

Curriculum plan 2020-1: primary science

1. Overview

1. Coherence and flexibility

We strive to support schools by giving them an online learning offer that can be flexible to fit alongside their existing curriculum. We need to balance this together with coherence as complete flexibility would imply only standalone lessons where none can build upon any other. In striking this balance, we will lean towards giving the maximum flexibility possible (where this does not compromise coherence - see point 3 below for further clarification). All units will have revision lessons at the end to consolidate knowledge, which can be standalone if that topic has been taught, and where disciplinary knowledge is woven into the units there will be reminders of previously used scaffolds and prompts used previously.

2. Subjects first

The science curriculum is structured into biology, chemistry and physics units, with working scientifically skills taught in context throughout. In terms of science's relationship and overlap with other subjects (e.g. geography and maths), we will not be able to create cross-curricular coherence as the units can be taught in multiple orders. Therefore, cross curricular topics, (such as Earth science) will not cohere with other subjects (eg geography).

3. Knowledge organisation

The units in the science curriculum are sequenced into years for Key Stages 1, 2 and 3. In Key Stage 4, they are sequenced according to the AQA specification (with two exceptions, P3 Particles and B7 Ecology). Schools can reorder this suggested sequence to suit their own circumstances, but they should take into account that any hierarchical knowledge will be reflected in the sequencing. We have aimed to reflect agreed progression in knowledge in the structure of our year on year sequencing. In most circumstances the units within a given year can be sequenced flexibly, but there is an assumption in the creation of the units that knowledge in any given year is building on units from previous years (ie that units in year 5 are planned with assumption that units in year 4 have been taught). As stated above, the substantive knowledge (ie the science content) will be taught in units, and the disciplinary knowledge (ie working scientifically) is taught in context. Hierarchical elements of working scientifically will be reflected in the units and therefore this will be built up accordingly. While this will take account of prior knowledge assumptions from the previous key stage, or units, there will also be reminders of prompts and scaffolds to help students.

4. Knowledge selection

We are seeking to support schools to deliver the National Curriculum to children who cannot attend school. Our choice of what to teach will primarily be guided by the content specified in the National Curriculum, but we have also chosen to broaden this to increase challenge and build aspiration (eg include more physics at KS1 and 2, introduce some KS4 concepts in KS3).

1. Inclusive and ambitious

We want Oak to be able to support all children. Our units will be pitched so that children with different starting points can access them. Students need to have a large amount of

subject knowledge stored in their long-term memory in order to become competent at any subject, and this is especially true of science, where application is often an application of knowledge. For this reason, these lessons are designed to teach science in a clear and deliberate fashion, emphasising secure content knowledge before moving onto tasks. In this approach the teacher is the subject expert and the emphasis is on instruction and explanation, followed by deliberate practice supported by modelling, guided practice and scaffolding.

1. Pupil engagement

We need pupils to be thinking during science lessons - both to engage with the subject and to strengthen memory of what is being learnt. Our lessons will not be video lectures. We seek to exercise pupils' minds throughout their lessons (based on the principles described in point 5 above). This will involve questions and tasks throughout instruction, just as we would with classroom teaching.

1. Motivation through learning

Like all teachers, we recognise that good presentation helps pupils keep participating in our lessons. However, we are teachers, and not entertainers. We seek to motivate children through our subjects. We believe that what we teach is inherently interesting, and that the joy of learning is our primary motivator. In science, we will provide opportunities where possible for students to engage in home experimentation. We will begin each unit with a summary of the relevant careers for that unit, including those outside of science itself. Units will also include short case studies of work by current and past scientists that reflect the diversity of backgrounds of our children. Finally, we will try to be explicit about the real-life relevance of each unit so that it is clear why *this* knowledge is important.

1. A curriculum of quality

We will judge the quality of our curriculum by its:

- a) Scope - is it appropriately broad, whilst also covering a high proportion of schools' existing curricula?
- b) Coherence - does it come together as a whole to develop a schema of understanding in pupils?
- c) Sequencing - do the lessons within units build on prior learning?
- d) Rigour - are the tasks and learning of an ambitious enough level

2. Subject structure overview

Key stage	Unit title:	Length of unit:	Prior knowledge required:	Working scientifically:
KS1	Materials	6 lessons	None	<ul style="list-style-type: none"> - Asking questions - Performing tests - Observing and measuring - Gathering and recording data - Identifying and classifying
KS1	Building things	6 lessons	<ul style="list-style-type: none"> - distinguish between an object and the material from which it is made - identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock - describe the simple physical properties of a variety of everyday materials (All covered in 'Materials' unit)	<ul style="list-style-type: none"> - Asking questions - Observing and measuring - Gathering and recording data - Identifying and classifying
KS1	Changing materials	6 lessons	<ul style="list-style-type: none"> - identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock - describe the simple physical properties of a variety of everyday materials (All covered in 'Materials' unit)	<ul style="list-style-type: none"> - Asking questions - Performing tests - Observing and measuring - Gathering and recording data - Identifying and classifying
KS1	Mixing and making	6 lessons	<ul style="list-style-type: none"> - describe the simple physical properties of a variety of everyday materials (Covered in 'Materials' unit)	<ul style="list-style-type: none"> - Asking questions - Observing and measuring - Gathering and recording data - Identifying and classifying
KS1	Plants	6 lessons	None	<ul style="list-style-type: none"> - Performing tests - Observing and measuring - Gathering and recording data - Identifying and classifying

