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|  | | | Reception | Key Stage 1 | | Lower Key Stage 2 | | | Upper Key Stage 2 | |
| Y1 | Y2 | Y3 | Y4 | | Y5 | Y6 |
|  | PLAN | Planning | -Show curiosity about objects, events and people (Playing and Exploring)  -Questions why things happen (Speaking:30-50 months)  -Engage in open-ended activitiy (Playing and Exploring)  -Take a risk, engage in new experiences and learn by trial and error (Playing and Exploring) | -Ask simple questions and recognise that they can be answered in different ways:  - Explore the world around them and raise their own simple questions  -Experience different types of science enquiries, including practical activities  -Begin to recognise different ways in which they might answer scientific questions | | -Ask relevant questions and using different types of scientific enquiries to answer them.  - Set up simple practical enquiries, comparative and fair tests | | | -Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary | |
| Key Vocabulary: | question, answer, | + explore, prediction, equipment, biology, chemistry, physics | | + enquiry, comparative, fair tests, relevant questions, scientific enquiry | | | + plan, variables | |
| Plan for focused assessment (PSTT plans): | **Predicting: ‘**Browning Apples’ | ‘Waterproof Materials’ |  | ‘Investigating the human skeleton’  ‘Shoe grip’  ‘What is the strongest magnet?’ | ‘Drying Materials’  ‘Investigating Pitch’ | | ‘Dissolving’  ‘Testing nappy absorbency’  ‘Paper planes’ | ‘Bulb brightness’  ‘Raising and sorting light questions’ |
| DO | Observing/ obtaining evidence | -Closely observes what animals, people and vehicles do (The World: 8-20 months)  -Use senses to explore the world around them (Playing and Exploring)  -Choose the resources they need for their chosen activities (ELG: Self Confidence & Self Awareness)  -Handle equipment and tools effectively (ELG: Moving & Handling)  - **Change over Time**  Materials can be changed in a variety of ways  which may alter their look or feel (CoT1,2)  Managing Information logo for Northern Ireland’s Thinking Skills and Personal Capabilities**Curriculum link: Place**  What is in my world? (PL3) | -Observe closely, using simple equipment with help, observe changes over time.  -Use simple measurements and equipment to gather data | | -Making systematic and careful observations and where appropriate, taking accurate measurements using standard units, using a range of equipment, including data loggers and thermometers | | | -Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate | |
| Plan for focused assessment: | ‘Frozen Balloons’ | ‘Plant Structure’ or ‘Leaf Looking | Comparing plant growth in different conditions’ | ‘How much water do plants need?’ | | ‘Measuring Temperature’ |
| Performing simple tests | -Find ways to solve problems/ find new ways to do things/ test their ideas (Creating & Thinking Critically) | -Perform simple tests | |  | | |
| Plan for focused assessment: | Incy Spider Shelter Test |  | ‘Floating and Sinking’ or ‘Rocket Mice’ |
| Identifying and classifying | -Develop ideas of grouping, sequences, cause and effect (Creating and Thinking Critically)  -Know about similarities and differences in relation to places, objects, materials and living things (ELG: The World) | -Identifying and classifying:  Use simple features to compare objects, materials and living things and, with help, decide how to sort them and classify them | |
| Plan for focused assessment: | ‘Scavenger Sort’ | ‘Animal Identification’ | ‘Nature Spotters’ |  | |  | ‘Growth survey’  ‘Spinners’ |  |
| Using secondary sources | -Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world (The World: 30-50 months) | -Ask people questions and use simple secondary sources to find answers | | -Ask people questions and use simple secondary sources to find answers | | | -Ask people questions and use simple secondary sources to find answers | |
| Scientific Equipment | Magnifying glass, hand lenses, egg timer, Non-fiction books, IPads | As Reception + ruler, tape measure, metre sticks, room thermometer, thermometers | | As KS1+ Data loggers | | | AS LKS2+ Protractors | |
| Key Vocabulary: | look closely, sort | observe, observing, identify, classify,group | | differences, similarities, changes, careful observation | | | accuracy, precision, repeat readings | |
| Recording | Managing Information logo for Northern Ireland’s Thinking Skills and Personal Capabilities**Curriculum link:** **Change over time (Changes in our world)**  How can we make change happen? (CoT3)  -Make links and notice patterns in their experience (Creating and Thinking Critically)  -Create simple representations of events, people and objects (Being Imaginative: 40-60+months)  -Develop their own narratives and explanations by connecting ideas or events (ELG: Speaking)  -Builds up vocabulary that reflects the breadth of their experience (Understanding: 30-50 months) | -Gathering and recording data to help in answering questions:  With guidance, they should begin to notice patterns and relationships.  Record simple data  With help, they should record and communicate their findings in a range of ways and begin to use scientific language | | -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 | | | -Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs | |
| Plan for focused assessment: | ‘Making Butter’ | ‘Seasonal Change’  ‘Bridge Testers’ | ‘Woodlice Habitat’ | ‘Cars down ramps’  ‘Can everything make a shadow?’ | | ‘Local Environment study’ | ‘Sugar cube stacks’  ‘Craters’ | ‘Investigating shadows’  ‘Outdoor keys’ |
| Maths progression: | Frequency chart,  counting | Continue with all previously taught methods +  Venn diagrams, labels, simple tables | Continue with all previously taught methods +  Tally charts, picture graphs, pictograms, Carroll diagrams | Continue with all previously taught methods +  Introduce bar graphs | Continue with all taught methods  Introduce time graphs, classification  keys, line graphs | | Choose and explain method used  Introduce finding percentages, use decimals | Choose and explain method used  Use ‘mean’ as an average and decide when it is appropriate to use.  Introduce Scatter graphs, pie charts and ratios. |
| Key Vocabulary: | describe, group, record | evidence, data, patterns, diagram, chart, map, | | gather, record, classify, present, systematic, accurate measurements | | | quantitative measurements, | |
| REVIEW | Concluding | -Answer how and why questions about their experiences (ELG: Understanding)  -Make observations of animals and plants and explain why some things occur, and talk about changes (ELG:The World) | -Using their observations and ideas to suggest answers to questions:  Talk about what they have found out and how they found it out | | -Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions  -Identifying differences, similarities or changes related to simple scientific ideas and processes  -Using straightforward scientific evidence to answer questions or to support their findings | | | -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 | |
| Key Vocabulary: |  | compare, contrast, describe, prediction | | construct, interpret, evidence, conclusion | | | conclusion, causal relationship, explanations, degree of trust, patterns | |
| Plan for focused assessment: |  | ‘Body Parts’ | ‘Comparing Hand Spans’  ‘Sorting Living and non-living | ‘The function of a plant stem’  ‘Reporting on rocks’ | ‘Does it conduct electricity?’  ‘String Telephones’ | | ‘Champion Tape’  ‘Life cycle research’  ‘Solar system research’ | ‘Egg strength’  ‘Invertebrate research’ |
| Evaluating |  |  | | -Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions | | | -Use test results to make predictions to set up further comparative and fair tests  -Identify scientific evidence that has been used to support or refute ideas or arguments | |
| Key Vocabulary: | What have you found out?  explain, how, why |  | | improve | | | support, refute, arguments | |
|  |  | Plan for focused assessment: | ‘Taste test’ |  | ‘Boat Materials’ |  | | ‘Teeth (eggs) in liquids’  ‘Dunking biscuits’ | ‘Aqua Dynamics’  ‘Insulation layers’  ‘Marble run’ | ‘Heart rate head stands’  ‘Fossil Habitats’ |