



Task 1: Look at the diagram on the left, showing the different parts of a flower. Create your own sketch of the diagram and try to add the labels to your sketch while covering the original diagram.



Draw your	diagram in tl	nis box		

Just like people, plants need males and females to reproduce and create new plants. In order to do this, male reproductive cells from a particular flower have to meet with the female reproductive cells of another flower of the same type, this is called pollination. This is not straightforward for plants as they are anchored to the ground and unable to move.

Task 2: Use the information card sorting template to sort the information cards and then use them to solve the three mystery questions below.

Mystery 1: What is pollination?

Pollination occurs when pollen from a flower's ______ is transferred to the ______ of another flower of the same type. When this happens, the pollen sends a pollen ______ down to the ______ and into an ______. When this happens fertilisation occurs and a seed is created.

Mystery 2: Why are bumblebees important in pollination?

Bumblebees visit flowers to collect pollen, for their _____, and nectar for energy. When the bumblebees collect the pollen, some of it sticks to their _____. When the bumblebee lands on the next flower some of the pollen can fall off. Bumblebees often show ______ when feeding and visit lots of flowers of the ______ type.

Mystery 3: Why do we need bumblebees to produce some of the fruits that we eat?

When ______ happens, a seed is formed in a flower's ovary. That ovary then swells and becomes the ______ of a fruit. Many of these fruits, such as ______, are eaten by people. Bumblebees are important in this process because ______.





Section: Plants & Ecosystems Topic: Insect Pollination



2

Card sorting template

Use the table below to sort the information cards into categories. Many of the cards could go into several of the categories so have a think about where you think it best fits.

Facts about bumblebees	Facts about plants and flowers	Links between bumblebees / flowers / fruit





Section: Plants & Ecosystems Topic: Insect Pollination



Mystery information cards

Cut out the cards below and use the card sorting template to organise them. Use the information to help you solve the mysteries.

Bumblebee larvae need protein rich pollen to grow and develop into adults.	Plants produce brightly coloured flowers that are attractive to bumblebees.	Lots of plants produce sticky or spiky pollen.	Bumblebees need to visit lots of flowers to collect enough pollen for their larvae.
If a pollen grain lands on the stigma of the same species it grows a pollen tube down into the ovary and into an ovule.	As adults, bumblebees mostly feed on nectar.	Nectar is produced within flowers.	Pollen already stuck to a bumblebee can fall off onto another flower that the bumblebee visits.
When a pollen tube is connected to an ovule, fertilisation takes place and the ovule grows into a seed.	The stigma of a flower is often sticky so that pollen grains can stick to it.	Bumblebees brush most of the pollen from their hairs onto a special part of their hind leg called a pollen basket.	The ovary of the flower swells and becomes the flesh of a fruit.
Bumblebees often show preferences when feeding and will visit lots of flowers of the same type.	When a bumblebee lands on a flower pollen from the flower's anther gets stuck to their hairs.	Think about an apple. The seeds inside used to be the ovules of a flower and the fleshy part that you eat used to be the ovary of that flower.	Bumblebees can only fly for 40 minutes before needing to refuel with nectar.
For a plant to reproduce, pollen from an anther needs to be transferred to the stigma of a flower of the same type.			pollen in pollen basket
	AN AND THINK	The Tr	HERITAGE

www.bumblebeeconservation.org

November 2019. BBCT137. Copyright 2019 ©. All rights reserved. The Bumblebee Conservation Trust is a registered charity (England & Wales 1115634 / Scotland SC042830). Company registration number 05618710 (England & Wales) Registered Office: Bumblebee Conservation Trust, Lakeside Centre, Lakeside Country Park, Wide Lane, Eastleigh, Hampshire SO50 5PE.



Section: Plants & Ecosystems Topic: Insect Pollination



Overview

This lesson allows students to explore the parts of a flower and how they facilitate the reproduction of plants. Through a number of independent facts, students explore the relationship between flowers and bumblebees and develop an understanding of how each one relies on the other for survival.

Task 1

In this task, students try to recreate the diagram in the box provided. Students can challenge themselves by covering the original diagram and trying to remember the key labels.

Task 2

Students cut out the mystery information cards (this can be done in advance, to save time) and discuss the information on them. Students can then work in groups/pairs/on their own to sort the cards into the card sorting template. There are no specific correct or incorrect ways to sort the cards. It is up to students to justify why they have chosen to put the cards where they have. Some of the cards could be placed in any of the columns and again, students should decide how best to place these cards. Students then use the sorted cards and the information on them to fill in the blanks from the three mysteries.

Answers

Mystery 1: What is pollination?

Pollination occurs when pollen from a flower's anther is transferred to the stigma of another flower of the same type. When this happens, the pollen sends a pollen tube down to the ovary and into an ovule. When this happens fertilisation occurs and a seed is created.

Mystery 2: Why are bumblebees important in pollination?

Bumblebees visit flowers to collect pollen, for their larvae, and nectar. When the bumblebees collect the pollen, some of it sticks to their hairs. When the bumblebee lands on the next flower some of the pollen can fall off. Bumblebees often show preferences when feeding and visit lots of flowers of the same type.

Mystery 3: Why do we need bumblebees to produce some of the food that we eat?

When fertilisation happens, a seed is formed in a flower's ovary. That ovary then swells and becomes the flesh of a fruit. Many of these fruits, such as apples, are eaten by people. Bumblebees are important in this process because they transport pollen from one flower to another to allow fertilisation to take place.



The Bumblebee Conservation Trust is a registered charity (England & Wales 1115634 / Scotland SC042830). Company registration number 05618710 (England & Wales) Registered Office: Bumblebee Conservation Trust, Lakeside Centre, Lakeside Country Park, Wide Lane, Eastleigh, Hampshire SO50 5PE.