



# Holly Park Learning Organiser

## Year 2 - Science

### Plants bulbs and seeds - **How do bulbs and seeds change over time?**



#### Prior Knowledge:

- Plants can grow. Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Deciduous trees lose their leaves in the autumn every year. Evergreen trees have green leaves all year round. Identify and describe the basic structure of a variety of common flowering plants, including trees. The parts of a plant including petals, fruits, roots, bulbs, seeds, stem, trunks and branches

#### Essential Knowledge:

Children build on this knowledge as they look at the differences between bulbs and seeds. Children should see a variety of bulbs and seeds and be confident with their definitions

children should use simple equipment such as hand lenses to make accurate observations. Children should look at common bulbs and observe shoots and roots, such as those from daffodils, onions and garlic. Children should look at seeds both inside and outside fruits, such as seeds in sweet peppers, seeds in strawberries and sunflower seeds.

children look at the best conditions for plant growth, focusing on temperature. Children should observe that some plants grow indoors and some plants grow outdoors. Children grow bulbs and seeds under different temperature conditions, such as in pots outside and inside, or in pots in cooler and hotter areas of the school. Light and dark conditions were observed in the previous Plants block. Here, the effect of changing the temperature the plant is kept at can be observed. Children will make predictions and should create a schedule for recording plant growth.

#### Key Questions:

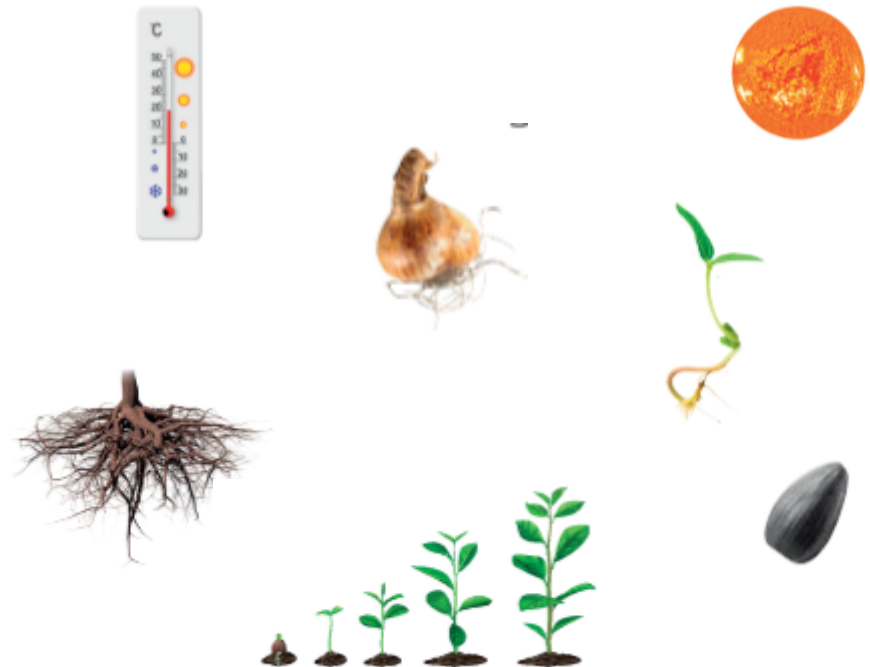
- Is this a bulb or a seed? • How did you group the bulbs and seeds? Can you group them another way? • What is different about the bulbs and seeds? • What is similar about the bulbs and seeds? • What do you notice about the colour of the bulbs/seeds? • What are the different parts of a bulb?
- What do plants need to grow and stay healthy? • How can you tell if a plant is growing well? • Does this plant look healthy? • Why do we plant new plants inside in winter? • How could you help a plant that has wilted or that does not have enough light? Why would this help the plant grow?
- What do bulbs and seeds need to grow and be healthy? • Where could you plant your bulbs and seeds in school? • How do you predict the temperature will affect the growth of the plants? • How long will you observe the bulbs and seeds? • What do you expect to see next week/ next month? • How will you record your results? • How often should you measure the plant's growth?
- What will you use to measure the growth? • How will you record your data? • What do plants need to grow and stay health • What differences did you notice between the bulbs and the seeds? • If you were to grow a bulb or seed, where would you plant it? Why would you plant it there?

