Curriculum Objective Mapping

Science

SCIENCE

Aligned to the Key Stage 2 National Curriculum, our curriculum is organised into topics, subtopics and atoms, which you can navigate through the Syllabus Explorer in Atom Prime. This ensures that our learning product is overall both vertically and horizontally coherent for each year group.

This document provides guidance on where each National Curriculum learning objective is taught so you can ensure full curriculum coverage, appropriate differentiation and emphasis on long-term learning when planning.

National Curriculum for Science

National Curriculum Topic	National Curriculum Objective	Year Group	Topic	Subtopic	Atom
Plants	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.	3	Biology	Plants	Parts of Flowering Plants
Plants	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.	3	Biology	Plants	What Plants Need to Grow
Plants	Investigate the way in which water is transported within plants.	3	Biology	Plants	Parts of Flowering Plants
Plants	Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	3	Biology	Plants	The Life Cycle of Flowering Plants
Animals including Humans	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.	3	Biology	Animals Including Humans	Nutrition and Diet
Animals including Humans	Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	3	Biology	Animals Including Humans	The Human Body: Organs, muscles and skeleton
Animals including Humans	Describe the simple functions of the basic parts of the digestive system in humans.	4	Biology	Animals Including Humans	Teeth and the digestive system
Animals including Humans	Identify the different types of teeth in humans and their simple functions.	4	Biology	Animals Including Humans	Teeth and the digestive system
Animals including Humans	Construct and interpret a variety of food chains, identifying producers, predators and prey.	4	Biology	Animals Including Humans	Food Chains
Animals including Humans	Describe the changes as humans develop to old age.	5	Biology	Animals Including Humans	Human Development: From birth to old age
Animals including Humans	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood	6	Biology	Animals Including Humans	The Circulatory System

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Animals including Humans	Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.	6	Biology	Animals Including Humans	Nutrition and Diet
Animals including Humans	Describe the ways in which nutrients and water are transported within animals, including humans.	6	Biology	Animals Including Humans	The Circulatory System
Living Things and Their Habitats	Recognise that living things can be grouped in a variety of ways.	4	Biology	Living Things and Their Environment	Classification
Living Things and Their Habitats	Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.	4	Biology	Living Things and Their Environment	Classification
Living Things and Their Habitats	Recognise that environments can change and that this can sometimes pose dangers to living things.	4	Biology	Living Things and Their Environment	Adaptation and habitats
Living Things and Their Habitats	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.	5	Biology	Living Things and Their Environment	Life Cycles of Plants and Animals
Living Things and Their Habitats	Describe the life process of reproduction in some plants and animals.	5	Biology	Living Things and Their Environment	Life Cycles of Plants and Animals
Living Things and Their Habitats	Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals.	6	Biology	Living Things and Their Environment	Classification
Living Things and Their Habitats	Give reasons for classifying plants and animals based on specific characteristics.	6	Biology	Living Things and Their Environment	Classification
Evolution and Inheritance	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.	6	Biology	Evolution and Inheritance	Variation, adaptation and evolution

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Evolution and Inheritance	Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.	6	Biology	Evolution and Inheritance	Variation, adaptation and evolution
Evolution and Inheritance	Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	6	Biology	Evolution and Inheritance	Variation, adaptation and evolution
Rocks	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.	3	Chemistry	Rocks	Rocks, soils and fossils
Rocks	Describe in simple terms how fossils are formed when things that have lived are trapped within rock.	3	Chemistry	Rocks	Rocks, soils and fossils
Rocks	Recognise that soils are made from rocks and organic matter.	3	Chemistry	Rocks	Rocks, soils and fossils
States of Matter	Compare and group materials together, according to whether they are solids, liquids or gases.	4	Chemistry	States of Matter	States of Matter: Solids, liquids and gases
States of Matter	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).	4	Chemistry	States of Matter	Changing State
States of Matter	Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	4	Chemistry	States of Matter	Changing State
Properties and changes of Materials	Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.	5	Chemistry	Materials	Properties of Materials
Properties and changes of Materials	Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.	5	Chemistry	Materials	Physical Changes: Dissolving and Solutions Separating Mixtures

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Properties and changes of Materials	Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.	5	Chemistry	Materials	Physical Changes: Separating Mixtures
Properties and changes of Materials	"Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic".	5	Chemistry	Materials	Properties of Materials
Properties and changes of Materials	Demonstrate that dissolving, mixing and changes of state are reversible changes.	5	Chemistry	Materials	Physical Changes: Dissolving and Solutions Separating Mixtures
Properties and changes of Materials	Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.	5	Chemistry	Materials	Chemical Changes: Irreversible Changes
Light	Recognise that they need light in order to see things and that dark is the absence of light.	3	Physics	Light	How we see things
Light	Notice that light is reflected from surfaces.	3	Physics	Light	How we see things
Light	Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.	3	Physics	Light	How we see things
Light	Recognise that shadows are formed when the light from a light source is blocked by an opaque object.	3	Physics	Light	Shadows
Light	Find patterns in the way that the size of shadows change.	3	Physics	Light	Shadows
Light	Recognise that light appears to travel in straight lines.	6	Physics	Light	How we see things

