list-style-type: none"> • compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • describe in simple terms how fossils are formed when things that have lived are trapped within rock • recognise that soils are made from rocks and organic matter 	
Rocks	<p>Asking Questions</p> <ul style="list-style-type: none"> • ask relevant questions and use different types of scientific enquiries to answer them • set up simple practical enquiries, comparative and fair tests <p>Measuring and Recording</p> <ul style="list-style-type: none"> • make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • gather, record, classify and present data in a variety of ways to help in answering questions <p>Concluding</p> <ul style="list-style-type: none"> • identify differences, similarities or changes related to simple scientific ideas and processes • report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • use straightforward scientific 	<p>I can explain that the earth is made up of layers. I can compare different types of rock. I can name some similarities and differences between natural and manmade rocks. I can group rocks based on their properties</p> <p>I can investigate the different properties of the rocks I can identify the purposes of some different types of rock I can explain how fossils are formed</p> <p>I can explain Mary Anning's contribution to palaeontology. I can explain how soil is formed</p>

	<p>evidence to answer questions or to support their findings</p> <p>Evaluating</p> <ul style="list-style-type: none"> • use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions 	
<p>Summer 1</p>	<ul style="list-style-type: none"> • identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant • investigate the way in which water is transported within plants • explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal 	
<p>Plants</p>	<p>Asking Questions</p> <ul style="list-style-type: none"> • ask relevant questions and use different types of scientific enquiries to answer them • set up simple practical enquiries, comparative and fair tests <p>Measuring and Recording</p> <ul style="list-style-type: none"> • make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • gather, record, classify and present data in a variety of ways to help in answering questions 	<p>I know what a plant needs to grow well To know the function of different parts of the plant</p> <p>Stem Roots Flower Leaves</p> <p>I can explain the life cycle of a plant</p> <p>I can show my understanding of germination, pollination, fertilisation, seed dispersal, photosynthesis</p> <p>To know how plants adapt to their environment</p> <p>To design a plant with certain adaptations</p>

	<p>Concluding</p> <ul style="list-style-type: none"> • identify differences, similarities or changes related to simple scientific ideas and processes • report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • use straightforward scientific evidence to answer questions or to support their findings <p>Evaluating</p> <ul style="list-style-type: none"> • use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions 	
<p>Summer 2</p> <p>Forces and Magnets</p>	<ul style="list-style-type: none"> • compare how things move on different surfaces • notice that some forces need contact between 2 objects, but magnetic forces can act at a distance • observe how magnets attract or repel each other and attract some materials and not others • compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials • describe magnets as having 2 poles • predict whether 2 magnets will attract or repel each other, depending on which poles are facing each other 	
	<p>I can plan an investigation I can use my knowledge and experience to make predictions. To be able to set up a simple fair-test and record findings in a table then a bar chart. I can begin to share my observations I can record my results in a table</p>	<p>I can describe the types of force (including gravity, friction and air resistance). I can describe the effects of force. I know that force is measured in Newtons. I can use some scientific vocabulary to explain what a force is I can use a Newton meter to carefully measure forces. To be able to compare how things move on different surfaces. To be able to identify changes related to scientific ideas. I understand and can use the terms poles, magnetic, attract, repel To know that two south poles or two north poles repel. To know that a north and south pole attract</p>



I can determine which magnet is the strongest
I can explain how magnets are used