



# St James' Church of England Primary School

## Science Overview Sheet



### Year 3 – Plants

#### Parts of a Plant and The Life Cycle of a Plant



**Rationale:** Pupils should be introduced to the relationship between structure and function: the idea that every part has a job to do. They should explore questions that focus on the role of the roots and stem in nutrition and support, leaves for nutrition and flowers for reproduction. **Note:** Pupils can be introduced to the idea that plants can make their own food, but at this stage they do not need to understand how this happens.

**Pre-unit task:** Knowledge Organiser Quizzes

#### Working Scientifically:

- Comparing the effect of different factors on plant growth, for example the amount of light, the amount of fertiliser.
- Discovering how seeds are formed by observing the different stages of plant cycles over a period of time.
- Looking for patterns in the structure of fruits that relate to how the seeds are dispersed.
- Observing how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers.

#### Statutory Requirements:

- Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.
- Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) 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.
- Roots grow downwards and anchor the plant.
- Water, taken in by the roots, goes up the stem to the leaves, flowers and fruit.
- Nutrients (not food) are taken in through the roots.
- Stems provide support and enable the plant to grow towards the light.
- Plants make their own food in the leaves using energy from the sun.
- Flowers attract insects to aid pollination.

#### Overview:

Lesson 1: Parts of Plants - I can name the different parts of flowering plants and explain their jobs.  
Lesson 2: What Do Plants Need to Grow Well? - I can set up an investigation to find out what plants need to grow well.  
Lesson 3: What Have You Found Out? - I can record my observations.  
Lesson 4: Moving Water - I can investigate how water is transported in plants.  
Lesson 5: Fantastic Flowers - I can name the different parts of a flower and explain their role in pollination and fertilisation.  
Lesson 6: Life Cycle - I can understand and order the stages of the life cycle of a flowering plant.

#### Cross Curricular Links

#### Resources

- House plants • Access to the playground or local area • Small plants (such as tomato, bean or sunflower seedlings) in pots • Measuring cylinders/beakers • Access to a dark cupboard • Access to a light windowsill or shelf • Access to a fridge • Bright white flowers such as carnations, chrysanthemums or gerberas with stems of equal length • Food colouring in a range of different colours • Pipettes • Beakers of the same size filled with 100ml water • Access to a places with different temperatures • Thermometers

#### Notes and Guidance

**Most Children will:** • Explain the functions of the different parts of plants. • Set up an investigation and make predictions. • Make observations and conclusions. • Identify different parts of a flower. • Identify and describe the stages of the life cycle of flowering plants

**Less Able Children will:** • Identify the different parts of flowering plants. • Predict what will happen in an investigation. • Make observations. • Identify the main stages of the life cycle of flowering plants.

**More Able Children will:** • Set up reliable and accurate investigations. • Make and explain predictions. • Make and record accurate observations. • Use scientific language to explain their findings. • Explain the functions of the different parts of a flower