

Science Overview of Long Term Planning



Current subject leader: Collette Williams

Year 1	• Ourselves PoS Sc2 1a-c 2a-g 4a-b 5c	• Growing plants PoS Sc2 1a&c 3a-c 4b 5a-b	• Sorting/using materials PoS Sc3 1a-d 2a-b	• Light and dark PoS Sc4 3a-b	• Pushes and pulls PoS Sc4 2a-c	• Sound and hearing PoS Sc4 3c-d
Year 2	• Health and growth PoS Sc2 1a-c 2a-g 4a 5c	• Plants and animals in environment PoS Sc2 5 a-c	• Variations PoS Sc2 4 a-b	• Grouping/changing materials PoS Sc3 1a-d 2a-b	• Forces and movement PoS Sc4 2a-c	• Electricity PoS Sc4 1a-c
Year 3	• Teeth and eating PoS Sc2 2a-b	• Helping plants grow PoS Sc2 3a-c	• Characters of materials PoS Sc3 1a-e	• Magnets and springs PoS Sc4 2a-e	• Light and shadows PoS Sc4 3a-d	•
Year 4	• Moving and growing PoS Sc2 2b-f	• Habitats PoS Sc2 5a-d	• Changing materials PoS Sc3 2a-g	• Separating mixtures of materials PoS Sc3 3a-e	• Friction PoS Sc4 2a-e	• Circuits and conductors PoS Sc4 1a-c
Year 5	• Keeping healthy PoS Sc2 2g-h	• Life cycles PoS Sc2 1a-c 2f 3a-d	• Changing state PoS Sc3 2a-g 3a-e	• Earth sun and moon PoS Sc4 4a-d	• Changing sound PoS Sc4 3e-g	•
Year 6	• Interdependence and adaptation PoS Sc24a-c 5b-e	• Micro-organisms Sc2 5f	• Materials PoS Sc3 1a-e 2a-g 3a-e	• Forces and motion PoS Sc4 2a-e	• Changing circuits PoS Sc4 1a-c	• Light and seeing PoS Sc4 3a-g

Science Overview of Long Term Planning

Statutory National Curriculum Areas to be covered by the end of the year

Science Year 1 Area 1	
<p><u>Outcomes and assessment judgment based from level descriptors</u></p> <p>NC 1c Some children will not have made so much progress & will:</p> <p>NC 1a Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 2c The AA/AA+children will have progressed further & will also:</p>	<p style="text-align: center;"><u>Ourselves</u></p> <p>I</p> <ul style="list-style-type: none"> • identify & locate parts of their body • use their observations to describe humans & other animals. <ul style="list-style-type: none"> • identify & locate parts of their body, including sense organs • recognise changes that take place as animals get older • use their observations to point out differences between humans & other non-living things • communicate observations & measurements. <ul style="list-style-type: none"> • explain differences between living & non-living things in terms of character such as movement & growth • explain that adult animals no longer grow • suggest ways of presenting observations • explain why we should show sensitivity to living things. <p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1, 1 2b 2f) Thinking and exploration (Sc1 2a 2f 2h,i,j) Reasoning (Sc1 2c, 2i) • Communication (Sc1)

Science Year 1 Area 2	
<p><u>Outcomes & Assessment Judgement Based from Level Descriptors</u></p> <p>NC 1c Some children will not have made so much progress & will:</p> <p>NC 1a Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 2c The AA/AA+children will have progressed further & will also:</p>	<p style="text-align: center;"><u>Growing Plants</u></p> <ul style="list-style-type: none"> • name some common plants, • identify the leaf, root, stem & flower of a plant • recognise that plants need water to grow. <ul style="list-style-type: none"> • name some common plants, • identify the leaf, root, stem & flower of a plant • recognise that plants are living & need water to grow • recognise that they can investigate the conditions plants need for growth. <ul style="list-style-type: none"> • begin to group and sort plants, e.g. with flowers, tall and short. <p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1, 1 2b 2f) Thinking (Sc1 2a 2f 2h,i,j) Reasoning (Sc1 2c, 2i) Problem solving (Sc1 2a) • Communication (Sc1)

