**Science - Yearly Overview**

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|  | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Year 7** | [Weather & Climate](file:///T%3A%5CCurriculum%20Resources%5CScience%5CWeather) | Energy & Electricity | Solar system(ICT) | States of matter |  | Habitats(ICT) |
| **Year 8** | [Weather and Climate](../Science/Weather) | Illness and disease (cells) | Forces Magnets | Weather(ICT)  | Food choices  | Theenvironment |
| **Year 9** | [Human body](../Science/human%20body%20and%20nurition%20scheme) | Fitness and nutrition(ICT) | Light & sound | Forces | Food websInterdependence | Weather(ICT) |
| **Year 10** | Life on Earth | Earth (cont) | Habitat in world | Climate Change (ICT) | Fieldwork skills | Fieldwork skills(ICT) |
| **Year 11** | Human Body | Weather(ICT) | Reproduction | Electricity | Mini investigations |  |

[Objectives](file:///T%3A%5CCurriculum%20Resources%5CScience%5CCheck%20in%20assessment%20sheet%20with%20targets.docx)

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|  | Entry 1 | Entry 2 | Entry 3 | Level 1 |
| Skills | * observe things closely, using simple equipment
* ask simple questions and recognising that they can be answered in different ways
 | * **gather and record data to help me answer questions**
* use my observations and ideas to suggest answers to questions
* identify and classify things
* perform simple tests
 | * make systematic and careful observations and take accurate measurements using standard units
* gather, record data in a variety of ways (e.g. tables and spreadsheets)
* use straightforward scientific evidence to answer questions or to support their findings
* set up simple practical enquiries, comparative and fair tests
* use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
* ask relevant questions and suggest a scientific enquiry to answer them
* identify differences, similarities or changes related to simple scientific ideas and processes (e.g. the weather)
* communicate my findings to others using oral, written and digital presentations explanations
* report my findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
 | * **take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate**
* identify scientific evidence that has been used to support or refute ideas or arguments
* plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
* record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
* report and present 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
* use test results to make predictions to set up further comparative and fair tests
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| [6. Measures](file:///T%3A%5CCurriculum%20Resources%5CMathematics%20%26%20Numeracy%5CLesson%20plans%20and%20resources%5C6%20Measures) | * understand everyday language associated with measuring
* describe capacity in fractions
* give the length of a line drawn on a centimetre grid
 | * **use simple scales and measure to the nearest labelled division**
* measure or draw a length using a ruler
* choose appropriate standard units of length, capacity, weight and temperature
* compare and order lengths, capacities and weights in the same units and record the results
* select/estimate a possible length, capacity or weight for a given item
 | * use decimals to up to two decimal places in practical contexts such as measures
* read values from an appropriate scale
* choose an appropriate measuring instrument
* add lengths, capacities and weights and compare the total to another total or a requirement
* convert standard units of length, capacity and weight using place value charts (km to m, ml to L)
* measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares
* compare and order lengths, capacities and weights in different standard units
* read and compare temperature including temperature with negative values
 | * use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling
* use, read, write and convert between standard metric units, converting measurements of length, mass, volume, using decimal notation to up to three decimal places
* calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3)
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| [8. Statistics](file:///T%3A%5CCurriculum%20Resources%5CMathematics%20%26%20Numeracy%5CLesson%20plans%20and%20resources%5C8%20Statistics) | * interpret and draw conclusions from a list or group of objects
* sort and classify objects using a single criterion
* construct and interpret pictograms where one picture represents one item
 | * interpret simple tables, diagrams, lists and graphs
* ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
* sort and classify objects using more than one criterion
* record results in simple lists, tally charts and tables
* construct simple tally charts and tables
* collect information by survey
* interpret simple pictograms, tally charts, block diagrams and simple tables by totalling and comparing data [‘how many more?’ and ‘how many fewer?’]
* present data using simple pictographs and block diagrams counting in 1’s or 2’s
 | * extract numerical information from lists, tables, diagrams and charts
* complete a tally chart and the resulting frequency table
* solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs
* complete a frequency table given the original list of results
* construct and interpret simple line graphs
* construct and interpret bar charts with the vertical axis scaled in 1’s,2’s,5’s and 10’s
* construct and interpret pictograms where one picture represents more than one item
 | * understand and use the statistical problem solving process which involves

