**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:\Curriculum%20Resources\Science\Weather) | 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 | The  environment |
| **Year 9** | [Human body](../Science/human%20body%20and%20nurition%20scheme) | Fitness and nutrition  (ICT) | Light & sound | Forces | Food webs  Interdependence | 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:\Curriculum%20Resources\Science\Check%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 |
| [6. Measures](file:///T:\Curriculum%20Resources\Mathematics%20&%20Numeracy\Lesson%20plans%20and%20resources\6%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) |
| [8. Statistics](file:///T:\Curriculum%20Resources\Mathematics%20&%20Numeracy\Lesson%20plans%20and%20resources\8%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 |
| 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 |

