

Year 3 Science

During the academic year, classes will cover the following units of work.

Health and Growth

- Babies-development, care and food
- Comparison of babies and toddlers
- Humans and animals produce young
- Foods and preferences
- Humans need food and water
- Amounts of food
- Exercise
- Medicines and health

Using Electricity

- Everyday appliances use electricity-produce light, heat, movement, sound. Recognise and group
- Safe use and mains electricity
- Battery operated devices
- Simple circuits-bulbs, buzzers
- Vocabulary

Grouping and Changing Materials

- Sorting
- How are they made
- Squashing, bending, twisting and stretching
- Reversible and non-reversible

Forces and Movement

- Classify
- Forces make things stop, speed up, slow down, change direction
- Pushes and pulls
- Recognise forces in action

Year 4 Science

During the academic year, classes will cover the following units of work.

Teeth and Healthy Eating

- How animals feed
- Looking after our teeth
- Recognition of human teeth and purpose
- Balanced diet
- Composition of teeth; naming and recognising functions.
- Gum disease and teeth decay; brushing effectively.

Magnets and Springs

- Identify pushing and pulling
- Identify magnetic poles
- Repelling and attracting
- Springs; contraction and expansion
- Fair Testing.

Materials and their Uses

- Identification and classification (plastic, metal, wood glass)
- Uses of materials and their properties
- Testing properties; observation, recording and fair testing

Helping Plants Grow

- Recognition of plants and parts
 - What plants need to grow
- Plants for food.

Year 5 Science

During the academic year, classes will cover the following units of work.

Moving and Growing

- Bones
- Skeletons
- Muscles
- How animals move

Circuits and Conductors

- Electricity
- Using electricity safely
- Making and using circuits
- Carry out fair test investigations
- Try out your ideas
- Classify materials

Separating solids and Liquids

- Solids and their properties
- Liquids and their properties
- What happens when things melt
- What happens when things freeze
- Plan and carry out a fair test investigation
- Draw up tables showing the results of experiments

Friction

- The force called friction
- Where friction happens
- How to increase and reduce friction
- Plan and carry out fair test investigations
- Make and test predictions

Use graphs and charts to present information

Year 6 Science

During the academic year, classes will cover the following units of work.

Healthy Living

- Healthy diet – food groups
- Muscles and importance of exercise
- Investigate pulse rate
- Role of the heart
- Dangers of smoking, drugs and sun

Earth, Sun and Moon

- Earth, sun and moon are spheres – relative sizes
- Orbit and rotation of Earth
- Work of Copernicus and Galileo
- Seasons
- Sunrise and sunset
- Phases of the moon
- Other planets in solar system
- Discovering evidence from 2nd hand sources

Changing State

- Materials can be in one of three states
- Evaporation = liquid → gas
- Condensation = gas → liquid
- Measuring temperature
- Heating and boiling
- Cooling and freezing
- water cycle

Life Cycles

- Plants: seed dispersal – pollination - germination
 - Parts of a flower
- Animals:: birth – growth – reproduction – death - Life spans

Year 7 Science

During the academic year, classes will cover the following units of work.

Food Chains: Interdependence or adaptation

- Parts of a Flower
- Green plants need light to grow well and make food
- Use keys to identify animals and plants
- Plants and animals are interdependent
- Food chains represent feeding relationships in a habitat
- Construct food chains or different habitats

Seeing Things

- Light travels from a source and enters our eyes
- Mirrors reflect light
- Beams change direction when reflected from surfaces
- Shiny surfaces reflect better
- Shadows and reflections are different

Different Changes

- Mixing different materials can cause them to change
- Filtering can separate insoluble solutions
- Dissolved solids can be recovered by evaporation
- Some mixed materials are not easy to separate
- Mixing materials may create new materials
- Heating and cooling can cause materials to change
- Burning is an irreversible change
- Change can be reversible and irreversible

Changing Circuits

- Complete circuit needed to make bulb or motor work
- Bulb brightness, wires or motor speed can be changed in a circuit and affect output
- Conductors and insulators
- Symbols for electrical components

Year 8 Science

During the academic year, classes will cover the following units of work.

Respiration and Blood Flow

how cells are supplied with the materials they need for respiration

- how cells in animals and plants release energy
- that the process of respiration is similar in all cells

In scientific enquiry pupils:

- consider earlier ideas about circulation including how and why these ideas have changed and developed
- make observations and present these in a suitable format
- consider how to deal with factors that cannot be controlled when working with living materials

Light

- learn how we see objects
- represent light as a ray and use this concept to explain reflection and refraction
- find out about the origin of coloured light and the appearance of coloured objects
- consider why the spectrum described by Newton has seven colours
- make and test predictions about the path of light
- measure and record angles
- identify and make predictions from patterns in data
- investigate reflection and refraction at a plane surface
- investigate the effects of coloured light on the appearance of objects

Micro-Organisms

- learn that micro-organisms share the characteristics of other living things
- find out about growing micro-organisms to make products, and about the role of micro-organisms in infectious diseases
- learn about the body's defence systems and how immunisation can protect against microbial infections
- consider how ideas about the transmission of infectious diseases have changed and are continuing to develop
- learn how scientists work together to investigate and reduce the transmission of infectious disease
- learn how to grow micro-organisms healthily and safely
- consider the number of measurements needed for reliable data
- identify and control relevant variables
- investigate the activity of yeast

Forces and their Effect

- identify the origin of friction, air resistance, up thrust and weight and describe situations in which these forces act
- distinguish between mass and weight
- use the concept of speed
- relate forces acting to changes in motion
- identify situations in which forces are balanced and unbalanced
- measure distance, time and force including weight
- construct and interpret line graphs and use them to make predictions
- investigate floating in water of varying salinity
- investigate friction between solids