

Year 2 Programme of Study for Science

| Mini Worlds | | | |
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| <p>NC Statutory Learning Objectives</p> | <ul style="list-style-type: none"> • 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. • Explore and compare the differences between things that are living, dead, and things that have never been alive. • Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. • Identify and name a variety of plants and animals in their habitats, including micro-habitats • Describe how animals obtain their food from plants and other animals, using the idea of simple food chain, and identify and name different sources of food. | <p>Working Scientifically NC Statutory Learning Objectives</p> | <ul style="list-style-type: none"> • To observe closely. • To identify and classify. • To use their observations and ideas to suggest answers to questions. • To gather and record data to help in answering questions. |
| <p>Scientific language</p> | | <p>Magnifying lens, microscope, observe</p> | |
| <p>Making observations page 30/33</p> | | | |
| <p>Activities</p> <ol style="list-style-type: none"> 1. Tigtag video 2. Mini worlds week 3. Comparative and descriptive language 4. Communicating observations 5. Ourselves 6. Materials 7. Food 8. Bathtime | | <ol style="list-style-type: none"> 1. Children watch a video of close up objects and work out what they are. They then use lenses to observe things close up. 2. Children explore the school grounds to take photos, talk about, think about and communicate observations of things they are interested in. 3. Children are given a new word a day to find examples of it throughout the day. 4. Children use different media to record findings (photographs, observational drawings, paintings, collages, microphones) 5. Children closely observe parts of their bodies using microscopes and use powerful adjectives to describe them. 6. Children closely observe materials and relate their findings to the properties of them. 7. Children closely observe bread, coffee, cauliflower, orange peel, raisins, rice crispies and salt under a microscope and record findings in a big class book. 8. Children compare the touch of bath time items with their look under the microscope. | |

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| Close-up on nature page 34 | |
| Activities <ol style="list-style-type: none"> 1. Invertabrates 2. Plants 3. Make a miniature garden. 4. Using hand lenses and microscopes. | <ol style="list-style-type: none"> 1. Children closely observe invertabrates using microscopes then record their findings.. 2. Children closely observe plants and use this to answer questions. 3. Children design and make a garden in a foil pie tray. 4. Children reflect on what they have learnt from using magnifiers. |
| End of topic assessment | Children to all complete the interactive activity 'Mini worlds' on the CD-Rom to assess knowledge. |

| Move it | | | |
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| NC Statutory Learning Objectives | <ul style="list-style-type: none"> • To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. | Working Scientifically NC Statutory Learning Objectives | <ul style="list-style-type: none"> • To observe closely. • To perform simple tests. • To identify and classify. • To use their observations and ideas to suggest answers to questions. • To gather and record data to help in answering questions. |
| Scientific language | | Bend, pull, push, squash, stretch | |
| Making movements! page 40/44 | | | |
| Activities <ol style="list-style-type: none"> 9. Flying fish 10. Flying mouse 11. Straw rocket 12. Flying marshmallows 13. Scooters 14. Scooters scooting 15. Sparkly challenge box 16. Squash me bend me, twist me stretch me 17. Sort me 18. At home 19. Silly suggestions 20. Push pull model | <ol style="list-style-type: none"> 9. Children make flying fish and then investigate using simple tests what happens when you change one variable. 10. Children make a flying mouse to explore air pressure and gravity and then perform tests to make it travel higher or further. 11. Children make straw rockets and ask questions, such as, how can I make it go faster? Then perform simple tests to discover the answers. 12. Children make a video clip of how to make marshmallows fly and explain how it works. 13. Children bring in scooters and draw them, labelling each part saying what it is for. 14. One child rides the scooter why the others observe how they make it move, recording their findings. They then investigate what happens with 2 people on the scooter. 15. Children sort a variety of toys hidden in boxes and then ask questions about them. Later they are challenged to find the answers. 16. Children work around a carousel of activities which involve squashing, bending, twisting, stretching and think about what they had to do to perform these actions. | | |

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| 21. Moving precious cargo | <p>17. Children sort objects into groups according to whether you can squash, bend, twist or stretch them.</p> <p>18. Children explore at home to find objects that can be squashed, bent, twisted or stretched.</p> <p>19. Children suggest silly materials to make things from, such as, a concrete pillow.</p> <p>20. The children make their favourite story character out of playdough while talking through the forces used (push or pulls).</p> <p>21. Children are challenged to design and make a transporter to move their character from 2 set places.</p> |
| End of topic assessment | Children to all complete the interactive activity 'Move it' on the CD-Rom to assess knowledge. |