KS1	The animal kingdom	6 lessons	None	- Identifying and classifying
KS1	Human lifestyle	6 lessons	None	- Performing tests - Using equipment - Observing and measuring - Gathering and recording data
KS1	Habitats	6 lessons	- identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals (covered in 'The Animal Kingdom' unit)	- Identifying and classifying
KS1	Seasons and change	6 lessons	None	- Observing and measuring - Using equipment - Gathering and recording data
KS1	Space	6 lessons	None	
KS1	Sound	6 lessons	None	- Observing and measuring - Using equipment
KS1	Extraordinary scientists	6 lessons	None	

KS2	Practical skills	6 lessons	None	- Performing tests - Using equipment - Observing and measuring - Gathering and recording data - Reporting, presenting and communicating data/findings
KS2	Raw and synthetic materials	6 lessons	- distinguish between an object and the material from which it is made - identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock - describe the simple physical properties of a variety of everyday materials	- Identifying and classifying - Reporting, presenting and communicating data/findings

KS2	States of matter	6 lessons	None	<ul style="list-style-type: none"> -Observing and measuring -Identifying and classifying -Gathering and recording data
KS2	Rock cycle	6 lessons	<ul style="list-style-type: none"> - Recognising solids, liquids and gases - Changes of state 	<ul style="list-style-type: none"> - Identifying and classifying
KS2	Separating mixtures	6 lessons	<ul style="list-style-type: none"> - States of matter 	<ul style="list-style-type: none"> - Reporting, presenting and communicating data/findings
KS2	Physical and chemical changes	6 lessons	<ul style="list-style-type: none"> - States of matter 	<ul style="list-style-type: none"> - Planning and setting up different types of enquiries - Observing and measuring - Gathering and recording data - Reporting, presenting and communicating data/findings
KS2	Particles in physical and chemical changes	6 lessons	<ul style="list-style-type: none"> - States of matter 	<ul style="list-style-type: none"> Performing tests Observing and measuring
KS2	Sustainability	6 lessons	<ul style="list-style-type: none"> - identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock - describe the simple physical properties of a variety of everyday materials 	<ul style="list-style-type: none"> - Identifying and classifying - Reporting, presenting and communicating data/findings
KS2	Plants	6 lessons	None	<ul style="list-style-type: none"> - Asking questions - Performing tests - Observing and measuring - Gathering and recording data - Reporting, presenting and communicating data/findings
	Adaptations	6 lessons	<ul style="list-style-type: none"> - know a variety of common animals including fish, amphibians, reptiles, birds and mammals 	<ul style="list-style-type: none"> - Identifying and classifying

			<ul style="list-style-type: none"> - describe the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals) - identify and describe the basic structure of a variety of common flowering plants, including trees. 	
KS2	Ecosystems	6 lessons	<ul style="list-style-type: none"> - the basic needs of animals, and plants 	<ul style="list-style-type: none"> - Asking questions - Identifying and classifying
KS2	Human anatomy	6 lessons	None	<ul style="list-style-type: none"> - Identifying and classifying
KS2	Reproductive cycles	6 Lessons		<ul style="list-style-type: none"> - Identifying and classifying
KS2	Humans and animals over time	6 lessons	<ul style="list-style-type: none"> - Rock cycle 	
KS2	Diet and lifestyle	6 lessons	<ul style="list-style-type: none"> - Human anatomy 	tbc
KS2	Light & dark	6 lessons	None	<ul style="list-style-type: none"> - Observing and measuring - Using equipment - Identifying and classifying
	Magnetism	6 lessons	<ul style="list-style-type: none"> - identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock - describe the simple physical properties of a variety of everyday materials 	tbc
KS2	Electrical circuits	6 lessons	None	<ul style="list-style-type: none"> - Planning and setting up different types of enquiries - Using equipment - Gathering and recording data - Observing and measuring - Identifying and classifying
KS2	Sound	6 lessons	<ul style="list-style-type: none"> - 5 senses 	<ul style="list-style-type: none"> - Asking questions - Performing tests

				- Observing and measuring - Identifying and classifying - Gathering and recording data
KS2	Forces	6 lessons	None	tbc
	Space	6 lessons	- Understanding of light and darkness and gravity	
	Light	6 lessons	None	- Performing tests - Gathering and recording data - Observing and measuring - Identifying and classifying
KS2	History of science	6 lessons	None required but will build on learning of electricity, materials, human anatomy and space.	- How scientific ideas and evidence change over time
KS2	Notable scientists	6 lessons	None	

3. Suggested sequence

For key stage 1 we have tried wherever possible to make units that could be taught as standalone units to provide ultimate flexibility. For the majority of units in KS1 there is no prior knowledge required. Where prior knowledge is required it will never be assumed in the lessons and will always be recapped. For this reason, the units could be taught in any order with a few exceptions. We would recommend that the 'Materials' unit precede the 'Building things', 'Changing materials' or 'Mixing and Making' units. We would recommend that the units 'Plants' and 'The animal kingdom' precede 'Habitats'.

For key stage 2 we have also tried to provide ultimate flexibility. However, there are more sequencing constraints in this key stage. We acknowledge that the majority of schools would normally be following the National Curriculum but that curriculum plans for this year may look different to previous years due to potential missed content in 2019/2020. As an example, the 'Plants' unit would align with Year 3 on the National curriculum, but it might be more appropriate for some schools in 2020/21 to teach this in Year 4 if they think these students may have missed out on this learning in 2019/20. We understand that each school's science curriculum needs could be quite unique this year and so we have designed units that could be used for multiple year groups. Wherever possible we have tried to assume no prior knowledge but in units where this is not possible (see table in previous section which details where prior knowledge is required) we will make sure that this knowledge is recapped. The suggested sequence in the table below is just one of many options that schools could consider.