#### National Curriculum Objectives:

- 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.

#### Key Vocabulary

plant	a living thing that usually grows in soil
bulb	– a part of a plant which stores food and is found underground
• shoot	– a part of a young plant which grows above the ground •
roots	– part of a plant that holds the plant in the ground
temperature	– a measure of how hot or cold something is •
growth	– when a living thing gets bigger
seed	a part of a plant that can grow into a new plant
sunlight	the light from the Sun
compost	a type of soil



### Working Scientifically:

- Observing closely, using simple equipment.
- Record and communicate their findings in a range of ways and begin to use simple scientific language
- Asking simple questions and recognising that they can be answered in different ways.
- Performing simple tests.

### SEND Core Knowledge:

Children explored the parts of plants and conditions for their growth

- Children should look at common bulbs and observe shoots and roots, such as those from daffodils, onions and garlic. Children should look at seeds both inside and outside fruits, such as seeds in sweet peppers, seeds in strawberries and sunflower seeds. Encourage children to sort and group the bulbs and seeds in different ways.

### Common Misconceptions:

- Children may only have experienced plant growth from seeds and may not be familiar with plants which grow from bulbs. • Children may think that seeds can only be found on the inside of a fruit. This can be overcome by children looking at a range of seeds.
- Children may not realise that some plants still grow in winter. • Plants can survive outside in cooler temperatures, but they grow more slowly.
- Bulbs planted in summer can take longer to reach maturity after sprouting than those planted in autumn, winter or spring.
- The amount of water may be different for each bulb or seed depending on the location it is kept in. For example if it is kept outside and it is particularly hot, more water would be needed than for the bulb/seed kept indoors. • When planting outside, be aware that local wildlife may eat the bulbs or seeds. These bulbs and seeds can be protected using recycled plastic bottles.

### Cross Curricular Links

**Possible Texts** Jack and the Beanstalk (Richard Walker) Ten Seeds (Ruth Brown)

A Seed Is Sleepy (Dianna Aston)

### Possible Practical Activities:

#### Bulb or Seed?

- Provide children with blunt knives to dissect different fruit and vegetables to observe the seeds. Good examples to use are melons, apples, sweet peppers, cucumbers, kiwis and tomatoes. *Children should never eat any part of a plant unless instructed by an adult.* • Provide children with hand lenses to observe different parts of a bulb, identifying the roots, bulb and shoot. Examples you could use include garlic, onions and daffodils.



#### What do plants need to grow?

- Explore your local area and conduct a plant hunt with the children. They could take photos of plants and identify the conditions the plants are growing in. Children could comment on the soil, temperature, sunlight and how much rain they think each plant would get. • Children could look at plants outside and observe the changes between the seasons. They should link these changes to the changes in temperature as the seasons change. • Children could look at a selection of photos of plants, including some that are not growing well. They could make suggestions about what the plants would need to grow well.

#### Plan-Bulbs and Seeds

**Equipment needed** • plant pots • trowels • seeds • bulbs Practical activity • soil • sticky labels • plant tags •

Put children in small groups. Give each group the equipment needed for the experiment. Children should identify what the equipment is and why it is used within the experiment.

**Planning sentence stems** • I predict that ... I think this will happen because ... • We will put one pot • We will put the other pot • We will measure the ...

#### Plant-Bulbs and Seeds

**Method** 1. Put children in small groups. • soil • sticky labels • plant tags 2. Give each group four plant pots, soil, bulbs, seeds and a trowel. 3. Add the same amount of soil into each pot. Children do not need to measure the mass of the soil but can add the same amount of soil using the trowel. 4. Add the seeds to the soil in two pots and cover with a thin layer of soil. Label these pots as seeds. 5. Add the bulbs to the soil in two pots and cover with a thin layer of soil. Label these pots as bulbs. 6. Place the planted bulbs and seeds in two places with different temperatures. 7. Regularly observe the pots and record any changes over time.