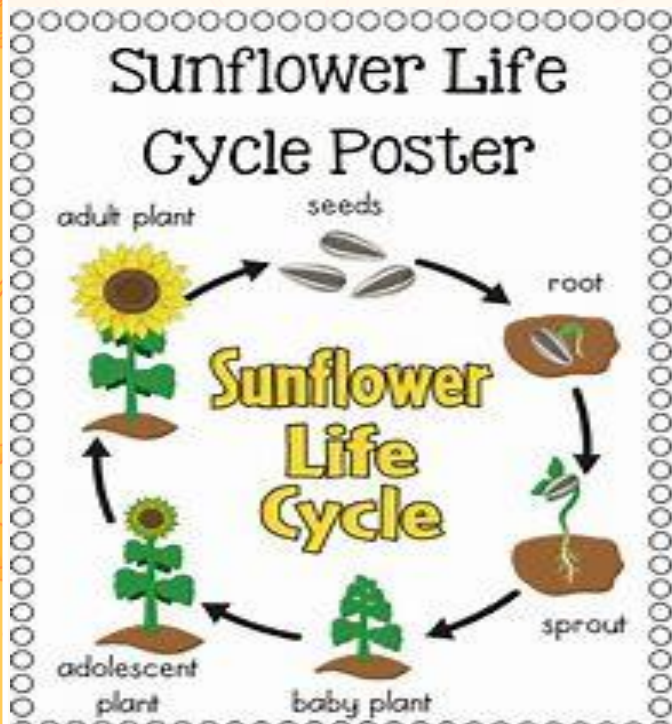


Reproduction in Plants



Reproduction in Plants



Sexual reproduction

Last week, we looked at the lifecycle of a flowering plant from seed to plant and then back to seed again.

We focussed on **sexual reproduction**. This was where flowers produce **pollen** (containing the male gamete) which travels either by wind or insects to the stigma of another flower. On reaching the stigma, it joins with the ovule (the female gamete) and makes a seed. This process is called **pollination**.

Reproduction in Plants



Pollination by insects

If a plant relies on insects to pollinate it, then it needs:

- Large petals for insects to land on,
- Sticky pollen so that as insects brush past, it can attach itself to their bodies,
- Strong sweet scents to attract the insects, and
- Tasty nectar to make the insects want to visit the flowers.

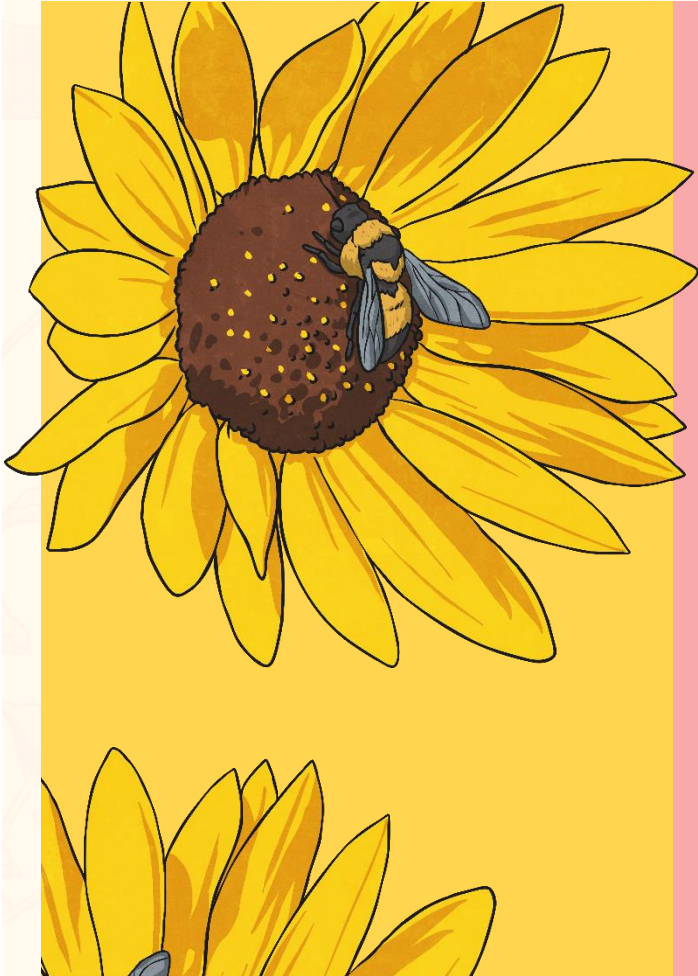


Pollination by wind:

If a plant relies on wind to pollinate it, then it needs:

- Long dangly anthers that blow around easily,
- Feathery stigmas that catch the pollen
- Stigmas that reach outside of the flower to catch the pollen.
- Small, lightweight pollen that can blow easily in the wind.

Asexual Reproduction



Some plants use **asexual reproduction** to make new plants.

