

Curriculum plan: Science

“Nothing in life is to be feared. It is only to be understood.”
Marie Curie

Our intent

Science explains everything about the world around us. Studying science at Woodhouse Academy allows students to critically think about the world and phenomena. Students will learn to question everything they have been told and design experiments to test theories. We aim to provide students with the key skills that they will require in life; problem solving, working through a method and presenting findings to their peers.

Enrichment in Science

The Woodhouse Academy science experience is complimented by cross-curricular links with English, geography, food technology, PE, DT, maths, PSHE, music, computer science and ICT.

Our enrichment programme is designed to bring science alive and we spend 2 weeks in March working on Science Week projects. During these 2 weeks the children have access to lots of different alternative activities during lunch times, including dissections and crime scene investigation. In lessons, during science fortnight, the students will design and carry out their own projects ready to show off at the science fair on the final Friday.



Y5 Curriculum Plan: Science

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><u>Forces</u></p> <ul style="list-style-type: none"> • Gravity • Air and water resistance • Friction • Levers • Pulleys • Gears • Physicists 	<p>Animals Including Humans</p> <ul style="list-style-type: none"> • Puberty • Menstruation • Old age • Gestation in humans • MRS GREN • Gestation in animals 	<p><u>Evolution and Inheritance</u></p> <ul style="list-style-type: none"> • Fossils • Palaeontologists • Variation • Crossbreeding • Adaptations • Keys and classification • Evolution • Inheritance 	<p><u>Living Things and their Habitats</u></p> <ul style="list-style-type: none"> • Life cycles • Local environment • Reproduction in plants • Animal changes • Naturalists • Living things 	<p><u>Earth and Space</u></p> <ul style="list-style-type: none"> • Planets • Geocentric and heliocentric • The Moon • Spherical bodies • Day and night • Space scientists 	<p><u>Practical Project</u></p> <ul style="list-style-type: none"> • Team work • Method planning • Experimental skills • Graph work • Conclusion writing • Presenting skills

Link to curriculum overview, assessment information and key words

Click here for Curriculum Overview

Y6 Curriculum Plan: Science

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><u>Light</u></p> <ul style="list-style-type: none"> • How light travels • Shadows • Reflection • Mirrors • Light phenomena • Light scientists 	<p>Animals Including Humans</p> <ul style="list-style-type: none"> • Anatomy • Digestion • Diet and exercise • Drugs and lifestyle • Nutrients and water 	<p><u>Electricity</u></p> <ul style="list-style-type: none"> • Circuits • Voltage • Series • Parallel • Circuit applications 	<p>Living Things and their Habitats</p> <ul style="list-style-type: none"> • Classification keys • Classification keys • Biologists • Unfamiliar animals 	<p>Properties and Changes of Materials</p> <ul style="list-style-type: none"> • Properties of materials • Dissolving • Separating mixtures • Physical and chemical changes 	<p><u>Practical Project</u></p> <ul style="list-style-type: none"> • Team work • Method planning • Experimental skills • Graph work • Conclusion writing • Presenting skills

Link to curriculum overview, assessment information and key words

Click here for
Curriculum Overview

Y7 Curriculum Plan: Science

Autumn 1

Working scientifically

- Planning
- Recording data
- Analysing data

Particles

- The particle model
- States of matter
- Diffusion

Autumn 2

Forces

- Drag forces
- Balanced and unbalanced
- Gravity

Cells

- Plant and animal cells
- Specialised cells
- Unicellular organisms

Spring 1

Elements, Atoms and Compounds

- Elements
- Atoms
- Compounds
- Chemical formula

Chemical Reactions

- Chemical reactions
- Word equations
- Thermal decomposition
- Exothermic and endothermic

Link to curriculum overview, assessment information and key words

Click here for
Curriculum Overview

Y7 Curriculum Plan: Science

Spring 2

Sound

- [Waves](#)
- Sound transfer
- Loudness and pitch
- Detecting sound
- Echoes and ultrasound

Structure and Function of Body Systems

- Respiration
- Breathing
- Skeleton
- Joints
- Muscles

Summer 1

Light

- Reflection
- Refraction
- The eye
- Colour

Reproduction

- Adolescence
- Reproductive systems
- Menstrual cycle
- Flowers and pollination

Summer 2

Acids and Alkalis

- Acids and alkalis
- Neutralisation
- Indicators
- pH

Space

- The solar system
- The Earth and Moon

Link to curriculum overview, assessment information and key words

Click here for
Curriculum Overview

Y8 Curriculum Plan: Science

Autumn 1

The Periodic Table

- Metals and non-metals
- Group 1
- Group 7
- Group 0

Electricity and Magnetism

- Circuits and current
- Potential difference
- Series and parallel
- Resistance
- Magnets
- Electromagnets

