

Science

Year: 1

Everyday Materials Chemistry

With regard to science - During this area of study pupils are taught to:

- * distinguish between an object and the material from which it is made
- * identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
- * describe the simple physical properties of a variety of everyday materials
- * compare and group together a variety of everyday materials on the basis of their simple physical properties

During years 1 and 2, pupils are taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- * asking simple questions and recognising that they can be answered in different ways
- * observing closely, using simple equipment
- * performing simple tests
- * identifying and classifying
- * using their observations and ideas to suggest answers to questions
- * gathering and recording data to help in answering questions

Science

Year: 2

Uses of Everyday Materials

Chemistry

With regard to science - During this area of study pupils are taught to:

- * identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
- * find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching

During years 1 and 2, pupils are taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- * asking simple questions and recognising that they can be answered in different ways
- * observing closely, using simple equipment
- * performing simple tests
- * identifying and classifying
- * using their observations and ideas to suggest answers to questions
- * gathering and recording data to help in answering questions

Science

Year: 3

Forces and Magnets

Physics

With regard to science - During this area of study pupils are 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.

During years 3 and 4, pupils are 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.

Science

Year: 4

Sound Physics

With regard to science - During this area of study pupils are taught to:

- * identify how sounds are made, associating some of them with something vibrating
- * recognise that vibrations from sounds travel through a medium to the ear
- * find patterns between the pitch of a sound and features of the object that produced it
- * find patterns between the volume of a sound and the strength of the vibrations that produced it
- * recognise that sounds get fainter as the distance from the sound source increases.

During years 3 and 4, pupils are 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

Science

Year: 5

Forces

Physics

With regard to science - During this area of study pupils are taught to:

- * 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.

During years 5 and 6, pupils are taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- * planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- * taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- * recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- * using test results to make predictions to set up further comparative and fair tests
- * reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- * identifying scientific evidence that has been used to support or refute ideas or arguments.

Science

Year: 6

Light Physics

With regard to science - During this area of study pupils are taught to:

- * recognise that light appears to travel in straight lines
- * use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye
- * 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
- * use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

During years 5 and 6, pupils are taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- * planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- * taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- * recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- * using test results to make predictions to set up further comparative and fair tests
- * reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- * identifying scientific evidence that has been used to support or refute ideas or arguments