Key stage 2 sequencing suggestions:

- We would advise that the 'States of matter' unit taught before 'separating mixtures', 'Physical and chemical changes' and 'Particles in physical and chemical changes'.
- We have suggested 'Rock cycle' is taught in Y4 after the 'States of matter' as there are lots of references to changes of state in this unit.
- We would advise that 'Light & dark' and 'Forces' is taught before Space.
- We would advise that 'Plants' is taught before 'Ecosystems' and 'Adaptations'.
- 'Notable scientists' could be taught in any year group.
- 'History of Science' is a unit that could be placed flexibly but it covers ideas taught in 'Space', 'Raw and synthetic materials', 'Electricity' and 'Human anatomy'. While the lessons will be accessible without the learning from these units it would be better suited for UKS2 as it will provide learning from these units to be consolidated.
- The 'Electrical circuits' unit is in Y4 but can also be used for Y6 as it includes all of the statutory requirements of electricity on the Y6 National Curriculum.
- The 'Practical skills' unit could be taught in any year group. It goes through each stage of conducting a scientific investigation and writing a report of the investigation.

Year group	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
1	Materials	Building things	Animal kingdom	Plants	Seasons and change	Sound
2	Changing materials	Mixing and making	Human lifestyle	Habitats	Space	Extraordinary scientists
3	Practical skills	Raw and synthetic materials	Plants	Adaptations	Light & dark	Magnetism
4	States of matter	Rock cycle	Human anatomy	Ecosystems	Electrical circuits	Sound
5	Separating mixtures	Physical and chemical changes	Reproductive cycles	Notable scientists	Forces	Space
6	Particles in physical and chemical changes	Sustainability	Humans and animals over time	Diet and lifestyle	Light	History of science

4. Unit specifics

Materials, KS1

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: <i>What is a material?</i> Identifying different materials: wood, wool, plastic, glass, metal & paper 	<ul style="list-style-type: none"> distinguish between an object and the material from which it is made identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock describe the simple physical properties of a variety of everyday materials compare and group together a variety of everyday materials on the basis of their simple physical properties.
2	<ul style="list-style-type: none"> Lesson question: <i>What are objects made from?</i> Identifying the materials used to make different objects 	
3	<ul style="list-style-type: none"> Lesson question: <i>How can I describe a material?</i> Using different properties of materials to describe them e.g. hard, soft, rough, smooth, shiny, heavy, transparent 	
4	<ul style="list-style-type: none"> Lesson question: <i>Which materials float and sink?</i> Predicting whether materials will float or sink based on how heavy they are Testing whether different materials float or sink 	
5	<ul style="list-style-type: none"> Lesson question: <i>Which materials are waterproof?</i> Testing whether materials are absorbent or waterproof 	
6	<ul style="list-style-type: none"> Lesson question: <i>Which material is best for different objects?</i> Choosing the best material based on properties for different uses 	

Building things, KS1

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: <i>Which materials are waterproof?</i> Deciding the best material to build with based on waterproofness 	<ul style="list-style-type: none"> distinguish between an object and the material from which it is made identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock describe the simple physical properties of a variety of everyday materials
2	<ul style="list-style-type: none"> Lesson question: <i>What material could I use to build a wall?</i> Designing a wall Planning an experiment to test waterproofness 	
3	<ul style="list-style-type: none"> Lesson question: <i>Is the wall I've built waterproof?</i> Building a wall and testing the waterproofness 	
4	<ul style="list-style-type: none"> Lesson question: <i>Which materials can withstand strong winds?</i> Designing a wall Planning an experiment to test ability to withstand strong wind 	
5	<ul style="list-style-type: none"> Lesson question: <i>Will the wall I've built withstand strong winds?</i> Building a wall and testing the strength 	
6	<ul style="list-style-type: none"> Lesson question: <i>What is a mixture?</i> Learning about combining/mixing materials to make stronger materials 	

The animal kingdom, KS1

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: <i>What is a living thing?</i> 	<ul style="list-style-type: none"> identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals identify and name a variety of common animals that are carnivores, herbivores and omnivores describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)
2	<ul style="list-style-type: none"> Lesson question: <i>What is the difference between an invertebrate and a vertebrate?</i> 	
3	<ul style="list-style-type: none"> Lesson question: <i>Which animal families are invertebrates?</i> 	
4	<ul style="list-style-type: none"> Lesson question: <i>Which animal families are vertebrates?</i> 	
5	<ul style="list-style-type: none"> Lesson question: <i>What are mammals?</i> 	
6	<ul style="list-style-type: none"> Lesson question: <i>What types of food do living things eat?</i> 	

Plants, KS1

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: <i>How do I plant a bean?</i> Planting a bean and setting up an investigation into what plants need to survive 	<ul style="list-style-type: none"> identify and name a variety of common wild and garden plants, including deciduous and evergreen trees identify and describe the basic structure of a variety of common flowering plants, including trees. observe and describe how seeds and bulbs grow into mature plants find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.
2	<ul style="list-style-type: none"> Lesson question: <i>What types of plants grow in the wild?</i> Identifying wildflowers Understanding importance of wildflowers 	
3	<ul style="list-style-type: none"> Lesson question: <i>What is the difference between deciduous and evergreen trees?</i> Differences between deciduous and evergreen trees Identifying common trees from their leaves 	
4	<ul style="list-style-type: none"> Lesson question: <i>What are the parts of trees and plants called?</i> Parts of a tree: trunk, leaves, fruit, branches, roots Parts of a plant: seeds, flower, buds, leaves, stem, roots 	
5	<ul style="list-style-type: none"> Lesson question: <i>What changes occur in the life of a tomato plant?</i> Stages of growth Planting seeds Root vegetables 	
6	<ul style="list-style-type: none"> Lesson question: <i>What changes have occurred to my bean plant?</i> Recording changes to bean plant including drawing a diagram and measuring with a ruler 	