Science Year 1 Area 3

<p style="text-align: center;">Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 1c Some children will not have made so much progress & will:</p> <p>NC 1a Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 2c The AA/AA+children will have progressed further & will also:</p>	<p>Sorting and using materials</p> <ul style="list-style-type: none"> • make observations of common objects & communicate these. • describe some common materials; • make observations of these, e.g. bendy, rough, hard; • suggest how to test an idea and say what result of the test shows. <ul style="list-style-type: none"> • be able to sort materials into groups according to properties
	<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing(Sc 1,1 2b 2f) Problem solving (Sc1 2a) Evaluation (Sc1 2d 2h 2i 2j), Reasoning (Sc1 2c 2i) Creative thinking,(Sc2 2a) Enquiry (Sc 2 2a 2f) • Communication (Sc1)

Science Year 1 Area 4

<p style="text-align: center;">Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 1c Some children will not have made so much progress & will:</p> <p>NC 1a Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 2c The AA/AA+children will have progressed further & will also:</p>	<p>Light and dark</p> <ul style="list-style-type: none"> • name a number of light sources including the Sun; • recognise that they cannot see in the dark • know that it is dangerous to look at the sun. <ul style="list-style-type: none"> • name a number of light sources including the sun; • recognise that they can't see in the dark; • describe some light sources • explain why it is dangerous to look at the Sun. <ul style="list-style-type: none"> • describe and compare some light sources; • explain that they cannot see shiny objects in the dark because they are not light sources.
	<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing(Sc 1,1 2b 2f) Evaluation (Sc1 2d 2h 2i 2j), Reasoning (Sc1 2c 2i) Thinking (Sc1 2a 2f 2h,i,j) • Communication (Sc1)

Science Year 1 Area 5

Outcomes & Assessment Judgement Based from Level Descriptors	Pushes and Pulls
<p>NC 1c Some children will not have made so much progress & will:</p>	<ul style="list-style-type: none"> • observe & describe movements they & objects make.
<p>NC 1a Age related expectation we need to be delivering at, the majority of children will:</p>	<ul style="list-style-type: none"> • observe, describe & compare movements they make • observe, describe & compare movements of objects in terms of speed & direction; • describe how to make a familiar object start moving by pushing or pulling • recognise dangers to themselves in moving objects.
<p>NC 2c The AA/AA+children will have progressed further & will also:</p>	<ul style="list-style-type: none"> • describe how windmills or waterwheels are made to move • know it is dangerous to try to stop a heavy object moving.
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing(Sc 1,1 2b 2f) Evaluation (Sc1 2d 2h 2i 2j), Reasoning (Sc1 2c 2i) Thinking (Sc1 2a 2f 2h,i,j) • Communication (Sc1) 	

Science Year 1 Area 6

Outcomes & Assessment Judgement Based from Level Descriptors	Programme of Study Area
<p>NC 1c Some children will not have made so much progress & will:</p>	<ul style="list-style-type: none"> • Recognise & describe many sounds in their environment. • Record sound observations. • Relate their sense of hearing to their ears.
<p>NC 1a Age related expectation we need to be delivering at, the majority of children will:</p>	<ul style="list-style-type: none"> • Recognise that sound comes from a variety of sources • recognise that there are different ways of making sound. • recognise & describe many sounds; • relate their sense of hearing to their ears.
<p>NC 2c The AA/AA+children will have progressed further & will also:</p>	<ul style="list-style-type: none"> • Recognise that when sounds are generated by objects, something moves or vibrates
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing(Sc 1,1 2b 2f) Problem solving (Sc1 2a) Reasoning (Sc1 2c 2i) Enquiry (Sc 2 2a 2f) Information technology (Sc1 2g) • Communication (Sc1) 	

Science Overview of Long Term Planning

Statutory National Curriculum Areas to be covered by the end of the year

Science Year 2 Area 1	
<p style="text-align: center;"><u>Outcomes and assessment judgment based from level descriptors</u></p> <p>NC 2c Some children will not have made so much progress & will:</p> <p>NC 2b Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 2a/3c The AA/AA+children will have progressed further & will also:</p>	<p style="text-align: center;"><u>Unit 2A Health and Growth</u></p> <ul style="list-style-type: none"> • Name some food or types of food; • recognise that exercise is important; • describe some differences they observe eg between babies & toddlers • recognise that animals produce young. <ul style="list-style-type: none"> • identify some types of food that make up their diet & name some examples of each; • ask questions in order to make comparisons • describe differences they observe between babies & toddlers • recognise that animals grow & reproduce. <ul style="list-style-type: none"> • Name some food or types of food; • recognise that exercise is important; • describe some differences they observe eg between babies & toddlers; • recognise that animals produce young. <p>know that our body needs a variety of types of food for growth/energy/health, e.g. fruit, vegetables, bread.</p> <p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1, 1 2b 2f) Thinking and exploration (Sc1 2a 2f 2h,i,j) Reasoning (Sc1 2c, 2i) Enquiry (Sc 2 2a 2f) • Communication (Sc1)

