

# Primary Curriculum 2014



## Suggested Key Objectives for Science at Key Stages 2

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# Year 3 Science Key Objectives

## Taken from the National Curriculum

1	Setting up simple practical enquiries, comparative and fair tests
2	Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
3	Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
4	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
5	Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
6	Identify that humans and some other animals have skeletons and muscles for support, protection and movement.
7	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
8	Notice that light is reflected from surfaces
9	Find patterns in the way that the sizes of shadows change.
10	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

# Year 3 Science Key Objectives

## Summarised form

1	Set up simple fair tests
2	Collect and present data from scientific experiments
3	Use results from experiments to draw simple conclusions or suggest improvements
4	Describe the main requirements for plant growth (air, light, water, nutrients from soil, and room to grow)
5	Explain the main stages of plant reproduction (pollination, fertilisation, seed dispersal)
6	Explain some functions of skeletons and muscles in animals
7	Identify the three main rock types and describe their properties
8	Notice that light is reflected from surfaces
9	Find patterns in the way that the sizes of shadows change.
10	Group materials according to their magnetic properties

## Year 4 Science Key Objectives Taken from the National Curriculum

1	Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
2	Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
3	Using straightforward scientific evidence to answer questions or to support their findings.
4	Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
5	Describe the simple functions of the basic parts of the digestive system in humans
6	Construct and interpret a variety of food chains, identifying producers, predators and prey.
7	Compare and group materials together, according to whether they are solids, liquids or gases
8	Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
9	Recognise that vibrations from sounds travel through a medium to the ear
10	Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers

## Year 4 Science Key Objectives Summarised form

1	Take accurate measurements using a range of scientific apparatus
2	Present findings using tables, graphs and charts as appropriate
3	Use straightforward evidence in support of ideas
4	Use a classification key to identify plants or animals
5	Describe the simple functions of the basic parts of the digestive system in humans
6	Construct and interpret a variety of food chains, identifying producers, predators and prey.
7	Compare and group materials together, according to whether they are solids, liquids or gases
8	Explain the main stages of the water cycle
9	Recognise that vibrations from sounds travel through a medium to the ear
10	Construct a simple series electrical circuit, identifying and naming its basic parts

## Year 5 Science Key Objectives Taken from the National Curriculum

1	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
2	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs
3	Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations
4	Describe the life process of reproduction in some plants and animals.
5	Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating
6	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.
7	Describe the movement of the Earth, and other planets, relative to the Sun in the solar system
8	Use the idea of the Earth's rotation to explain day and night, and the apparent movement of the sun across the sky.
9	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
10	Identify the effects of air resistance, water resistance and friction, that act between moving surfaces

## Year 5 Science Key Objectives Summarised form

1	Plan scientific investigations, including controlling variables where appropriate
2	Record data using diagrams, keys, tables and a range of graphs
3	Report conclusions and explanations from scientific investigations
4	Describe the life process of reproduction in some plants and animals.
5	Explain how mixtures can be separated through filtering, sieving and evaporating
6	Explain that some irreversible changes form new materials
7	Describe the movement of the Earth, and other planets, relative to the Sun
8	Explain day and night on earth, and the apparent movement of the Sun
9	Explain that gravity causes unsupported objects to fall towards the Earth
10	Identify the effects of air resistance, water resistance and friction between moving surfaces

# Year 6 Science Key Objectives

## Taken from the National Curriculum

1	Using test results to make predictions to set up further comparative and fair tests
2	Using simple models to describe scientific ideas
3	Identifying scientific evidence that has been used to support or refute ideas or arguments.
4	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
5	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
6	Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
7	Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.
8	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
9	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
10	Use recognised symbols when representing a simple circuit in a diagram.

# Year 6 Science Key Objectives

## Summarised form

1	Use test results to design further investigations
2	Using simple models to describe scientific ideas
3	Identifying scientific evidence that has been used to support or refute ideas or arguments.
4	Classify some plants, animals or micro-organisms, explaining the choices made
5	Explain the main parts and functions of the human circulatory system, including heart and blood vessels
6	Recognise that living things produce offspring which are not usually identical to their parents
7	Identify how adaptation of plants and animals over time may lead to evolution.
8	Explain that we see things which either give out or reflect light
9	Explain how the number of voltage of cells affects bulbs, buzzers or motors in a circuit
10	Use recognised symbols when representing a simple circuit in a diagram.