Seasons and change, KS1

Lesson number	Core content	National curriculum links
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1	<ul style="list-style-type: none"> Lesson question: What do we know about the weather? 	<ul style="list-style-type: none"> observe changes across the four seasons observe and describe weather associated with the seasons and how day length varies.
2	<ul style="list-style-type: none"> Lesson question: How does the weather change across seasons? 	
3	<ul style="list-style-type: none"> Lesson question: How do trees change across seasons? 	
4	<ul style="list-style-type: none"> Lesson question: How can you measure rainfall? 	
5	<ul style="list-style-type: none"> Lesson question: What is hibernation? 	
6	<ul style="list-style-type: none"> Lesson question: How can we record wind direction? 	

Sounds, KS1

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: What are the 5 senses? 	<ul style="list-style-type: none"> identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.
2	<ul style="list-style-type: none"> Lesson question: What is sound? 	
3	<ul style="list-style-type: none"> Lesson question: How do we hear? 	
4	<ul style="list-style-type: none"> Lesson question: How do we look after our ears? 	
5	<ul style="list-style-type: none"> Lesson question: How can we describe the pitch of sounds? 	
6	<ul style="list-style-type: none"> Lesson question: How can we make and describe different sounds? 	

Changing materials, KS1

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: Which material should I use? Common materials and their properties Matching materials to uses based on their properties 	<ul style="list-style-type: none"> identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.
2	<ul style="list-style-type: none"> Lesson question: How can the shape of solid objects be changed? Solid objects Squashing, bending, twisting, stretching Testing different materials 	
3	<ul style="list-style-type: none"> Lesson question: Which fabric is the stretchiest? Testing the elasticity of different fabrics 	
4	<ul style="list-style-type: none"> Lesson question: Are hard materials absorbent? Testing whether a variety of materials used are absorbent 	
5	<ul style="list-style-type: none"> Lesson question: How do humans change raw materials? Raw vs synthetic materials (Natural vs manmade) Sorting materials 	
6	<ul style="list-style-type: none"> Lesson question: Why do we change materials? 	

	<ul style="list-style-type: none"> Comparing the properties of raw vs synthetic materials Material scientists 	
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Mixing and making, KS1

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> <i>Lesson question: What are the differences between solids, liquids and gases?</i> 	<ul style="list-style-type: none"> identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.
2	<ul style="list-style-type: none"> <i>Lesson question: What happens when you heat a solid?</i> 	
3	<ul style="list-style-type: none"> <i>Lesson question: Which mixture makes the best bubbles?</i> 	
4	<ul style="list-style-type: none"> <i>Lesson question: What happens when I mix a solid and liquid together?</i> Insoluble and soluble solids 	
5	<ul style="list-style-type: none"> <i>Lesson question: How can I separate a mixture?</i> 	
6	<ul style="list-style-type: none"> <i>Lesson question: Are there some changes that we can't reverse?</i> 	

Human lifestyle, KS1

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> <i>Lesson question: What are the different parts of the human body?</i> 	<ul style="list-style-type: none"> notice that animals, including humans, have offspring which grow into adults find out about and describe the basic needs of animals, including humans, for survival (water, food and air) describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.
2	<ul style="list-style-type: none"> <i>Lesson question: Why is exercise so important?</i> 	
3	<ul style="list-style-type: none"> <i>Lesson question: What is a healthy diet?</i> 	
4	<ul style="list-style-type: none"> <i>Lesson question: How do our bodies change as we get older?</i> 	
5	<ul style="list-style-type: none"> <i>Lesson question: Why is it important to be hygienic?</i> 	
6	<ul style="list-style-type: none"> <i>Lesson question: Who's job is it to keep people healthy?</i> 	

Habitats, KS1

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> <i>Lesson question: What are the characteristics of living things?</i> 	<ul style="list-style-type: none"> find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
2	<ul style="list-style-type: none"> <i>Lesson question: What is a habitat?</i> 	

	<ul style="list-style-type: none"> Simple food chains 	<ul style="list-style-type: none"> explore and compare the differences between things that are living, dead, and things that have never been alive identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other identify and name a variety of plants and animals in their habitats, including micro-habitats describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.
3	<ul style="list-style-type: none"> <i>Lesson question: What is a microhabitat?</i> Woodland habitats Microhabitats in woodlands 	
4	<ul style="list-style-type: none"> <i>Lesson question: What lives in a desert habitat?</i> 	
5	<ul style="list-style-type: none"> <i>Lesson question: What lives in a rainforest habitat?</i> 	
6	<ul style="list-style-type: none"> <i>Lesson question: Can a city be a habitat?</i> 	

Space, KS1

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> <i>Lesson question: What is space?</i> Defining space How we learn about space Things found in space: planets, sun, moon, stars 	For working scientifically links see: 2. Subject structure overview
2	<ul style="list-style-type: none"> <i>Lesson question: What are the planets in our solar system?</i> Order of planets in solar system Facts about planets in the solar system 	
3	<ul style="list-style-type: none"> <i>Lesson question: How does the Earth orbit and rotate?</i> Earth's rotation, orbit and tilt (why we have seasons and day and night) 	
4	<ul style="list-style-type: none"> <i>Lesson question: What are constellations?</i> Stars and famous constellations Drawing constellations 	
5	<ul style="list-style-type: none"> <i>Lesson question: When and how was space discovered?</i> History of space discovery Famous astronauts 	
6	<ul style="list-style-type: none"> <i>Lesson question: What kind of scientists study space?</i> Different jobs in space 	