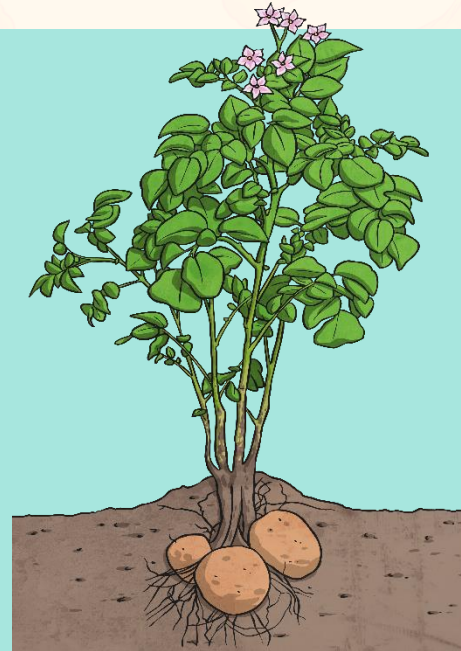
Unlike sexual reproduction, asexual reproduction only needs one parent plant to make new plants.

Because there is only one parent plant, there is no fusion of gametes, and no mixing of genetic information. The new plants are identical to the parent plant. We call these **clones**.

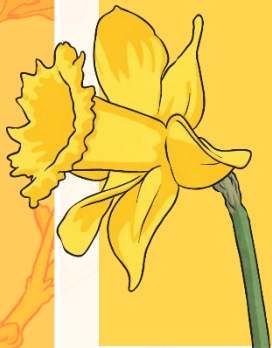
Plants That Use Asexual Reproduction

Some plants produce side branches or runners with new plantlets on. The roots of each plantlet grow down into the soil, and the plantlets will grow to form new plants identical to the parent.

Spider plants and strawberries are examples of plants that reproduce this way.



Potato plants grow tubers underground during the spring and summer. These tubers will grow into new plants the following spring if they are left undisturbed.



Daffodil bulbs store energy underground. Once the daffodil plant has died back, the bulb develops side shoots that will grow into new daffodils for next year.



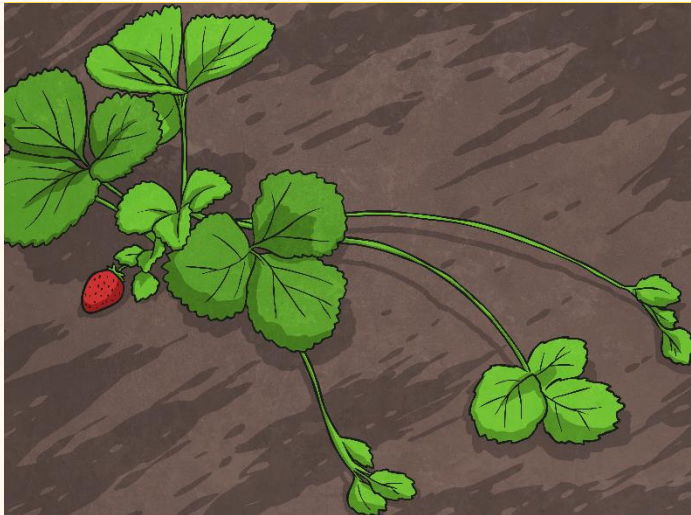
Plants That Use Asexual Reproduction

Some plants develop bulbs or tubers underground. These bulbs or tubers will develop into new plants for the following year. The new plants will be genetically identical to the parent plant.

Daffodils and potatoes are examples of plants that reproduce this way.



Spider plants send out branches with baby plantlets on. Each plantlet will grow into a new plant.



Strawberry plants send out runners with small plantlets on. These will each grow into a new strawberry plant.

Advantages and Disadvantages



There are advantages and disadvantages to plants using sexual or asexual reproduction. Have a look at the statements on your Advantages and Disadvantages Activity Sheet (in the resources pack). Can you match each statement to show whether it is an advantage or disadvantage of each type of reproduction?

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Advantages and Disadvantages

Some plants use sexual reproduction to make new plants, while other plants use asexual reproduction. Fill in the diagram with the statements to show the advantages and disadvantages of each type of reproduction.

	Advantages	Disadvantages
Sexual Reproduction		

★ ★ ★

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.

★ ★ ★

Statements

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Science Year 5: Living Things and Their Habitats Making New Plants Lesson 2

Making New Plants

If you have a geranium plant in your garden, you could have a go at making new plants from one parent plant (as long as your parents are happy for you to do it!). If you are successful, each plant that grows will be a clone of the parent plant! This means it will be genetically identical to the parent plant.

Follow the instructions on your Taking Cuttings Activity Sheet (see resources pack) to try to make new geranium plants.

If you don't have a geranium, have a go with another plant.



Aim

- I can describe how some plants reproduce.

Success Criteria

- I can describe asexual reproduction in plants.
- I can identify advantages and disadvantages to sexual and asexual reproduction in plants.
- I can explain different ways to make new plants.

