Year 3/4 - Science: Plants

Key vocabulary: photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal).

*Most of the worksheets are differentiated. The 1-star sheets are the easiest and the 3-star sheets are the most challenging – ask your child how confident they feel before choosing a sheet for them; most children should be able to complete the 2-star sheet (the answers are provided). The **Knowledge Organiser** gives an overview of the learning for the whole unit.*

Learning goal:	Key information & Activities:	Resources:
I can name the different parts of flowering plants and explain their jobs.	**Watch** the PowerPoint (and video clip). **Complete** the worksheet (use the word mat to help) then **play** the pairs game. • Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. • Many plants, but not all, have roots, stems/trunks, leaves and flowers/blossom. • The roots absorb water and nutrients from the soil and anchor the plant in place. • The leaves use sunlight and water to produce the plant's food. **Spot** flowers, seeds, berries and fruits when outside.	• Parts of plants PowerPoint • What is a plant? – video clip https://www.bbc.co.uk/bitesize/topics/zy66fg8/articles/zcjnp39 • Parts of a plant worksheet • Parts of plants word mat • Parts of plants pairs game
I can find out what plants need to grow well.	**Watch** PowerPoint 1: What do plants need to grow well? (and video clips). • There are 7 life processes that tell us if something is alive. • Different plants require different conditions for germination and growth. • Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow), how they vary from plant to plant. - What happens if a plant has no water? - Can a plant grow in the dark? - If a plant has no heat, will it still grow? **Complete** your investigation planner with your chosen question. **Add** a prediction. **Plan** how you will complete your investigation and start it. *[If completing the actual investigation is not possible, create a poster for the 7 life processes and requirements for plant growth.]* **Observe** closely over the next few days and **record** your results (any changes you see). **Watch** PowerPoint 2: What have you found out? **Complete** 'The Good Plant Growing Guide'.	• What do plants need to grow well? PowerPoint • What does a plant need to live? – video clip https://www.bbc.co.uk/bitesize/topics/zy66fg8/articles/zcmtk2p • What are the requirements for plant growth? – video clip https://www.bbc.co.uk/bitesize/topics/zy66fg8/articles/z98jpbk • Healthy plant growth - video clip https://www.bbc.co.uk/bitesize/clips/zctmhyc • Investigation planner • A healthy plant • Ruler/measuring tape • Recording results sheet • What have you found out? PowerPoint • Good plant growing guide template (after investigation)
I can explore the way water is	**Watch** the PowerPoint (and video clip). • The roots absorb water and nutrients from the soil.	• Moving water PowerPoint • Why do plants need water? – video clip https://www.bbc.co.uk/bitesize/clips/zhqw2hv

transported within plants.	• The stem transports water and nutrients/minerals around the plant and holds the leaves and flowers up in the air to enhance photosynthesis, pollination and seed dispersal. • Water evaporates from the leaves **Investigate**: What happens when celery sticks are put in coloured water?	• Celery sticks, food colouring, clear cup/glass
I can name the different parts of a flower and explain their role in pollination and fertilisation.	**Watch** the PowerPoint. • Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation, seed dispersal and germination. • Some plants produce flowers which enable the plant to reproduce. **Watch** the flower anatomy video. **Complete** the parts of a flower activity sheet (and watch the video clip about bees). • Pollen, which is produced by the male part of the flower, is transferred to the female part of other flowers (pollination). This forms seeds in a process called fertilisation; seeds are sometimes contained in berries or fruits which are then dispersed in different ways. **Watch** the video – how plants produce seeds https://www.bbc.co.uk/bitesize/clips/zfx76sg **Complete** the pollination process worksheet. **Observe** flowers carefully when outdoors to identify the pollen.	• Flower PowerPoint • Flower anatomy video - https://www.bbc.co.uk/teach/class-clips-video/science-ks1-ks2-ivys-plant-workshop-the-anatomy-of-the-flower/zjmhkmn • Parts of a flower activity sheet • Why are bees attracted to flowers? – video clip https://www.bbc.co.uk/bitesize/topics/zy66fg8/articles/zx4ktv4 • How plants produce seeds – video clip https://www.bbc.co.uk/bitesize/clips/zfx76sg • Pollination process worksheet
I can understand and order the stages of the life cycle of a flowering plant.	**Watch** the PowerPoint. • There are 5 main stages of the life cycle of a flowering plant: germination, growing and flowering, pollination, fertilisation and seed formation, seed dispersal. • Pollination can be by insect (e.g. bees/butterflies) or wind – in the case of cereals/grasses. **Explore**: https://www.dkfindout.com/uk/animals-and-nature/plants/ **Research** different types of seed dispersal: water, shaking, wind, dropping, carrying, eating, bursting. **Watch** the seed dispersal video clip. **Find** examples of seeds which use each of the types, e.g. dandelions (wind) https://www.bbc.co.uk/bitesize/clips/zs9c87h. Do seeds with the same method of dispersal have any features in common? **Complete** the life cycle of a flowering plant worksheet.	• Life cycle PowerPoint • https://www.dkfindout.com/uk/animals-and-nature/plants/ • Seed dispersal – video clip https://www.bbc.co.uk/bitesize/clips/znvfb9q • Dandelion life cycle video clip https://www.bbc.co.uk/bitesize/clips/zs9c87h • Life cycle of a flowering plant worksheet
I can apply my knowledge of flowering plants to design a new species.	**Create** a new species of flowering plant. **Draw and label** a diagram of your created flowering plant to show its parts, their role and the method of pollination and seed dispersal.	• Example of a new flowering plant created by Miss Hobbs