Science Year 2 Area 2	
<p style="text-align: center;"><u>Outcomes & Assessment Judgement Based from Level Descriptors</u></p> <p>NC 2c Some children will not have made so much progress & will:</p> <p>NC 2b Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 2a/3c The AA/AA+children will have progressed further & will also:</p>	<p style="text-align: center;"><u>Plants & Animals in the Local Environment</u></p> <ul style="list-style-type: none"> • recognise that different plants & animals live in the local environment & name some of them; • know that plants produce seeds; • make observations of plants & animals, recording these, with help, in tables. <ul style="list-style-type: none"> • recognise that different plants & animals live in the local environment & name some of them; • know that flowering plants produce seeds which grow into new plants; • describe what they observe as new plants grow; • record observations in tables, using these to draw conclusions. <ul style="list-style-type: none"> • suggest reasons why different plants & animals are found in the different environments. <p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1, 1 2b 2f) Thinking (Sc1 2a 2f 2h,i,j) Reasoning (Sc1 2c, 2i) Evaluation (Sc1 2d 2h 2i 2j), Enquiry (Sc 2 2a 2f) • Communication (Sc1)

Science Year 2 Area 3

<p style="text-align: center;">Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 2c Some children will not have made so much progress & will:</p> <p>NC 2b Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 2a/3c The AA/AA+children will have progressed further & will also:</p>	<p style="text-align: center;">Variations</p> <ul style="list-style-type: none"> • Recognise differences between animals and plants; • sort living things into groups, using simple features; • describe the basis for their groupings (such as number of legs, shape of leaf); • record results in simple tables where appropriate. • Respond to suggestions about how to find things out; • observe and compare living things; • describe their observations • record them, using simple tables when appropriate; • say whether what happened was what they expected. • Make their own suggestions about how to collect data to answer questions; • describe their observations using scientific language, such as habitat. <p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing(Sc 1,1 2b 2f) Problem solving (Sc1 2a) Evaluation (Sc1 2d 2h 2i 2j), Reasoning (Sc1 2c 2i) Creative thinking,(Sc2 2a) Enquiry (Sc 2 2a 2f) Application of number (Sc2 2f) • Communication (Sc1)
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Science Year 2 Area 4

<p style="text-align: center;">Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 2c Some children will not have made so much progress & will:</p> <p>NC 2b Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 2a The AA/AA+children will have progressed further & will also:</p>	<p style="text-align: center;"><u>Grouping & Changing Materials</u></p> <ul style="list-style-type: none"> • Describe how heating can change some materials • Make observations which, with help, they record in tables. • Predict & describe how heating & cooling or bending & stretching can change some materials into new & useful materials • state the dangers of hot water or naked flame; • Make observations in given tables • recognise when simple comparisons are unfair. • State that ice, water & steam are the same materials • describe how water can be changed into ice & steam • describe how these changes can be reversed; • recognise & explain when a comparison is unfair; • identify some naturally occurring/some man-made materials. <p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing(Sc 1,1 2b 2f) Evaluation (Sc1 2d 2h 2i 2j), Reasoning (Sc1 2c 2i) Thinking (Sc1 2a 2f 2h,i,j) Creative thinking,(Sc2 2a) Enquiry (Sc 2 2a 2f) Improving own learning and performance (Sc1 2j) Application of number (Sc2 2f) • Communication (Sc1)
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Science Year 2 Area 5

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 2c Some children will not have made so much progress & will:</p> <p>NC 2b Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 2a The AA/AA+children will have progressed further & will also:</p>	<p>Forces and Movement</p> <ul style="list-style-type: none"> • describe how to change the movement of familiar objects using pushes & pulls; • make measurements of length & compare these. • describe how to use pushes & pulls to make familiar objects speed up, slow down, or change direction or shape; • recognise pushes/pulls are forces; • plan a comparison & decide whether it was fair; • make measurements of length using standard units and present these in a chart. • explain how they made their comparison fair • suggest several factors to investigate.
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Evaluation (Sc1 2d 2h 2i 2j), Reasoning (Sc1 2c 2i) Creative thinking,(Sc2 2a) Enquiry (Sc 2 2a 2f) Application of number (Sc2 2f) Problem solving (Sc1 2a) • Communication (Sc1) 	