Notable scientists, KS1

Lesson number	Core content	National curriculum links
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1	• Lesson question:	
2	• Lesson question:	
3	• Lesson question:	
4	• Lesson question:	
5	• Lesson question:	
6	• Lesson question:	

Practical skills, KS2

Lesson number	Core content	National curriculum links
1	• Lesson question: What is a variable?	• recognise that soils are made from rocks and organic matter.
2	• Lesson question: Why is a method important?	
3	• Lesson question: How do you draw a scientific diagram?	
4	• Lesson question: What can we do with the data we collect?	
5	• Lesson question: How can we communicate our results?	
6	• Lesson question: How can we record an entire investigation?	

Raw and synthetic materials, KS2

Lesson number	Core content	National curriculum links
1	Lesson question: What is a raw material? • Explain what a raw material is. • Sort raw materials based on where they come from. • Describe the uses of some raw materials.	
2	Lesson question: What is a synthetic material? • Explain what a synthetic material is. • Sort materials into synthetic and raw materials. • Describe the uses of some synthetic materials.	
3	Lesson question: How are synthetic materials made from raw materials? • Explain that raw materials change properties when made into synthetic materials. • Describe how glass is made from sand. • Describe how the properties of sand change to the properties of glass.	
4	Lesson question: How is paper made? • Describe how paper is made from wood. • Describe a range of uses of paper. • Explain why it is a good thing to recycle paper.	
5	Lesson question: What is recycling and why is it important? • Describe what the process of recycling involves. • Explain making synthetic materials takes energy.	

	<ul style="list-style-type: none"> ● Explain the negative impact of using raw materials. 	
6	<p><i>Lesson question: What does it mean to live sustainably?</i></p> <ul style="list-style-type: none"> ● State what sustainably means. ● Describe ways to live sustainably. ● Explain some difficulties with living sustainably. 	

Light & dark, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> ● <i>Lesson question: What is light?</i> ● Definitions of light and dark ● Identifying different light sources 	
2	<ul style="list-style-type: none"> ● <i>Lesson question: How can we see objects?</i> ● Steps for how we see 	
3	<ul style="list-style-type: none"> ● <i>Lesson question: What is the difference between night and day?</i> ● Earth rotating on an axis ● How position of sun and Earth create night and day 	
4	<ul style="list-style-type: none"> ● <i>Lesson question: Which materials are reflective?</i> ● What happens to light when it's reflected ● Differences between reflective and non-reflective materials ● Testing/sorting reflective and non-reflective materials 	
5	<ul style="list-style-type: none"> ● <i>Lesson question: How are shadows formed?</i> ● Transparent vs opaque objects ● Making shadows 	
6	<ul style="list-style-type: none"> ● <i>Lesson question: How can you change the size of a shadow?</i> ● Making a shadow puppet theatre ● Exploring how to change the size of a shadow by moving it further from/closer to the light source 	

Sound, KS2

Lesson number	Core content	National curriculum links
1	<p><i>Lesson question: What is sound?</i></p> <ul style="list-style-type: none"> ● Describe what sound waves are ● Describe how we see sounds ● Explain how we can stop sound 	<ul style="list-style-type: none"> ● identify how sounds are made, associating some of them with something vibrating ● recognise that vibrations from sounds travel
2	<p><i>Lesson question: How are different sounds produced?</i></p> <ul style="list-style-type: none"> ● Describe how sounds are produced ● Describe ways that different sounds can be made ● Make your own instrument 	

3	<p><i>Lesson question: What are pitch and frequency?</i></p> <ul style="list-style-type: none"> Describe what the pitch of a sound is Describe ways to change the pitch of a sound Give example of objects that produce high and low pitch sounds 	<p>through a medium to the ear</p> <ul style="list-style-type: none"> find patterns between the pitch of a sound and features of the object that produced it find patterns between the volume of a sound and the strength of the vibrations that produced it recognise that sounds get fainter as the distance from the sound source increases.
4	<p><i>Lesson question: What do we mean by amplitude of sound?</i></p> <ul style="list-style-type: none"> Describe what we mean by the amplitude of sound Describe how to change the amplitude of a sound Give examples of high amplitude and low amplitude sound 	
5	<p><i>Lesson question: How do scientists design objects that use sound?</i></p> <ul style="list-style-type: none"> Explain what the science of acoustics involves Describe how scientists dampen noise that is not wanted Describe how engineers build venues to improve sound quality 	
6	<p><i>Lesson question: What are some of the uses of sound?</i></p> <ul style="list-style-type: none"> Explain how a string telephone works Describe how loudspeakers and microphones work 	

Forces, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> <i>Lesson question: What are forces?</i> 	<ul style="list-style-type: none"> 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.
2	<ul style="list-style-type: none"> <i>Lesson question: How can we measure the size of forces?</i> 	
3	<ul style="list-style-type: none"> <i>Lesson question: What are contact forces?</i> 	
4	<ul style="list-style-type: none"> <i>Lesson question: What are non-contact forces?</i> 	
5	<ul style="list-style-type: none"> <i>Lesson question: What factors affect an object's ability to float?</i> 	
6	<ul style="list-style-type: none"> <i>Lesson question: What impact to gears, levers and pulleys have on forces?</i> 	

