Year 2 – Plants



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| National Curriculum Outcomes: Knowledge* Observe and describe how seeds and bulbs grow into mature plants
* Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy
 | National Curriculum Outcomes: Working Scientifically* 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
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| Children might work scientifically by:Observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing similar plants at different stages of growth. Setting up a comparative test to show that plants need light and water to stay healthy (*taken from the National Curriculum*) |
| Links to prior learning**Year1:** Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees  | Links to future learning**Year 3:** Identify and describe the functions of different parts of flowering plants (stem/trunk, roots, leaves and flowers). Explore the requirements of plants for life and growth and how they vary from plant to plant. Investigate the way in which water is transported within plants. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal**Year 5:** Describe the life process of reproduction in some plants and animals |
| Key VocabularySeed, bulb, plant, grow, growth, water, light, temperature, environment, germination | Common Misconceptions* Children do not always understand that plants without flowers are plants, particularly in the case of trees and grass.
* Because plants grow too slowly to see first-hand, children might think that plants grow when they are not being watched or at night.
* Children can think that small plants are curled up inside seeds and unfurl themselves rather than growing (you can address this by letting them cut up some larger seeds and bulbs to see what is inside)
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| Important Scientists **Captain Cook** – English naturalist and botanist**Agnes Arber** – British botanist**Alan Titchmarsh** – British botanist & gardener | STEM Career Links**Botanist** (studies plants)**Farmer** (grows crops and raises animals for food)**Gardener** (creates and maintains gardens and green spaces)**Horticulturist** (an expert in garden cultivation and management)**Park Ranger** (maintains parks) | Links to real life* How many different kinds of plants are in our school grounds? How about in our homes or gardens?
* Which parts of our dinner came from plants?
* What if there were no plants?
* Aside from food, are there any other things in our everyday lives that come from plants? (wooden tables, cotton clothing, paper exercise books)
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| Key knowledge/facts that the children need to knowPlants need water, light and a suitable temperature to grow.Plants can grow from seeds or bulbs.As a seed germinates, the roots grow downwards first then a shoot grows upwards.Water and nutrients are absorbed through a plant’s roots. |
| Suggested Enquiry Activities |
| Identifying and Classifying* How many different kinds of plants can we find in our outdoor area?
* How can we group these seeds in different ways?
 | Simple Comparative Testing* What is the best amount of water to give a growing plant?
* What conditions are needed for a plant to grow and stay healthy?
 | Observation over Time* How long does it take for a seed to grow?
* How long does it take for a bulb to grow?
* What will happen if we plant a bulb upside down?
* How long does it take for a plant to grow? (measuring growth over time from a seed or a bulb or observing similar plants at different stages of growth.
 | Pattern Seeking* Do smaller seeds grow faster?
* How tall does a plant grow each month?
 | Research using Secondary Sources* What are the names of the plants in our school grounds?
* Do we have the same plants in the UK to another country?
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| **National Curriculum Statements** | **Outdoor Learning Activities** |
| * Observe and describe how seeds and bulbs grow into mature plants.
* Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.
 | Pupils plant a range of seeds and bulbs at the correct time of year. Pupils observe and take measurements of the growth of the plants from the seeds and bulbs planted. The pupils gather seeds for future pupils to plant. Pupils follow the instructions to plant the seeds and bulbs correctly e.g. correct spacing, depth, suitable amount of light, inside or outside.The pupils observe and water the plants to encourage them to grow and stay healthy. |

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| Wow Factor Experiences* Set up a time lapse camera to film seeds germinating
* Use a transparent plastic glove to plant 5 different types of seeds and compare how they germinate and grow (put some damp cotton wool and a seed in each finger. After the seeds have germinated, the fingers can be cut off and the seedlings planted)
* Apply for the Bulbs4Kids scheme for a free set of bulbs, trowels and activity booklets (link below – you have to be fast as these sell out quite quickly!)
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| Maths Links* Take measurements of growing plants each day
* Use understanding of capacity to give precise amounts of water to seeds/plants each day
* Carry out a survey of a small area of the school grounds to see how many of each different type of plant can be found then turn this information into a bar graph
 | Literacy Links* Create shape poems describing what flowers look like
* Keep a seed diary, describing the changes observed in detail every few days
 | Broader Curriculum Links**Art:** First look at some wildlife photography for inspiration then venture outside with iPads to take photographs of plants in the school environment**ICT:** Use identification apps and websites to find out the names of plants in the school environment. Use time lapse camera settings to record plant growth**Geography:** How is plant life different in the area we are learning about compared to our local area? |
| Story LinksThe Tiny Seed – Eric CarleJasper’s Beanstalk – Nick ButterworthA Seed is Sleepy – Diana Aston & Sylvia Long |
| Helpful WeblinksAssessment exemplification (could also be useful with planning ideas) – <https://www.planassessment.com/product-page/examples-of-work-plants-y2-max>BBC Class Clips (useful videos) – <https://www.bbc.co.uk/bitesize/topics/zpxnyrd>Online CPD for this unit (free) – <https://www.reachoutcpd.com/courses/lower-primary/plants/>Bulbs4Kids (free bulb sets) - <https://uk.bulbs4kids.com/>STEM Learning’s online resource library for Plants - <https://www.stem.org.uk/resources/community/collection/13299/year-2-plants> |