Science Year 2 Area 6

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 2c Some children will not have made so much progress & will:</p> <p>NC 2b Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 2a The AA/AA+children will have progressed further & will also:</p>	<p style="text-align: center;"><u>Electricity</u></p> <ul style="list-style-type: none"> • identify common appliances which use electricity; • describe some of the dangers associated with mains electricity, • with help, construct a working circuit. • identify common appliances which use electricity; • describe the dangers associated with mains electricity; • construct & make drawings of simple working circuits • observe the way in which devices such as bulbs/buzzes work in different electric circuits. • Compare the brightness or colour of lights, and the loudness of pitch of sounds in different electric circuits.
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing(Sc 1,1 2b 2f) Problem solving (Sc1 2a) Reasoning (Sc1 2c 2i) Enquiry (Sc 2 2a 2f) Information technology (Sc1 2g) Creative thinking,(Sc2 2a) • Communication (Sc1) 	

Science Year 3 Area 1

<p><u>Outcomes and assessment judgment based from level descriptors</u></p> <p>NC 2b Some children will not have made so much progress & will:</p> <p>NC 2a Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 3c The AA/AA+children will have progressed further & will also:</p>	<p>Teeth and Eating</p> <ul style="list-style-type: none"> • recognise that they need to take care of their teeth; • make observations and record these in tables. <ul style="list-style-type: none"> • explain how they should look after their teeth & why they need to; • suggest questions about diet; • Know teeth have different shapes and jobs; • suggest questions about diet to be investigated; • make relevant observations & present results in charts & tables. <ul style="list-style-type: none"> • Know the names & functions of different types of teeth. • evaluate how strongly the evidence they have collected supports the conclusions they have drawn; • state that animals have different kinds of teeth.
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Problem solving (Sc1 2a 2c) • Communication (Sc1) 	

Science Year 3 Area 2

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 2b Some children will not have made so much progress & will:</p> <p>NC 2a Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 3c The AA/AA+children will have progressed further & will also:</p>	<p style="text-align: center;">Helping Plants Grow Well</p> <ul style="list-style-type: none"> • recognise that plants need light, warmth & water to grow • make some measurements of the height of plants. <ul style="list-style-type: none"> • recognise that plants need light, water & warmth & healthy leaves, roots & stems in order to grow well; • make careful measurements of volumes of water & heights of plants • recognise that in experiments & investigations a number of plants need to be used to provide reasonable evidence. <ul style="list-style-type: none"> • explain why healthy roots & healthy stems are needed for plants to grow; • recognise that the leaves of a plant are associated with healthy growth; • explain in simple terms why a number of plants should be used to provide reliable evidence about the plant growth; • recognise that plants provide food for humans & other animals.
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Problem solving (Sc1 2a 2c) Application of number (Sc1 2b 2f 2g 2h 2i 2j 2l) • Communication (Sc1) 	

Science Year 3 Area 3

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 2b Some children will not have made so much progress & will:</p> <p>NC 2a Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 3c The AA/AA+children will have progressed further & will also:</p>	<p><u>Characteristics of Materials</u></p> <ul style="list-style-type: none"> • identify uses of some common materials, • suggest a reason why the material is suitable; • make measurements of length using standard units. <ul style="list-style-type: none"> • identify uses of some common materials, • suggest several reasons why the material is suitable; • make measurements of length using standard units; • explain it is important to test materials to find out whether descriptions of characteristics are reliable • recognise when a test or comparison is unfair. <ul style="list-style-type: none"> • explain how to make a fair test • represent measurements in a bar chart.
	<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Problem solving (Sc1 2a 2c) Application of number (Sc1 2b 2f 2g 2h 2i 2j 2l) Creative thinking (Sc1 1a 2h) • Communication (Sc1)

