POLLINATION

This power point will help you:

- Know the main stages of pollination
- Be able to explain the process of pollination

Your task:

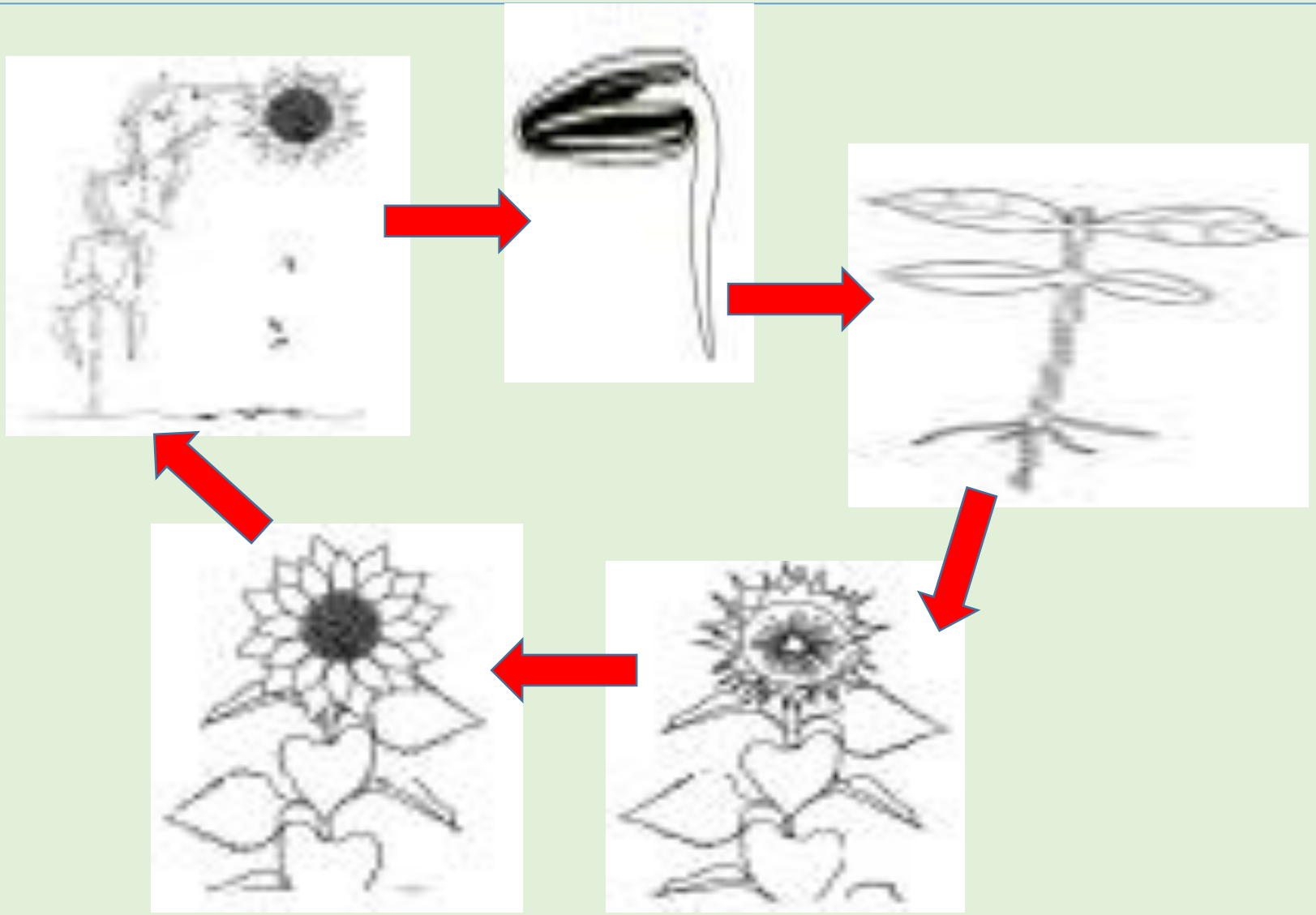
- Create a comic strip to show your understanding of pollination. Make sure all the steps of the process are in order, and draw a brief image to show each step.