Autumn 2

Health and Lifestyle

- Nutrients
- Food tests
- Unhealthy diet
- Digestive system
- Drugs, alcohol and smoking

Separation Techniques

- Mixtures
- Solutions
- Solubility
- Filtration
- Evaporation and distillation
- chromatography

Spring 1

Energy

- Food and fuels
- Energy transfer
- Radiation
- Energy resources
- Machines

Ecosystem Processes

- Photosynthesis
- Plant minerals
- Chemosynthesis
- Respiration

Link to curriculum overview, assessment information and key words

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Curriculum Overview

Y8 Curriculum Plan: Science

Spring 2

Metals and Acids

- Acids and metals
- Metals and oxygen
- Metals and water
- Displacement reactions
- Ceramics, polymers and composites

Motion and Pressure

- Speed
- Motion graphs
- Pressure in gases
- Pressure in liquids
- Pressure on solids

Summer 1

Adaptation and Inheritance

- Competition and adaptation
- Variation
- Inheritance
- Natural selection
- Extinction
- DNA

The Earth

- The atmosphere
- [The rock cycle](#)
- The carbon cycle
- Climate change
- Recycling

Summer 2

Practical Project

- Team work
- Method planning
- Experimental skills
- Graph work
- Conclusion writing
- Presenting skills

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Curriculum Overview

Building on the basic science skills and knowledge you have learnt at first school you will look at the 3 areas of science; biology, chemistry and physics.

welcome

SCIENCE IS FOR EVERYONE

Year 5



Working Scientifically
You will learn how to safely work in a science lab, pieces of equipment we use and how to collect and present data.

Earth & Space
You will learn about the planets in our Solar System, how the Moon moves and why we have day and night.

Reproduction & Growth
You will be able to describe what happens in puberty and how animals change as they age.

Evolution & Inheritance
You will be able to say what fossils tell us and how adaptations help species to survive.

Forces
You will be able to describe why things move in different ways.

Practical Project
You will learn how to design, plan and carry out a practical project and draw conclusions of your experiment.

Light
You will learn how light can help us in different scenarios and how light travels.

The Human Body
You will be able to describe the different systems in the body.

Properties and changes of materials
You will be able to describe how different materials change when you interact with them.

Living things and their Habitats
You will learn how animals can be classified and create your own classification keys.



Year 7

KS3 Science will build on the knowledge and skills you developed in Science in Years 5 and 6 to prepare you for GCSE study. You will study the 3 areas split into smaller topics during the years.

Working Scientifically
You will build on your skills from KS3 and look at planning experiments, recording data, analysing and evaluating data.

Biology
Your biology topics will look at; different types of cells and where they can be found, revising and building on your knowledge of body systems, reproduction and how plants and humans reproduce.

Chemistry
Your chemistry topics will look at; how particles move, atoms and how they combine, chemical reactions and acids and bases.

Physics
Your physics topics will look at; how forces explain why things happen, how we hear things, how we can use light and what we know about space.

Practical Project
You will design, plan and carry out a practical project and draw conclusions of your experiment.

Electricity
You will learn how to create different electrical circuits.

The department has a wide range of resources to help you with your studies, including dictionaries and books. Why not borrow a parallel text in Reading Time?

Practical Project
During Science Fortnight you will build on your knowledge and practical skills carrying out a project of your own design.



goodbye.



Year 8

Practical Project
During Science Fortnight you will build on your knowledge and practical skills carrying out a project of your own design.

Biology
In Y8 biology you will learn; how you can keep your body healthy, how organisms are adapted to their environments and how different organisms are on each other.

Chemistry
In Y8 chemistry you will learn; how the periodic table is important for all science, how mixtures can be separated, how metals react with different substances and how you can survive on a desert island.

Physics
In Y8 physics you will learn; how we use electricity, what the difference is between different forms of energy and how speed and motion are represented.

Towards the end of Year 8, you could participate in a high school transition project or careers project using your science skills!

Year 9 will build on the science skills and knowledge that you acquired in middle school.