Plants, KS2

Lesson number	Core content	National curriculum links
1	<p><i>Lesson question: What conditions could we change to investigate the growth of a plant?</i></p> <ul style="list-style-type: none"> The 3 main types of variables What a plant needs to survive 	<ul style="list-style-type: none"> identify and describe the functions of different parts of flowering plants:

	<ul style="list-style-type: none"> How to plan an investigation into the factors that affect plant growth 	roots, stem/trunk, leaves and flowers
2	<i>Lesson question: What happens to a plant's growth if we change the conditions it is in?</i> <ul style="list-style-type: none"> The main parts and functions of a plant How to draw a scientific diagram How to write a conclusion for an investigation 	<ul style="list-style-type: none"> 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.
3	<i>Lesson question: What happens to a plant's growth if we change the conditions it is in?</i> <ul style="list-style-type: none"> The main parts of a flower The functions of each of the main parts of a flower How to identify the parts on a real flower 	
4	<i>Lesson question: What are the parts of a plant's life cycle?</i> <ul style="list-style-type: none"> The parts of a flowering plant's life cycle The conditions required for germination Three ways in which seed dispersal takes place 	
5	<i>Lesson question: How does a plant transport water?</i> <ul style="list-style-type: none"> Describe what transpiration is The three main steps of water transport in plants How to prove that water moves up a plants stem 	
6	<i>Lesson question: How do plants adapt to different conditions?</i> <ul style="list-style-type: none"> What a plant adaptation is How plants adapt to extreme hot and cold How plants adapt to attract animals or keep them away 	

Ecosystems, KS2

Lesson number	Core content	National curriculum links
1	<i>Lesson question: What is an ecosystem?</i> <ul style="list-style-type: none"> Defining a habitat and ecosystem Different components in ecosystems 	<ul style="list-style-type: none"> 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 recognise that living things can be grouped in a variety of ways recognise that environments can change and that this can sometimes pose dangers to living things. construct and interpret a variety of food chains,
2	<i>Lesson question: How do we classify the diets of animals?</i> <ul style="list-style-type: none"> Carnivores, omnivores and herbivores 	
3	<i>Lesson question: Why are producers so important?</i> <ul style="list-style-type: none"> How plants make their own food and why they are important 	
4	<i>Lesson question: How do we construct a food chain?</i> <ul style="list-style-type: none"> Labelling and constructing food chains 	

	<ul style="list-style-type: none"> Showing energy transfer between organisms 	identifying producers, predators and prey.
5	<i>Lesson question: How do we construct a food web?</i> <ul style="list-style-type: none"> Showing energy transfer on food webs Drawing a food web 	
6	<i>Lesson question: What can cause disruptions to food webs?</i> <ul style="list-style-type: none"> How removing one organism can have knock-on effects Disruptions to food webs e.g. pesticides, deforestation, hunting 	

States of matter, KS2

Lesson number	Core content	National curriculum links
1	<i>Lesson question: What are the properties of solids, liquids and gases?</i> <ul style="list-style-type: none"> Describe what is meant by the property of a substance Name the properties of solids, liquids and gases Explain which state of matter a substance is in based on its properties 	<ul style="list-style-type: none"> compare and group materials together, according to whether they are solids, liquids or gases observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
2	<i>Lesson question: How do particles behave inside of solids, liquids and gases?</i> <ul style="list-style-type: none"> Describe what a particle is Describe how particles are arranged in solids, liquids and gases Explain how we know particles in liquids and gases are moving 	
3	<i>Lesson question: What happens when you heat or cool each state of matter?</i> <ul style="list-style-type: none"> Describe what happens to particles when a substance is heated or cooled Predict what happens to a solid, liquid or gas when it is heated or cooled Give the evidence to show that each state expands when heated and contracts when cooled 	
4	<i>Lesson question: What are changes of state and why do they take place?</i> <ul style="list-style-type: none"> Describe what happens to the arrangement of particles when a substance changes state Name each of the changes of state Give an example of each change in state 	
5	<i>Lesson question: How can we measure the melting points and boiling points of a substance?</i> <ul style="list-style-type: none"> Describe what is meant by melting point and boiling point Describe how it is possible to measure the melting point and boiling point of a substance 	

	<ul style="list-style-type: none"> Suggest which state of a matter a substance will be in given its temperature 	
6	<p><i>Lesson question: Which substances do not fit into one state of matter?</i></p> <ul style="list-style-type: none"> Give examples of substances that do not show typical properties of any state of matter Explain how some not show typical properties of one state of matter Describe what a non-Newtonian fluid is 	

Rock cycle, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> <i>Lesson question: How is igneous rock formed?</i> 	<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. explore and use classification keys to help group, identify and name
2	<ul style="list-style-type: none"> <i>Lesson question: How is metamorphic rock formed?</i> 	
3	<ul style="list-style-type: none"> <i>Lesson question: How is sedimentary rock formed?</i> 	
4	<ul style="list-style-type: none"> <i>Lesson question: How can we identify and classify different types of rock?</i> 	
5	<ul style="list-style-type: none"> <i>Lesson question: How do the rocks on our Earth's surface change?</i> 	
6	<ul style="list-style-type: none"> <i>Lesson question: What are the steps in the rock cycle?</i> 	