Science Year 3 Area 4

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 2b Some children will not have made so much progress & will:</p> <p>NC 2a Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 3c The AA/AA+children will have progressed further & will also:</p>	<p style="text-align: center;">Magnets and Springs</p> <ul style="list-style-type: none"> • describe what happens when some materials are put near a magnet; • with help test an idea and make a comparison between results <ul style="list-style-type: none"> • recognise that a force acts in a particular direction; • describe the direction of forces between magnets or between a spring & someone compressing it; • classify materials as magnetic or non-magnetic • describe some uses of magnets; • decide how to test an idea explaining how to make a simple test fair; • identify patterns in results & use these to draw conclusions <ul style="list-style-type: none"> • describe the difference between a magnetic material • explain results in terms of their scientific knowledge.
	<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Problem solving (Sc1 2a 2c) • Communication (Sc1)

Science Year 3 Area 5

Outcomes & Assessment Judgement Based from Level Descriptors

NC 2a

Some children will not have made so much progress & will:

NC 3b

Age related expectation we need to be delivering at, the majority of children will:

NC 4c

The AA/AA+children will have progressed further & will also:

Light and Shadows

- recognise that shadows are similar in shape to the objects forming them,
- recognise and describe similarities and differences of shadows formed

- explain that shadows are formed when light from a source is blocked;
- recognise that shadows are similar in shape to the objects forming them;
- describe how a shadow from the Sun changes over the course of a day
- make observations and measurements of changes in shadows.

- explain that the changes in shadows from the Sun over the course of a day arise from the movement of the Earth
- explain that even transparent objects block some light & form shadows.

Key Skills to be delivered during the coverage above

- Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Problem solving (Sc1 2a 2c) Application of number (Sc1 2b 2f 2g 2h 2i 2j 2l)
- **Communication (Sc1)**

Science Year 4 Area 1

<p><u>Outcomes and assessment judgment based from level descriptors</u></p> <p>NC 3c Some children will not have made so much progress & will:</p> <p>NC 3b Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 3a The AA/AA+children will have progressed further & will also:</p>	<p>Moving and Growing</p> <ul style="list-style-type: none"> • state that they have skeletons; • describe some observable characteristics of bones • make measurements when investigating a question. <ul style="list-style-type: none"> • describe the main functions of their skeleton; • describe observable characteristics of bones; • recognise that their skeleton grows as they grow; • state that movement depends on both skeleton & muscles; • identify a question to be investigated • identify how to collect evidence in order to answer questions. <ul style="list-style-type: none"> • state that when one muscle contracts another relaxes • make an evaluation of the extent to which the evidence collected to answer a question supports the prediction made.
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Application of number (Sc1 2b 2f 2g 2h 2i 2j 2l) Creative thinking (Sc1 1a 2h) • Communication (Sc1) 	

Science Year 4 Area 2

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 3c Some children will not have made so much progress & will:</p> <p>NC 3b Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 3a The AA/AA+children will have progressed further & will also:</p>	<p>Habitats</p> <ul style="list-style-type: none"> • identify some local habitats; • name a few organisms that live there • with help, identify these using simple keys • make observations of animals and plants. <ul style="list-style-type: none"> • identify some local habitats; • name some of the organisms that live there; • use simple keys to identify organisms; • state the food source of some animals; • distinguish between those which eat other animals • plan how to investigate some of the preferences of small animals found in the habitat. <ul style="list-style-type: none"> • represent feeding relationships within a habitat by food chains; • explain that food chains begin with a green plant which produces food for other organisms • explain why it is necessary to use a reasonably large sample when investigating the preference of small invertebrates.
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Problem solving (Sc1 2a 2c) Creative thinking (Sc1 1a 2h) • Communication (Sc1) 	

Science Year 4 Area 3

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 3c Some children will not have made so much progress & will:</p> <p>NC 3b Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 3a The AA/AA+children will have progressed further & will also:</p>	<p>Changing materials</p> <ul style="list-style-type: none"> • recognise that temperature is a measure of how hot or cold objects are; • identify some everyday uses of thermal insulators; • use thermometers to measure temperature • present results in table prepared for them. <ul style="list-style-type: none"> • recognise that temperature is a measure of how hot or cold objects are; • identify some materials that are good thermal insulators & some good every day uses of these; • recognise that the same materials keep cold objects cold as keep warm objects warm; • use thermometers to measure temperatures; • suggest how to investigate a question; construct tables for their results • offer simple explanations for results. <ul style="list-style-type: none"> • recognise that objects cool or warm to the temperature of their surroundings when they are left; • recognise that metals are both good thermal and good electrical conductors.
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Application of number (Sc1 2b 2f 2g 2h 2i 2j 2l) • Communication (Sc1) 	