-specifying the problem and planning-collecting data-processing and presenting the data-interpreting and discussing the results.* present and interpret pie charts
* present and interpret discrete and continuous data using bar charts and line graphs
* calculate and interpret the mean as an average and find the range
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|  D&T | **Food**-[] identify healthy and unhealthy foods and drinks-[]I understand that what I eat and drink affects my health-[] understand where food comes from**Materials**-[] name a variety of everyday materials (e g wood/plastic/metal)-[] describe some of the properties of simple materials (e g hard/reflective) | **Materials**-[] understand that different materials are used for different products and applications -[] group together a variety of everyday materials**Forces**-[] compare how things move on different surfaces-[] investigate different forces (magnetic/electrical)-[] begin to understand simple mechanisms (e g wheels and axles/levers)**Electricity**-[] understand that electronic systems are used in products | **Food**-[] understand how food groups combine to make a healthy diet-[] be aware of different dietary needs (e g gluten free)**Materials**-[] identify the different properties of a range of materials (e g magnetic/conductor/pliable)**Forces**-[] understand how mechanical systems create movement in their products (e g gears, pulleys, cams & levers)**Electricity**-[] recognise some common conductors and insulators-[] understand simple electrical systems (e g series circuits incorporating switches, bulbs, buzzers and motors) | **Food**-[] maintain food hygiene and safety standards in the kitchen-[] plan a meal based on specific dietary requirements-[] understand and apply the principles of nutrition and health to prepare a range of dishes**Materials**-[] understand how the properties of materials and components can achieve functioning solutions**Forces**-[] understand more complex mechanical systems (e g rotary and linear motion)**Electricity**-[] understand and measure electric current, potential difference and resistance-[] understand how electrical and electronic systems can be used in sophisticated products (e g movement sensors)-[] understand the difference between series and parallel circuits-[] understand how simple computing and electronics embed intelligence into products (e g sensors) |
| Outdoor Learning | **Habitats**-[] observe a range of plants and animals in my local environment-[] name some common plants and animals in my local environment**Plants**-[] observe how seeds and bulbs grow into mature plants | **Habitats**-[] explore and compare the differences between things that are living, dead, and things that have never been alive-[] find out about and describe the basic needs of animals and plants (i e need for food/light) **Plants**-[] identify and name a variety of plants and animals in their habitats**Weather**-[] observe and describe seasonal changes | **Habitats**-[] understand simple food chains-[] start to see how living things have adapted to their environment-[] identify, classify a range of flora and fauna in my local environment-[] identify the pressures on local environments (e g farming/housing)**Plants**-[] identify the main parts of a plant (i e root, stem, leaf)-[] identify pests that will harm a crop-[] identify some major crops (e g wheat, corn)**Weather**-[] observe and record changes overtime to the weather | **Habitats**-[] be aware of the need to care for resources and protect nature (including recycling)-[] devise a strategy for reducing my ecological footprint-[] support the conservation of local and global environments-[] understand more complex food chains and food webs-[] understand the pressure on global environments-[] describe the differences in the life cycles of different animals**Plants**-[] recognise different soil conditions-[] harvest crops at the right time-[] take steps to protect plants from pests (e g use nets)-[] understand the life cycle of a plant (i e pollination)**Weather**-[] understand the impact of a changing climate |
| P.E. | **Health & Fitness**-[]I can name some activities that I like that will keep me active (e.g. dance/sport/gardening)-[]I am aware how exercise affects my body (e.g. tired legs, out of breath)**The Human Body**-[]I can name and label basic parts of the human body | **Health & Fitness**-[]I can develop my health and fitness through an activity-[]I can talk about how to exercise safely-[]I can explain the difference between an active and non-active lifestyle-[]I can discuss the benefits of different activities**The Human Body**-[]I am aware of the skeletal and muscular system-[]I am aware of the need to warm up my muscles and cool down after exercise | **Health & Fitness**-[] identify ways to improve my fitness and health-[] explain and apply basic safety principles in preparing for exercise**The Human Body**-[] be aware of how the heart and lungs work-[] understand how my heart rate changes during exercise-[] understand how my breathing changes during exercise | **Health & Fitness****-[] recognise the impact of diet, exercise, drugs and lifestyle on my health**-[] use my knowledge of health and fitness to plan my own appropriate activity programme-[] monitor my own fitness and health**The Human Body**-[] understand the respiratory and circulatory system in humans-[] identify food groups and how they affect different parts of the body-[] understand the interaction between skeleton and muscles (including the measurement of force exerted by different muscles) |
| PSCHE & RSE |  | **Drugs & Alcohol**-[] understand the difference between drugs that help us and drugs that harm us-[] identify legal and illegal drugs | **Drugs & Alcohol****-[] list the effects of Drugs (Short Term and Long Term)**-[] identify the consequences of drinking alcohol-[] know that there are different laws around drugs-[] explain what drink spiking is and how to keep myself safe -[] know where to get help, support and information on drugs -[] understand the laws associated with alcohol -[] sort drugs into groups according to their risk/danger -[] identify units of alcohol and the strength of different alcoholic drinks -[] list some reasons why young people drink alcohol -[] explore the views about cannabis **Growing up, Puberty & Sex****-[] have the necessary knowledge and skills to make informed choices about the best methods of contraception for myself** -[]know how and where to access services including sexual health young people’s services -[] identify the changes that happen to boys and girls during puberty-[] identify the health risks associated with early sexual activity-[] describe how the menstrual cycle works -[] identify different forms of contraception and how they work to prevent sexually transmitted infections and/or pregnancy -[] identify what a healthy sexual relationship looks like -[] identify the different parts of the male and female reproductive system -[] explore a range of views and opinions about safer sex -[] identify the signs and symptoms of the most common sexually transmitted infections including HIV and AIDS -[] appreciate similarities and differences between people  | **Drugs & Alcohol****-[] explain the effects and risks of a range of illegal and legal drugs** -[] have a basic understanding of media influences on alcohol -[] identify the different drug paraphernalia **Growing up, Puberty & Sex****-[]know how to protect myself and my partner from unwanted pregnancy and STIs** **-[] understand the options available for unplanned pregnancy** **-[] identify the barriers to practising safer sex** **-[] understand the need for trust and love in established relationships** -[] explain how conception takes place -[] explore personal and moral dilemmas -[] know and understand about abortion as a choice -[] consider the issues of coming out as lesbian, gay and bisexual -[] classify the changes as male, female or both -[] identify the different stages of pregnancy  |