| Healthy Me | | | |
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| NC Statutory Learning Objectives | <ul style="list-style-type: none"> To describe the importance for humans of exercise, eating the right amount of different types of food, and hygiene. | Working Scientifically NC Statutory Learning Objectives | <ul style="list-style-type: none"> To observe closely. To perform simple tests. To identify and classify. To use their observations and ideas to suggest answers to questions. To gather and record data to help in answering questions. |
| Scientific language | Exercise, healthy, hygiene, germ. | | |
| Body and mind page 10/13 | Assessment activity | Working in small groups, draw around someone on a large piece of paper and record what they do to keep healthy and what else they might do. | |
| Activities | <p>22. Children think about what makes people happy and share ideas in a picture/scrap book or video.</p> <p>23. Children share objects or photographs of themselves keeping fit and discuss different ways.</p> <p>24. Children collect ideas of how exercise helps our bodies.</p> <p>25. Children take part in a carousel of physical activities and record how each exercise helped different parts of the body.</p> <p>26. Children design and create either: a keeping fit box, healthy buddy day, fitness video or new game for P.E.</p> <p>27. Children plot the exercise done in one day on a time line and then act it out.</p> <p>28. Children look closely at a cycle helmet describing how the material and shape protect people.</p> <p>29. Children compare a falling hard boiled egg to a cyclist head if no protection is used.</p> <p>30. Children design and make a crash helmet for an 'egg cyclist' and then test it.</p> <p>31. Children learn the apple rhyme and then collect data about apples.</p> <p>32. Children create a pictogram of favourite snacks and sort snacks into healthy/less healthy.</p> | | |
| Coughs and sneezes page 14 | Assessment activity | Discuss what germs are and how they make us ill. Record on mind-map. | |

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| Activities <ol style="list-style-type: none"> 5. Spraying germs 6. Snot trail 7. Healthy me certificate celebrations | <ol style="list-style-type: none"> 5. Children use plant water sprays as sneezes and observe what happens and discuss three important things they have learnt. 6. Children use hair gel as snot caught in their hand and touch lots of different things to show how germs spread. They discuss the need for hand washing to get rid of the germs after sneezing. 7. Children communicate what they have learnt and celebrate with certificates. |
| End of topic assessment | Children to all complete the interactive activity 'Healthy me' on the CD-Rom to assess knowledge. |

| <h3 style="text-align: center;">Little masterchefs</h3> | | | |
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| NC Statutory Learning Objectives | <ul style="list-style-type: none"> • To find out about and describe the basic needs of humans, for survival (water, food and air) • To observe and describe how seeds grow into mature plants. • To describe the importance for humans of eating the right amounts of different types of food, and hygiene. • To identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard. | Working Scientifically NC Statutory Learning Objectives | <ul style="list-style-type: none"> • To observe closely, using simple equipment. • To perform simple tests. • To identify and classify. • To use their observations and ideas to suggest answers to questions. • To gather and record data to help in answering questions. |
| Scientific language | | Hygiene | |
| Become a masterchef page 60/61 | | Assessment activity | On large chefs hats children record what they know about being a master chef. |
| Activities <ol style="list-style-type: none"> 33. Health and safety 34. Make and wear a chef's hat 35. Getting to know... 36. Sort the shopping 37. Eating and drinking well 38. What is ready to use from our garden? | | <ol style="list-style-type: none"> 33. Children generate a list of rules to follow when working with food in the kitchen. 34. Children design and make a chef's hat thinking about why they are worn. 35. Children sort a range of utensils in different ways. 36. Children sort a range of food into the fridge, freezer or cupboard discussing why they have put them in a particular place. 37. Children sort food into different food groups and discuss the importance of eating well and keeping hydrated. 38. The children look at what is ready to be harvested from their garden. They record what kind of plant it is and which part of the plant it is. | |
| Let's get cooking! Page 62-64 | | | |

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| Activities <ol style="list-style-type: none"> 1. Design, prepare and cook a vegetable pizza-licious! 2. Mixed leaf salad 3. Design your own salad 4. Carrot and courgette muffins 5. Bread tasting 6. Keeping bread fresh 7. Design and make a sandwich 8. Fruit choice 9. Plan and have a picnic | <ol style="list-style-type: none"> 1. Children discuss why vegetable are good for people, where different foods come from and which materials changed most because of the heat. They talk about how they can change the dough shape using forces. They design and make a pizza. 2. Children explore different lettuce leaves and compare similarities and differences using their senses. 3. Children design and make a rainbow salad, discussing whether it would be a balanced meal. 4. Children think about how the ingredients help the body, where they come from, which part of the plant they are and how foods change as they are cooked. 5. Children explore different breads using their senses and think about why bread is good for them. 6. Children carry out an investigation to find the best way to keep the bread fresh for a picnic. 7. Children use their favourite bread from the tasting and then design a filling which will keep them healthy. They make their sandwich and then produce a page for the class book explaining why it is healthy. 8. Children taste different fruit and then make a rainbow fruit pot to take on the picnic. 9. Children write their ideas of what they need to plan on paper table cloths. |
| End of topic assessment | Children to all complete the interactive activity 'Little masterchefs' on the CD-Rom to assess knowledge. |

| <h3 style="text-align: center;">Young gardeners</h3> | | | |
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| NC Statutory Learning Objectives | <ul style="list-style-type: none"> • To identify and name a variety of plants. • To observe and describe how seeds grow into mature plants. • To find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. • To identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard. | Working Scientifically NC Statutory Learning Objectives | <ul style="list-style-type: none"> • To ask simple questions and recognise that they can be answered in different ways. • To observe closely, using simple equipment. • To perform simple tests. • To identify and classify. • To use their observations and ideas to suggest answers to questions. • To gather and record data to help in answering questions. |
| Scientific language | | Bulb, corms, germinate, properties, root, stem, tuber | |
| Planting masterclass page 50/54 | | Assessment activity | Place a selection of item relating to gardening as a central display. On large pieces of paper children write what they know about gardening. |