Science Year 4 Area 4

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 3c Some children will not have made so much progress & will:</p> <p>NC 3b Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 3a The AA/AA+children will have progressed further & will also:</p>	<p>Separating Mixtures of materials</p> <ul style="list-style-type: none"> • name some solids & liquids • describe that when ice melts it turns to a liquid • know that solid particles of different sizes can be separated by sieving. • describe the difference between solids & liquids • describe melting & dissolving & give everyday examples of each • name some materials that will and some that will not dissolve in water • explain why undissolved solids can be separated from a solution by sieving. • Recognise that some changes, e.g. freezing of water can be reversed but that others such as baking/burning cannot. • state that some materials eg metals have to be heated to a very high temperature before they melt • explain that when solids dissolve they break up so small that they pass through the holes in the filter paper • explain why undissolved solids can be separated from a solution by filtering. <p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) • Communication (Sc1)
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Science Year 4 Area 5

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 3c Some children will not have made so much progress & will:</p> <p>NC 3b Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 3a The AA/AA+children will have progressed further & will also:</p>	<p>Friction</p> <ul style="list-style-type: none"> • identify friction as a force • describe some ways in which friction between solid surfaces can be increased • identify some trends or patterns in observations & measurements. • describe some of the factors that increase friction between solid surfaces & increase air & water resistance • describe how to measure forces • describe how to investigate friction • explain what their results show • relate what they found out to their everyday experiences. • describe situations in which frictional forces are helpful as well as those in which frictional forces resist motion. <p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Application of number (Sc1 2b 2f 2g 2h 2i 2j 2l) • Communication (Sc1)
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Science Year 4 Area 6

Outcomes & Assessment Judgement Based from Level Descriptors

NC 3c

Some children will not have made so much progress & will:

NC 3b

Age related expectation we need to be delivering at, the majority of children will:

NC 3a

The AA/AA+children will have progressed further & will also:

Circuits and Conductors

- construct a simple working circuit
- explain why some circuits work and others do not.

- construct simple circuits
- use them to test whether materials are electrical conductors or insulators & how switches work;
- link cause & effect in simple explanations, e.g. a bulb failing to light because of a break in the circuit.

- explain how they matched different components for a particular circuit
- describe what might happen if the components were not matched.

Key Skills to be delivered during the coverage above

- Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l)) Problem solving (Sc1 2a 2c) Creative thinking (Sc1 1a 2h)
- **Communication (Sc1)**

Science Year 5 Area 1

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 3a Some children will not have made so much progress & will:</p> <p>NC 4c Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 4b The AA/AA+children will have progressed further & will also:</p>	<p>Keeping Healthy</p> <ul style="list-style-type: none"> • identify some foods needed for a healthy & varied diet & some harmful effects of drugs • recognise that pulse rate is a measure of how fast the heart is beating • make measurements of pulse rate. <ul style="list-style-type: none"> • identify the components of a healthy & varied diet • describe how an idea about the effect of diet on health was tested • recognise some harmful effects of drugs • recognise that during exercise the heart beats faster to take blood more rapidly to the muscles • make careful measurements of pulse rate, represent these in suitable graphs & explain what the graphs show. <ul style="list-style-type: none"> • explain some early evidence for the effect of diet on health • explain why it is important to test the effects of exercise on the pulse rate of several people.
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l)) Problem solving (Sc1 2a 2c) Creative thinking (Sc1 1a 2h) Application of number (Sc1 2b 2f 2g 2h 2i 2j 2l) • Communication (Sc1) 	

Science Year 5 Area 2

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 3a Some children will not have made so much progress & will:</p> <p>NC 4c Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 4b The AA/AA+children will have progressed further & will also:</p>	<p>Life Cycles</p> <ul style="list-style-type: none"> • name the parts of a flower • describe some of the conditions tested in investigating germination • recognise some stages in the development of humans. <ul style="list-style-type: none"> • name & explain the functions of some parts of a flower (petal, describe stamen, stigma etc) • name & explain the process of pollination • explain how to carry out a fair test to find the conditions necessary for germination • explain that living things need to reproduce if the species is to survive • recognise stages in the growth & development of humans. <ul style="list-style-type: none"> • explain why it is important to use a number of seeds or plants in an investigation into growth or germination.
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l)) Problem solving (Sc1 2a 2c) • Communication (Sc1) 	

