

**Lesson 2**

**LO: To understand the different types of reproduction**

**Background information:**

In this lesson you will be learning about different types of reproduction in plants.

Living things that use sexual reproduction have sex cells called gametes. These are split into male gametes and female gametes. In some living things, the male and female are separate, but in other living things one organism can contain both male and female gametes.

In plants, the male gametes are contained in the pollen and the female gametes are called ovules.

Sexual reproduction happens when a male gamete and a female gamete join. This is called fertilisation.

Sexual reproduction produces offspring (children) that are similar to both parents, but not identical to either.

**Task:**

1. Watch these video clips and take notes in your books based on what you have learnt or understood.

a. Pollination and transportation <https://www.bbc.co.uk/programmes/p0128z6q>

b. Fertilization [https://www.youtube.com/watch?v=R8\\_ScKzLAfE](https://www.youtube.com/watch?v=R8_ScKzLAfE) and  
<https://www.bbc.co.uk/bitesize/topics/zgssgk7/articles/zqbcxfr>

c. Asexual reproduction <https://www.bbc.co.uk/bitesize/guides/zykp34i/revision/1>

2. Draw a diagram of a plant and explain how pollination occurs. Use these key words to help you: **pollinated, fertilization, carpel- (stigma, style, ovary) ovules, sexual reproduction (both parents), asexual reproduction (one parent), gametes, clones**

3. Complete the attached sheet about advantages and disadvantages for sexual and asexual reproduction.

4. Experiment: You will conduct an experiment to make a new plant from one parent plant. If you are successful, each plant will be a clone of a parent plant.

Write up a plan for your experiment including the following sections:

- 1) Method
- 2) Variable (what you may change or test)
- 3) Prediction (what you think will happen)

Instructions and resources needed attached.

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Draw this grid into your books. Write the below statements into the correct sections.

<p><b><u>Sexual Reproduction:</u></b></p> <p>Advantages:</p> <p>Disadvantages:</p>	
<p><b><u>Asexual reproduction:</u></b></p> <p>Advantages:</p> <p>Disadvantages:</p>	

**Statements**

Time and energy are needed to wait for another parent plant to reproduce with.	Diseases will not affect all the individuals in a habitat because they will all be different.	The species can change over time to adapt to new environments and habitats.	Reproduction is not possible for an isolated plant.
Only one parent plant is needed so new plants can be made even if there are no other plants nearby.	There is no variation or difference in new plants, so the species is less resilient to diseases or changes in climate.	The population can be increased quickly.	Good features of the parent plant will always be passed on.

Experiment instructions:

Taking cuttings from a plant is an artificial method of asexual reproduction. If you are successful, you will make new plants that are genetically identical to the parent plant! Cuttings are small pieces of stem that are carefully removed from the parent plant and encouraged to form their own roots, making new plants.

Follow these instructions to take cuttings from a geranium plant:



1. Cut a side stem that is about 5 cm to 10 cm long off the main stem of the parent plant. You should cut the side stem just below a leaf joint.
2. Carefully cut off all the leaves except the very top ones.
3. Put each cutting in a beaker or jar of water.