Activities

39. Grow your own
40. What do seeds need to germinate?
41. Make newspaper plant pots
42. How do seeds grow?
43. Seed packets
44. Oh dear, I have lost the seed packet
45. The same plant but different
46. Grow a salad
47. Sunflower competition
48. Grow herbs for a pizza
49. On dear-no plant label
50. Making a cloche
51. Quirky container contest

52. Solve the puzzle
53. Wonderfully weird plants
54. How does gardening make us feel?
55. Plant calendar
56. Flower arranging

39. Children generate questions about what they want to find out about gardening from an expert visitor.
40. Children investigate what seeds need to germinate and record results.
41. Children discuss the importance of recycling and make plant pots from newspaper. They plant seeds in their pots.
42. Children watch a video clip of seeds germinating and starting to grow. They plant one seed every 2 days. They make a diary to show the different stages of germination.
43. Children study seed packets to see what information they give us. They make a note of unfamiliar words so they can become a focus for future learning.
44. Children investigate what temperature seeds germinate in, how much water they need and how deep they need to be planted. They then write the missing seed instructions.
45. Children compare different seeds which are the same plant but different varieties and compare to humans being the same but not all looking the same.
46. Children choose which salad plant they would like to grow and the class make its own salad.
47. In pairs, the children see who can make the tallest sunflower, keeping a diary to record the progress.
48. Children investigate which herbs are used on pizzas and then plant them to grow. (These will be used in Young Masterchefs')
49. Children make labels for plants investigating which material is best to use.
50. Children think about why gardeners may use a cloche and the properties it needs. They use a range of recycled materials to make one and test whether it makes a difference to growth.
51. The children grow plants in usual containers thinking about the size of the plant to be grown.
52. Children investigate how a cactus can grow when it is only watered once a year.
53. Children look at Mimosa pudica, Venus fly trap and Rainbow carrots to challenge their ideas about plants.
54. Children record their feelings when gardening and what they like about it on a large plant.
55. Children use pictures of their plants to produce a calendar to be sold.
56. Invite a florist in to show the children how to arrange flowers. They then make their own arrangement.

End of topic assessment

Children to all complete the interactive activity 'Young gardeners' on the CD-Rom to assess knowledge.

Materials Monster

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| NC Statutory Learning Objectives | <ul style="list-style-type: none"> 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. To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. | Working Scientifically NC Statutory Learning Objectives | <ul style="list-style-type: none"> To observe closely. To perform simple tests. To identify and classify. To use their observations and ideas to suggest answers to questions. To gather and record data to help in answering questions. |
| Scientific language | | Material, properties | |
| Meet the Materials Monster page 20/23 | | Assessment activity | Introduce the Materials Monster and discuss what kind of materials he might like to eat. Record ideas as a record of current knowledge. |
| Activities 57. Feeding time 58. Sorting for Materials Monster 59. Talk to Materials Monster 60. Under the microscope 61. Research a material 62. Taking Materials Monster outside 63. Materials Monster in the environment 64. On the way to school I saw... 65. Where did the object come from? 66. Take the Materials Monster home | | 57. Children feed the Materials Monster with as many different words as they can think about materials. 58. Children sort materials for the Materials Monster according to what they are made from. 59. Children use their senses to investigate some materials and report back to the class to share learning. 60. Children look at materials under a microscope and compare the structure to the properties. 61. Children adopt a material, researching and testing it, then communicate findings in either a mini book, leaflet, poster, video clip etc. 62. Children investigate materials outside and record their findings. 63. Children use clipboards to investigate materials in the local environment. 64. Children play the game on the way to school Material Monster ate a plastic drainpipe then each child adds a new material. 65. Children research using books and computers the raw materials to make a car or other object. 66. Children list different materials the monster could eat in their house. | |
| Working with materials page 24 | | Starter activity | Children design a new material for the Materials Monster that does not already exist, thinking about its properties. |
| Activities 8. Materials Monster challenge 9. Silly Materials Monster book 10. Make your own Materials Monster. | | 8. Children use everyday items to make something new e.g. a bird feeder. 9. Children make a book of drawings where objects are made from silly materials, such as chocolate tea pot. 10. Children use recycled materials to make their own Materials Monster after first designing it using annotated drawings. | |
| End of topic assessment | | Children to all complete the interactive activity 'Materials Monster' on the CD-Rom to assess knowledge. | |