Science Year 5 Area 3

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 3a Some children will not have made so much progress & will:</p> <p>NC 4c Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 4b The AA/AA+children will have progressed further & will also:</p>	<p>Changing State</p> <ul style="list-style-type: none"> • describe how to change water into ice & steam & steam into water • describe a few examples where these changes occur • recognise patterns in data. <ul style="list-style-type: none"> • name & describe examples of the main processes associated with water changing state • recognise that these processes can be reversed • explain the water cycle in terms of these processes • use patterns in data to make predictions. <ul style="list-style-type: none"> • explain how changing conditions affect processes such as evaporation & condensation • give reasons for predictions made using patterns in data.
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Creative thinking (Sc1 1a 2h) Application of number (Sc1 2b 2f 2g 2h 2i 2j 2l) • Communication (Sc1) 	

Science Year 5 Area 4

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 3a Some children will not have made so much progress & will:</p> <p>NC 4c Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 4b The AA/AA+children will have progressed further & will also:</p>	<p>Earth, Sun and Moon</p> <ul style="list-style-type: none"> • recognise that the Earth, Sun & Moon are spherical • describe how shadows change as the Sun appears to move across the sky. <ul style="list-style-type: none"> • recognise that the Earth, Sun & Moon are spherical & support this with some evidence • explain in terms of the rotation of the Earth why shadows change & the Sun appears to move across the sky during the course of the day • recognise that it is daylight in the part of the Earth facing the Sun • recognise that the Moon orbits the Earth • identify patterns in secondary data about sunrise/sunset. <ul style="list-style-type: none"> • explain that the changes in the appearance of the Moon over a period of 28 days arise from the Moon orbiting the Earth once every 28 days • independently represent times of sunrise/sunset in graphs.
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Application of number (Sc1 2b 2f 2g 2h 2i 2j 2l) Creative thinking (Sc1 1a 2h) • Communication (Sc1) 	

Science Year 5 Area 5

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 3a Some children will not have made so much progress & will:</p> <p>NC 4c Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 4b The AA/AA+children will have progressed further & will also:</p>	<p>Changing Sounds</p> <ul style="list-style-type: none"> • Know that sound travels away from sources, becoming fainter the further it travels. • Understand that we hear sound because vibrations travel through the air. • Understand that echoes occur when sound waves bounce off solid objects. • Generalise that sounds are produced when objects vibrate • Suggest how to change the pitch & loudness of the sounds produced by a range of musical instruments. • Describe ways in which the pitch of a sound made by a particular instrument or vibrating object can be raised or lowered • identify what is vibrating in a range of musical instruments. • Know that sound travels through a variety of materials(glass, water, wood) <p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Application of number (Sc1 2b 2f 2g 2h 2i 2j 2l) • Communication (Sc1)
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Science Year 6 Area 1	
<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 3a Some children will not have made so much progress & will:</p> <p>NC 4a Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 5a The AA/AA+children will have progressed further & will also:</p>	<p>Interdependence and adaptation</p> <ul style="list-style-type: none"> recognise that a green plant needs light & water to grow well, that different animals & plants live in different habitats recognise that some animals feed on other animals & some on plants use keys to identify some animals & plants. <ul style="list-style-type: none"> recognise that a green plant needs light & water to grow well & that it produces new material from air & water describe how animals in two habitats are suited to the conditions represent feeding relationships in food chains beginning with a green plant & use keys to identify animals & plants. <ul style="list-style-type: none"> recognise that green plants are the source of food for all animals & that they produce a material for new growth from air & water in the presence of light.
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Communication (Sc1) 	

Science Year 6 Area 2	
<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 3a Some children will not have made so much progress & will:</p> <p>NC 4a Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 5a The AA/AA+children will have progressed further & will also:</p>	<p>Micro organisms</p> <ul style="list-style-type: none"> recognise that very small things can cause illness. <ul style="list-style-type: none"> recognise that there are many very small organisms which can cause illness or decay or which can be used in food production recognise that these micro-organisms feed, grow & reproduce like other organisms. <ul style="list-style-type: none"> describe evidence that yeast is living explain how micro-organisms can move from one food source to another & how this can cause food poisoning.
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Communication (Sc1) 	

Science Year 6 Area 3

Outcomes & Assessment Judgement Based from Level Descriptors

NC 3a/4c

Some children will not have made so much progress & will:

NC 4a/5c

Age related expectation we need to be delivering at, the majority of children will:

NC 5b/5a

The AA/AA+children will have progressed further & will also:

Materials

- recognise that a solid can be recovered from a solution by evaporation
- with help, investigate an aspect of dissolving & present results in a suitable table.
- use careful observations to describe a number of changes & identify whether some changes are reversible or not.

