



Science KS2 National Curriculum

Working Scientifically

During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

Year 3 Programme of Study

Plants

Pupils should be taught to:

- identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
- 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.

Animals, including humans

Pupils should be taught to:

- 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.

Rocks

Pupils should be taught to:

- 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.



Light

Pupils should be taught to:

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.

Forces and magnets

Pupils should be taught to:

- 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.



Science Implementation

Science is taught as an area of learning in its own right, as well as integrated with other curriculum areas where appropriate. There is also flexibility to seize opportunities to celebrate and acknowledge significant events.

In Year 3 Science is taught in the following sequence:				
Autumn 1	Autumn 2	Spring	Summer 1	Summer 2
Working Scientifically		Working Scientifically	Working Scientifically	
Animals including humans	Forces and magnets	Plants	Rocks	Light

Year 3 Science Implementation – Topic Specific Vocabulary				
Animals including humans Movement, Muscles, Bones, Skull, Joint, Skeletons, Vertebrate, Invertebrate, Nutrients, Nutrition, Fats, Protein, Carbohydrate, Energy	Forces and magnets Magnetic, Force, Contact, Attract, Repel, Friction, Poles, Push, Pull,	Plants Air, Light, Water, Nutrients, Soil, Function, Reproduction, Transportation, , Pollination, Flower, Seed, Dispersal	Rocks Appearance, Properties, Fossils, Soils, Sandstone, Granite, Marble, Pumice, Crystals, Grains, Absorbent, Sedimentary, Igneous, Metamorphic.	Light Light, Shadows, Mirror, Reflective, Dark, Reflection, Opaque, Transparent, Surface, Natural, Artificial, Source



YEAR 3

WHINSTONE SCIENCE ASSESSMENT YEAR 3

Working Scientifically Y3 & Y4

Grade 1=WTS
2=EXS
3=GDS

Evidence		Additional Evidence	
Date	Grade 1,2,3	Date	Grade 1,2,3



- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

*N.B. Exceeding and Excelling are given as guidance examples only. TA should be used and judgments made based on achievements over and above the statutory requirements for each year group.
Exceeding 60%+ Excelling 75%+ Taken from Y4, Y5 & Y6*

1. Animals Including Humans (BIOLOGY) (Autumn)

TEST %

TEST GRADE

- identifies 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*
- identifies that humans and some other animals have skeletons and muscles for support, protection and movement.

Exceeding - Understand the importance of: carbohydrates, lipids (fats and oils), proteins, dairy, fruit and veg, vitamins, minerals, dietary fibre and water, and why each is needed.

Excelling - Explain the consequences of imbalances in the diet, including deficiency diseases.

3. Plants (BIOLOGY) (Spring)

TEST %

TEST GRADE

- identifies and describes the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers*
- explores 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*
- investigates the way in which water is transported within plants
- explores the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

Exceeding - Understand and explain how plants have adapted to live in a particular environment.

Excelling - Describe the life process of reproduction in a range of different plants.

4. Rocks (CHEMISTRY) (Spring)

TEST %

TEST GRADE

- compares and groups together different kinds of rocks on the basis of their appearance and simple physical properties*
- describes in simple terms how fossils are formed when things that have lived are trapped within rock
- recognises that soils are made from rocks and organic matter

Exceeding - recognise that fossils provide information about living things that inhabited the Earth millions of years ago.

Excelling - recognise suitability and make comparisons between rocks and their uses based on their properties.

5. Light (PHYSICS) (Summer)

TEST %

TEST GRADE

- recognises that they need light in order to see things and that dark is the absence of light*
- notices that light is reflected from surfaces*
- recognises that light from the sun can be dangerous and that there are ways to protect their eyes
- recognises that shadows are formed when the light from a light source is blocked by a solid object*
- finds patterns in the way that the size of shadows change.

Exceeding - recognise that light appears to travel in straight lines.

Excelling - use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

2. Forces and Magnets (PHYSICS) (Autumn)

TEST %

TEST GRADE

- compares how things move on different surfaces
- notices that some forces need contact between 2 objects, but magnetic forces can act at a distance *
- observes how magnets attract or repel each other and attract some materials and not others*



Whinstone Primary School Year 3 Science

• compares and groups together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials				
• describes magnets as having 2 poles				
• predicts whether 2 magnets will attract or repel each other, depending on which poles are facing.				
<i>Exceeding - Understand and explains the different forces that act on an object.</i>				
<i>Excelling - Use and explain force arrows in diagrams</i>				

Science Impact

Throughout each topic teachers will evaluate what knowledge and skills pupils have gained against expectations.