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Light	Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.	6	Physics	Light	How we see things
Light	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.	6	Physics	Light	How we see things
Light	Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	6	Physics	Light	Shadows
Forces and Magnets	Compare how things move on different surfaces.	3	Physics	Forces	Reaction Forces and Gravity
Forces and Magnets	Notice that some forces need contact between two objects, but magnetic forces can act at a distance.	3	Physics	Forces	Frictional forces: Air resistance, water resistance and friction
Forces and Magnets	Observe how magnets attract or repel each other and attract some materials and not others.	3	Physics	Forces	Magnets
Forces and Magnets	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.	3	Physics	Forces	Magnets
Forces and Magnets	Describe magnets as having two poles.	3	Physics	Forces	Magnets
Forces and Magnets	Predict whether two magnets will attract or repel each other, depending on which poles are facing.	3	Physics	Forces	Magnets
Forces and Magnets	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.	5	Physics	Forces	Reaction Forces and Gravity

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Forces and Magnets	Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.	5	Physics	Forces	Frictional forces: Air resistance, water resistance and friction
Forces and Magnets	Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	5	Physics	Forces	Mechanisms: Pulleys, levers and gears
Sound	Identify how sounds are made, associating some of them with something vibrating.	4	Physics	Sound	How we hear sound
Sound	Recognise that vibrations from sounds travel through a medium to the ear.	4	Physics	Sound	How we hear sound
Sound	Find patterns between the pitch of a sound and features of the object that produced it.	4	Physics	Sound	Changing Sound: Pitch and volume
Sound	Find patterns between the volume of a sound and the strength of the vibrations that produced it.	4	Physics	Sound	Changing Sound: Pitch and volume
Sound	Recognise that sounds get fainter as the distance from the sound source increases.	4	Physics	Sound	Changing Sound: Pitch and volume
Electricity	Identify common appliances that run on electricity.	4	Physics	Electricity	Electrical circuits and keeping safe
Electricity	Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.	4	Physics	Electricity	Electrical circuits and keeping safe
Electricity	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.	4	Physics	Electricity	Electrical circuits and keeping safe

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Electricity	Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.	4	Physics	Electricity	Electrical circuits and keeping safe
Electricity	Recognise some common conductors and insulators, and associate metals with being good conductors.	4	Physics	Electricity	Electrical circuits and keeping safe
Electricity	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.	6	Physics	Electricity	Circuit diagrams and changing voltage
Electricity	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.	6	Physics	Electricity	Circuit diagrams and changing voltage
Electricity	Use recognised symbols when representing a simple circuit in a diagram.	6	Physics	Electricity	Circuit diagrams and changing voltage
Earth and Space	Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.	5	Physics	Earth and Space	Our solar system and the universe
Earth and Space	Describe the movement of the Moon relative to the Earth.	5	Physics	Earth and Space	Our solar system and the universe
Earth and Space	Describe the Sun, Earth and Moon as approximately spherical bodies.	5	Physics	Earth and Space	Our solar system and the universe
Earth and Space	Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	5	Physics	Earth and Space	Day and Night
Working Scientifically	Asking relevant questions and using different types of scientific enquiries to answer them.	3 & 4	Working Scientifically	Scientific Questions	Variables, fair tests and questions
Working Scientifically	Setting up simple practical enquiries, comparative and fair tests.	3 & 4	Working Scientifically	Scientific Questions	Variables, fair tests and questions

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Working Scientifically	Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.	3 & 4	Working Scientifically	Testing	Measuring, Observing and Safety
Working Scientifically	Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.	3 & 4	Working Scientifically	Recording Results	Recording Data
Working Scientifically	Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	3 & 4	Working Scientifically	Recording Results	Recording Data
Working Scientifically	Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	3 & 4	Working Scientifically	Interpreting Data	Interpreting Data
Working Scientifically	Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.	3 & 4	Working Scientifically	Interpreting Data	Interpreting Data
Working Scientifically	Identifying differences, similarities or changes related to simple scientific ideas and processes.	3 & 4	Working Scientifically	Interpreting Data	Interpreting Data
Working Scientifically	Using straightforward scientific evidence to answer questions or to support their findings.	3 & 4	Working Scientifically	Interpreting Data	Interpreting Data
Working Scientifically	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	5 & 6	Working Scientifically	Scientific Questions	Variables, fair tests and questions
Working Scientifically	Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.	5 & 6	Working Scientifically	Testing	Measuring, Observing and Safety
Working Scientifically	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.	5 & 6	Working Scientifically	Recording Results	Recording Data

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Working Scientifically	Using test results to make predictions to set up further comparative and fair tests.	5 & 6	Working Scientifically	Interpreting Data	Interpreting Data
Working Scientifically	Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.	5 & 6	Working Scientifically	Interpreting Data	Interpreting Data
Working Scientifically	Identifying scientific evidence that has been used to support or refute ideas or arguments.	5 & 6	Working Scientifically	Interpreting Data	Interpreting Data