

Timing: 1 hour 15mins+

Flower-insect timed count

level: KS2-3



Aim – to understand how communities of organisms are interdependent on each other through processes such as pollination, and how humans rely on this.

Learning objectives

- * Understand the relationship between flowers and pollinating insects.
- * Conduct a timed observation to count the number of insects visiting an area of flowers.
- * Interpret data collected through a timed insect count.

Learning outcomes

- * All students will be able to name three pollinating insects.
- * Most students will be able to explain how flowers are dependent on pollinators.
- * Some student will be able to explain why some flowers are more attractive to pollinators.

National Curriculum links

KS2 Plants

Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

KS3 Biology Reproduction

Reproduction in plants, including flower structure, wind and insect pollination.

Interactions and interdependencies

The interdependence of organisms in an ecosystem, including food webs and **insect pollinated crops**.

KS2 and KS3 Science

Working scientifically.

Previous knowledge expected from students

Basic understanding of parts of a plant and their functions.

Key words/concepts

Pollination, pollinator, ecosystem



THE ROYAL BOROUGH OF
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AND CHELSEA

Session outline

Starter (five to 10 minutes)

Discuss the role of insects in nature, especially focusing on pollination. Ask the class:

- * What do you know about pollination?
- * Why do flowers need insects?
- * Can you name any insects that help with pollination?

Assessment

Discussion
in classroom

Resources

Presentation (10 minutes)

Show: who pollinates plants PowerPoint, with questioning/discussion for each slide.

Assessment

Whole class
questioning

Resources

Who pollinates
plants
PowerPoint

Introduce the activity and study area – FIT count (10 minutes)

Take class outside to the school garden or nearby outdoor area. Tell students that they will conduct an experiment to count how many insects visit a particular flower within a set amount of time.

Assessment

Whole class
questioning

Resources

Main activity (20 minutes+)

Preparation (five minutes)

Split the class into small groups (three to four students per group). Provide each group with a stopwatch, clipboard, and worksheet.

Timed insect count (15 minutes)

Each group will focus on one group of flowers within a 50x50cm quadrat. They will observe for a set period of 10 minutes and count how many insects visit the flower during that time.

Instruct the students to

- * Record the number and type of insects they see on the FIT Count worksheet.
- * Be as accurate as possible, trying to record each insect once and identifying the insect type.
- * Only record insects seen visiting flowers within the quadrat.

Assessment

Formative
observation
of groups

Resources

FIT Count
activity sheet,
clipboards,
pencils,
stopwatches,
quadrats*

*Quadrats can either be purchased or can be made from taping together four 50cm lengths of bamboo cane or doweling in a square. Alternatively, quadrats can be made from four lengths of string tied together and then stretched into a square for use.

Session outline continuation

Return to the classroom

Plenary (five to 15 minutes)

Bring the class together and ask them to share their results:

- * What insects did they observe most frequently?
- * Were there certain areas of flowers that attracted more insects? Why might that be? You may want to ask pupils why different patches had more insects (e.g. more flowers, a greater variety of flowers, or more sun).
- * What do they think this tells us about the relationship between flowers and insects?

Pollination explanation

- * Using the data from the students' observations, explain the importance of pollination and how insects help transfer pollen from one flower to another.
- * Discuss how pollination contributes to the growth of fruits and seeds.

Key health and safety points

- * Talk to children about how to be safe around bees and wasps.
- * Set clear boundaries for where they can go.

Extensions work

Create a pollinator chart

Have students draw or write about the different insects they observed in the lesson and include facts about how each one contributes to pollination.

Further exploration

Discuss other methods of pollination, such as wind or water, and compare them with insect pollination.

Further work (post session)

Insect observation journal

Encourage students to continue observing flowers and insects at home or in the school garden over a week, recording their findings.

Complete an official pollinator survey e.g. <https://ukpoms.org.uk>