Light, KS2

Lesson number	Core content	National curriculum links
1	<p><i>Lesson question: What is light and where does it come from?</i></p> <ul style="list-style-type: none"> Definitions of light and dark Different light sources Testing transparent, translucent and opaque materials 	<ul style="list-style-type: none"> 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 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 find patterns in the way that the size of shadows change. recognise that light appears to travel in straight lines use the idea that light travels in straight lines to explain that objects are seen because they
2	<p><i>Lesson question: What is reflection and how can we use it?</i></p> <ul style="list-style-type: none"> What happens to light when it is reflected Different types of reflection Different uses of reflection 	
3	<p><i>Lesson question: What is refraction and how can we use it?</i></p> <ul style="list-style-type: none"> What happens to light when it refracts Identifying whether reflection or refraction has taken place 	
4	<p><i>Lesson question: How do we see light?</i></p>	

	<ul style="list-style-type: none"> Parts of the eye How glasses work 	<p>give out or reflect light into the eye</p>
5	<p><i>Lesson question: Where do different colours come from?</i></p> <ul style="list-style-type: none"> How white light is split into different colours Primary and secondary colours of light How a rainbow is made 	<ul style="list-style-type: none"> explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.
6	<p><i>Lesson question: What are some uses of light?</i></p> <ul style="list-style-type: none"> Building a shadow puppet theatre How a periscope works How different types of lenses work 	

Space, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> <i>Lesson question: What are solar and lunar eclipses?</i> 	<ul style="list-style-type: none"> 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.
2	<ul style="list-style-type: none"> <i>Lesson question: What is the solar system?</i> 	
3	<ul style="list-style-type: none"> <i>Lesson question: How do the planets in the solar system differ?</i> 	
4	<ul style="list-style-type: none"> <i>Lesson question: What are stars and star constellations?</i> 	
5	<ul style="list-style-type: none"> <i>Lesson question: What is the universe and what is it made from?</i> 	
6	<ul style="list-style-type: none"> <i>Lesson question: What do astronomers do?</i> 	

Adaptations, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> <i>Lesson question: What is an adaptation?</i> 	<ul style="list-style-type: none">
2	<ul style="list-style-type: none"> <i>Lesson question: How are organisms adapted to hot environments?</i> 	
3	<ul style="list-style-type: none"> <i>Lesson question: How are organisms adapted to cold environments?</i> 	
4	<ul style="list-style-type: none"> <i>Lesson question: What adaptations do nocturnal animals have?</i> 	
5	<ul style="list-style-type: none"> <i>Lesson question: How are organisms adapted to live underwater?</i> 	

6	<ul style="list-style-type: none"> Lesson question: How do adaptations compare across different environments? 	
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Human anatomy, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: What are organs and why do we need them? 	<ul style="list-style-type: none"> 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. describe the simple functions of the basic parts of the digestive system in humans identify the different types of teeth in humans and their simple functions describe the changes as humans develop to old age.
2	<ul style="list-style-type: none"> Lesson question: What are the major bones in the human body? 	
3	<ul style="list-style-type: none"> Lesson question: How does human anatomy compare to other animals? 	
4	<ul style="list-style-type: none"> Lesson question: Are all teeth the same? 	
5	<ul style="list-style-type: none"> Lesson question: How is oxygen transported around our bodies? 	
6	<ul style="list-style-type: none"> Lesson question: How do humans digest food? 	

Separating mixtures, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: What makes something pure? 	<ul style="list-style-type: none">
2	<ul style="list-style-type: none"> Lesson question: What makes something a mixture? 	
3	<ul style="list-style-type: none"> Lesson question: What is a formulation? 	
4	<ul style="list-style-type: none"> Lesson question: How can we separate mixtures into pure substances? 	
5	<ul style="list-style-type: none"> Lesson question: How can you separate a mixture of sand, salt and water? 	
6	<ul style="list-style-type: none"> Lesson question: How can we separate river water into separate parts? 	

Physical and chemical changes, KS2

Lesson number	Core content	National curriculum links
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1	<ul style="list-style-type: none"> Lesson question: What happens during a state change? 	<ul style="list-style-type: none">
2	<ul style="list-style-type: none"> Lesson question: What is a physical change and how can we identify them? 	
3	<ul style="list-style-type: none"> Lesson question: What is a chemical change and how can we identify them? 	
4	<ul style="list-style-type: none"> Lesson question: How do physical and chemical changes compare? 	
5	<ul style="list-style-type: none"> Lesson question: What can we do to investigate chemical reactions? 	
6	<ul style="list-style-type: none"> Lesson question: What happens when we place metals into acid? 	

Magnetism, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: What are non-contact forces? 	<ul style="list-style-type: none"> compare how things move on different surfaces notice that some forces need contact between two 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 two poles predict whether two magnets will attract or repel each other, depending on which poles are facing.
2	<ul style="list-style-type: none"> Lesson question: What are magnets? 	
3	<ul style="list-style-type: none"> Lesson question: How does a compass work? 	
4	<ul style="list-style-type: none"> Lesson question: How can we see a magnetic field? 	
5	<ul style="list-style-type: none"> Lesson question: How can we tell if a material is magnetic or not? 	
6	<ul style="list-style-type: none"> Lesson question: What are some uses of magnetic materials? 	

Electrical circuits, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: What is static electricity? 	<ul style="list-style-type: none"> identify common appliances that run on electricity construct a simple series electrical circuit, identifying and naming its basic parts,
2	<ul style="list-style-type: none"> Lesson question: What are the parts of an electrical circuit? 	
3	<ul style="list-style-type: none"> Lesson question: How can we build basic circuits 	

4	<ul style="list-style-type: none"> Lesson question: What are electrical insulators and conductors 	<p>including cells, wires, bulbs, switches and buzzers</p> <ul style="list-style-type: none"> identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit recognise some common conductors and insulators, and associate metals with being good conductors. associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches use recognised symbols when representing a simple circuit in a diagram.
5	<ul style="list-style-type: none"> Lesson question: What happens in a circuit when we change the components? 	
6	<ul style="list-style-type: none"> Lesson question: How much do we rely on electricity? 	

