

Changes to the Science Curriculum: Year 5

At a glance

How does the new curriculum compare to the QCA Schemes of Work (2000)?

What's gone?	What's been added?
<ul style="list-style-type: none"> Heart & Circulation (moved to Y6) Health, diet, drugs & exercise (moved to Y6) Water Cycle (moved to Y4) Sounds as vibrations (moved to Y4) 	<ul style="list-style-type: none"> Life cycles of non-mammals Reversible & irreversible changes Materials' properties Planets in the solar system Gravity & other forces Mechanisms

In detail

This section displays the objectives of the old National Curriculum organised according to the QCA units published from 2000 against the new objectives in the 2014 Primary Curriculum

Red indicates no longer required in Y5; purple content has been moved to Y4; green content is new to Year 5

Scientific Investigation	
that science is about thinking creatively to try to explain how living and non-living things work, and to establish links between causes and effects	Not explicitly mentioned
that it is important to test ideas using evidence from observation and measurement	"using straightforward scientific evidence to answer questions or to support their findings"
ask questions that can be investigated scientifically and decide how to find answers	"asking relevant questions and using different types of scientific enquiries to answer them"
consider what sources of information, including first-hand experience and a range of other sources, they will use to answer questions	"using straightforward scientific evidence to answer questions or to support their findings"
think about what might happen or try things out when deciding what to do, what kind of evidence to collect, and what equipment and materials to use	"setting up simple practical enquiries, comparative and fair tests"
make a fair test or comparison by changing one factor and observing or measuring the effect while keeping other factors the same	"setting up simple practical enquiries, comparative and fair tests"
use simple equipment and materials appropriately and take action to control risks	"making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers"
make systematic observations and measurements, including the use of ICT for datalogging	
check observations and measurements by repeating them where appropriate	Not explicitly mentioned
use a wide range of methods, including diagrams, drawings, tables, bar charts, line graphs and ICT, to communicate data in an appropriate and systematic manner	"recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables"
make comparisons and identify simple patterns or associations in their own observations and measurements or other data	"identifying differences, similarities or changes related to simple scientific ideas and processes"
use observations, measurements or other data to draw conclusions	"gathering, recording, classifying and presenting data in a variety of ways to help in answering questions"
decide whether these conclusions agree with any prediction made and/or whether they enable further predictions to be made	"using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions"
use their scientific knowledge and understanding to explain observations, measurements or other data or conclusions	"reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions"
review their work and the work of others and describe its significance and limitations	Not explicitly mentioned

Biology 1: Keeping Healthy	
that the heart acts as a pump to circulate the blood through vessels around the body, including through the lungs	Moved to Year 6
about the effect of exercise and rest on pulse rate	
about the effects on the human body of tobacco, alcohol and other drugs, and how these relate to their personal health	
about the importance of exercise for good health	

Biology 2: Life Cycles	
that the life processes common to plants include <i>growth, nutrition and reproduction</i>	Not explicitly mentioned, although implied by statements across several year groups
about the parts of the flower and their role in the life cycle of flowering plants, including pollination, seed formation, seed dispersal and germination	describe the life process of reproduction in some plants and animals.
about the main stages of the human life cycle	describe the changes as humans develop to old age. describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird

Chemistry 1: Gases Around Us	
to recognise differences between solids, liquids and gases, in terms of ease of flow and maintenance of shape and volume	Implied in statements below

Chemistry 2: Changing State	
the part played by evaporation and condensation in the water cycle	Moved down to Year 4
Moved from Y6	<p>“know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution”</p> <p>“use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating “</p> <p>“demonstrate that dissolving, mixing and changes of state are reversible changes”</p> <p>“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.”</p>

Additional Content: Properties 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”
	“give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic”

Physics 1: Earth, Sun & Moon	
that the Sun, Earth and Moon are approximately spherical	“describe the Sun, Earth and Moon as approximately spherical bodies”
how the position of the Sun appears to change during the day, and how shadows change as this happens	“use the idea of the Earth’s rotation to explain the apparent movement of the sun across the sky”

how day and night are related to the spin of the Earth on its own axis	“use the idea of the Earth’s rotation to explain day and night”
that the Earth orbits the Sun once each year, and that the Moon takes approximately 28 days to orbit the Earth	“describe the movement of the Moon relative to the Earth”
	describe the movement of the Earth, and other planets, relative to the Sun in the solar system

Physics 2: Changing Sounds	
that sounds are made when objects vibrate but that vibrations are not always directly visible	All moved to Year 4
how to change the pitch and loudness of sounds produced by some vibrating objects	
that vibrations from sound sources require a medium [for example, metal, wood, glass, air] through which to travel to the ear	

Additional Content: Forces	
	“ 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”