- recognise that solids remain in the solution when they dissolve & can be recovered by evaporation
- identify several factors that affect the rate at which a solid dissolves
- investigate an aspect of dissolving, presenting results obtained in a suitable graph & explain what the results show.
- use careful observations to decide a number of changes
- classify some changes e.g. dissolving as reversible and others e.g. burning, as irreversible
- recognise that irreversible changes often make new & useful materials & recognise the hazards of burning materials.

- explain why it is important to repeat measurements & how to deal with repeated results when drawing a graph.

- explain that in some cases the new materials made are gases & identify some evidence, e.g. vigorous bubbling for the production of gases.

Key Skills to be delivered during the coverage above

- Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Application of number (Sc1 2b 2f 2g 2h 2i 2j 2l) Creative thinking (Sc1 1a 2h)
- **Communication (Sc1)**

Science Year 6 Area 4

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 3a/4c Some children will not have made so much progress & will:</p> <p>NC 4a Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 5c The AA/AA+children will have progressed further & will also:</p>	<p>Forces</p> <p>identify that weight is a force & it is measured in Newton's; describe some situations in which there is more than one force acting on an object; draw diagrams to illustrate forces acting on an object; use a force meter accurately to measure forces; present measurements in simple line graphs & identify patterns in these & evaluate explanations.</p> <p>identify weight as a force; recognise that more than one force can act on an object; measure forces using a force meter & present measurements in tables.</p> <p>describe and explain the motion of some familiar objects in terms of several forces acting on them.</p>
	<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Application of number (Sc1 2b 2f 2g 2h 2i 2j 2l) Creative thinking (Sc1 1a 2h) • Communication (Sc1)

Science Year 6 Area 5

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 4c Some children will not have made so much progress & will:</p> <p>NC 4a Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 5a The AA/AA+children will have progressed further & will also:</p>	<p>Changing Circuits</p> <ul style="list-style-type: none"> • recognise conventional symbols for some electrical components • construct some working circuits with specified components. • suggest ways of changing the brightness of a bulb in a circuit • draw circuits from diagrams using conventional symbols • set up a circuit which can be used to investigate an idea • use knowledge about electrical conductors & insulators to answer questions about circuits. • Interpret more complex circuit diagrams • describe the difference between wires usually used for circuits and fuse wires.
	<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l) Creative thinking (Sc1 1a 2h) • Communication (Sc1)

Science Year 6 Area 6

<p>Outcomes & Assessment Judgement Based from Level Descriptors</p> <p>NC 4a Some children will not have made so much progress & will:</p> <p>NC 5b Age related expectation we need to be delivering at, the majority of children will:</p> <p>NC 5a The AA/AA+children will have progressed further & will also:</p>	<p>Light and seeing</p> <ul style="list-style-type: none"> • recognise that when light is blocked, a shadow is formed, • recognise that reflections can be seen in shiny surfaces • make measurements and present these in tables. <ul style="list-style-type: none"> • recognise that light travels from a source • recognise that when it is blocked, a shadow is formed & when it hits a shiny surface, it is reflected • recognise that light sources are seen when light from them enters the eyes • make careful measurements of shadows & represent these in a line graph. <ul style="list-style-type: none"> • explain the differences between shadow formation & reflection in terms of the path of light.
<p>Key Skills to be delivered during the coverage above</p> <ul style="list-style-type: none"> • Information processing (Sc1 2b 2f 2h 2i 2j 2l) Reasoning (Sc1 2c 2e 2g 2i 2k 2l) Enquiry (Sc1 1b 2a 2c 2d) Evaluation (Sc1 2g 2h 2k 2l)) Application of number (Sc1 2b 2f 2g 2h 2i 2j 2l) Creative thinking (Sc1 1a 2h) • Communication (Sc1) 	