# HOW DOES YOUR GARDEN GROW?

#### Key vocabulary:

flowers, flowering, insects, colour, pollination, attract, identify

#### Resources:

Wool of 6 different bright colours (1m per group), scissors, A4 card, glue or double sided sticky tape

# LESSON 14: WHY ARE SOME FLOWERS BRIGHTLY COLOURED?

# **LESSON SUMMARY:**

In this lesson children will explore why some flowers are brightly coloured and others are not. By the end of this lesson the children will understand that plants that are pollinated by insects are brightly coloured to attract the insects whereas other plants such as grasses that are wind pollinated do not need to be brightly coloured.

#### National curriculum links:

Explore the part that flowers play in the life cycle of flowering plants, including pollination

## Learning intention:

To investigate and then explain why some flowers are brightly coloured and others are not

#### Working scientifically links:

Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions

## Success criteria:

- I can explain why some flowers are brightly coloured.
- I can identify different flowers.
- I can explain why some flowers are brightly coloured.
- I can investigate which colours are more attractive to insects than others.
- I can describe other ways that flowers attract insects

# Scientific enquiry type:

Grouping and classifying

**Preparation required:** Before the lesson cut 1m of six different coloured wools (include brown, green and four bright colours) into 5cm pieces. Outside sprinkle these around in a defined area. Prepare a collection board by sticking on rows of double-sided sticky tape.

#### Health and safety:

Ensure the children are aware of the boundaries that they must stay within. Ensure the area is clear of glass and other dangerous items.

# EXPLORE:

Show slide 1 of Slideshow 1. Ask the children to think, pair, share which plant they think is the odd one out and the reason why. Ask some children to share their ideas with the class.

Remind the children that the role of the flower is to produce seeds for new plants. In order for this to happen they must be pollinated. This can be done by insects that visit different flowers, picking up pollen and taking it to other flowers.

It is not necessary at this stage for children to understand that grasses are wind pollinated.

Take the children outside to the area where you have placed the wool. Explain that they are 'insects' and they are going to gather pollen from flowers. Explain that they are to go and find one piece of wool as quickly as possible and bring this back to the collection board. Ensure they only bring one piece of wool at a time and then go back for another.

When no more wool can be found show the children the collection board. Ask the children to look for any patterns in the colours. Were some colours found first and others later? It is likely that the green and brown were found later than the other bright colours. Flowers that are insect pollinated are not likely to be these colours. Explain that grasses and other such plants with green or brown flowers are usually wind pollinated.

# Key information:

They may suggest the grass is the odd one out as it does not have any flowers. If this is the case, show slide 2 which shows a close-up image of the flower of the grass.

#### **ENQUIRE:**

Tell the children that their challenge is to explore what colours wild flowers are to help them determine which colours are most attractive to insects.

**Challenge 1** Children complete a table by drawing flowers and create a bar graph.

Take the children outside to an area that has wild flowers growing. Provide them with Resource sheet 1. Ask them to look for different flowers and draw them carefully on the table. Ask them to choose the colour that matches most closely and record this in the table also. Back in the classroom ask these children to use Interactive 1 to create a bar graph of their results.

Ask: Which was the most common flower colour? Which was the least common flower colour? How many more yellow flowers did you find than blue?

**Challenge 2** Children complete a table by drawing flowers, identify the flowers and create a bar chart.

Take the children outside to an area that has wild flowers growing. Provide them with Resource sheet 2. Ask them to look for different flowers and draw them carefully on the table. Ask them to choose the colour that matches most closely and record this in the table also. Ask the children to use an identification chart (Online resource sheet 1) to try and name each flower. Back in the classroom ask these children to create a bar chart to show their results.

Ask: Which was the most common flower colour? Which was the least common flower colour? What other features besides colour did you use to identify the flower? Have you labelled your bar chart appropriately?

**Challenge 3** Children record flowers they find on a resource sheet and use ICT to create a graph.

Explain to children that they are going to survey the colour of wild flowers. Take the children outside to an area that has wild flowers growing. Provide them with an identification chart and colour chart Online resource sheets 1 and 2 and ask them to record what flowers they find and their colour. Ask these children to use a spreadsheet or suitable ICT package to create the most appropriate graph to show their results.

Ask: Have you recorded your results clearly? Which was the most common flower colour? What other features besides colour did you use to identify the flower? What type of graph did you choose to use?

# **REFLECT AND REVIEW:**

Ask the children to look at their results. Ask them to share them with each other. What was the most common colour flower? What was the least common colour flower?

Ask the children to think about other ways that plants can attract insects; for example, they are often scented and contain sweet nectar.

## **EVIDENCE OF LEARNING:**

Observe children as they carry out their investigation. Review the data that they present in their bar charts.

Can the children explain that flowers that are insect pollinated are often brightly coloured whereas those that are wind pollinated are not? Were the children able to record the wild flowers that they found either in a prepared table or by devising their own method of recording? Were the children able to use the identification chart to name the flowers? Could they say what feature they used to identify the flower, for example 'I looked at the shape of the petals'? Were the children able to present their findings using a bar chart either with support from the animation or independently? Did the children using ICT software choose an appropriate graph form?

#### Key information:

Very few wild flowers are red in colour as insects cannot see red well. If you are not able to look at wild flowers and you look at cultivated flowers they may be red in colour. These have often come from abroad and are not pollinated by insects but by birds. Cultivated plants have also been bred to give different colours.