Notable scientists, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: Who is Katharine Johnson? 	<ul style="list-style-type: none">
2	<ul style="list-style-type: none"> Lesson question: Who is Alexander Graham Bell? 	
3	<ul style="list-style-type: none"> Lesson question: Who is Rachel Carson? 	
4	<ul style="list-style-type: none"> Lesson question: Who is George Washington Carver? 	
5	<ul style="list-style-type: none"> Lesson question: Who is Stephen Hawkins? 	
6	<ul style="list-style-type: none"> Lesson question: Who is Marie Curie? 	

Reproductive cycles, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: How can we classify different things? 	

2	<ul style="list-style-type: none"> Lesson question: <i>Why do plants have flowers?</i> 	<ul style="list-style-type: none"> 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. describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals give reasons for classifying plants and animals based on specific characteristics.
3	<ul style="list-style-type: none"> Lesson question: <i>How do you clone a potato?</i> 	
4	<ul style="list-style-type: none"> Lesson question: <i>How does the lifecycle of an insect compare to an amphibian?</i> 	
5	<ul style="list-style-type: none"> Lesson question: <i>Are the life cycles of all mammals the same?</i> 	
6	<ul style="list-style-type: none"> Lesson question: <i>Why do birds lay eggs?</i> 	

Particles in physical and chemical changes, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: <i>How do particles in solids, liquids and gasses behave?</i> 	<ul style="list-style-type: none">
2	<ul style="list-style-type: none"> Lesson question: <i>What do the particles in pure substances and mixtures look like?</i> 	
3	<ul style="list-style-type: none"> Lesson question: <i>What happens to particles during dissolving?</i> 	
4	<ul style="list-style-type: none"> Lesson question: <i>How can mixtures be separated?</i> 	
5	<ul style="list-style-type: none"> Lesson question: <i>How can we tell when a chemical reaction has taken place?</i> 	
6	<ul style="list-style-type: none"> Lesson question: <i>What happens to particles during burning?</i> 	

Sustainability, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: <i>What are everyday materials made from?</i> 	<ul style="list-style-type: none">
2	<ul style="list-style-type: none"> Lesson question: <i>Why is recycling important?</i> 	
3	<ul style="list-style-type: none"> Lesson question: <i>What is a Lifecycle assessment?</i> 	
4	<ul style="list-style-type: none"> Lesson question: <i>What happens when fuels are burnt?</i> 	
5	<ul style="list-style-type: none"> Lesson question: <i>What is global warming?</i> 	

6	<ul style="list-style-type: none"> Lesson question: What is climate change? 	
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History of science, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: How has humans use of materials changed over time? 	<ul style="list-style-type: none">
2	<ul style="list-style-type: none"> Lesson question: How did our understanding and use of electricity develop? 	
3	<ul style="list-style-type: none"> Lesson question: How has our understanding of the human body changed over time? 	
4	<ul style="list-style-type: none"> Lesson question: How has the discovery of DNA changed science? 	
5	<ul style="list-style-type: none"> Lesson question: What is the history of space discovery? 	
6	<ul style="list-style-type: none"> Lesson question: How have our ideas about the universe changed over time? 	

Cells, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: What is the difference between animals and plants? 	<ul style="list-style-type: none">
2	<ul style="list-style-type: none"> Lesson question: What are the main organ systems of the body? 	
3	<ul style="list-style-type: none"> Lesson question: What are organ systems, organs, tissues and cells? 	
4	<ul style="list-style-type: none"> Lesson question: What are animal cells? 	
5	<ul style="list-style-type: none"> Lesson question: What are plant cells? 	
6	<ul style="list-style-type: none"> Lesson question: What are specialised cells? 	

Humans and animals over time, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: What is the theory of evolution? 	<ul style="list-style-type: none"> describe in simple terms how fossils are formed when things that have lived are trapped within rock describe how living things are classified into broad groups according to common
2	<ul style="list-style-type: none"> Lesson question: How do fossils provide evidence for evolution? 	
3	<ul style="list-style-type: none"> Lesson question: How have different animal kingdoms developed over time? 	

4	<ul style="list-style-type: none"> Lesson question: Which types of organisms have lived over each era of time? 	<p>observable characteristics and based on similarities and differences, including micro-organisms, plants and animals</p> <ul style="list-style-type: none"> give reasons for classifying plants and animals based on specific characteristics. recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.
5	<ul style="list-style-type: none"> Lesson question: What impact have humans had on organisms over time? 	
6	<ul style="list-style-type: none"> Lesson question: What is the likely impact of humans on organisms in the future? 	

Diet and lifestyle, KS2

Lesson number	Core content	National curriculum links
1	<ul style="list-style-type: none"> Lesson question: What are the key parts of a healthy diet? 	<ul style="list-style-type: none"> identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function describe the ways in which nutrients and water are transported within animals, including humans.
2	<ul style="list-style-type: none"> Lesson question: What are the key parts of a healthy diet? 	
3	<ul style="list-style-type: none"> Lesson question: What effect does exercise have on the muscles? 	
4	<ul style="list-style-type: none"> Lesson question: What happens to the circulatory system during exercise? 	
5	<ul style="list-style-type: none"> Lesson question: What are medicinal drugs? 	
6	<ul style="list-style-type: none"> Lesson question: What are nicotine and alcohol? 	