Flowering plant life-cycle

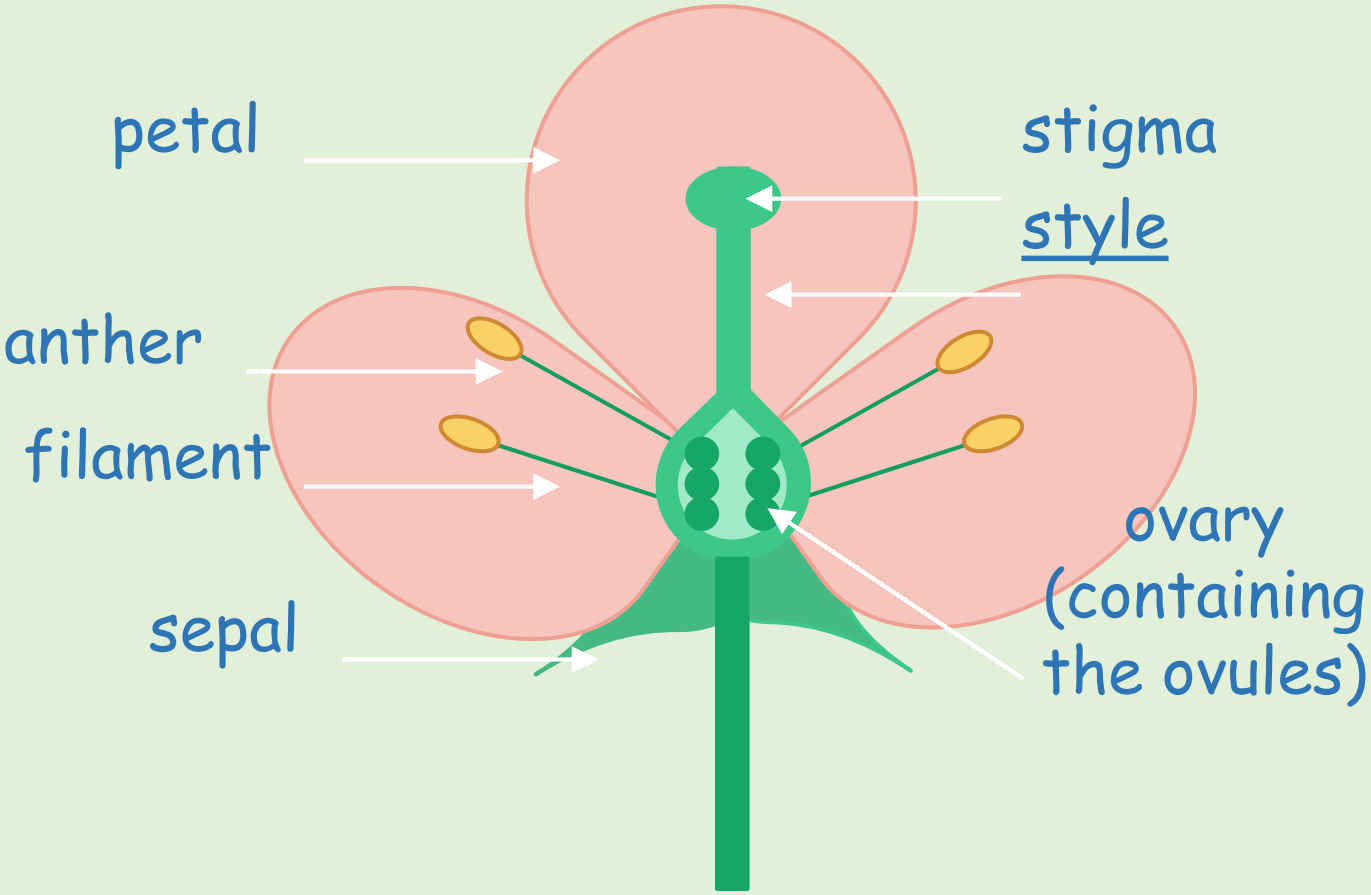
There are 4 stages to the life-cycle of a flowering plant:

1. POLLINATION
2. FERTILISATION
3. SEED DISPERSAL
4. GERMINATION

The life cycle of a plant



Parts of a flower



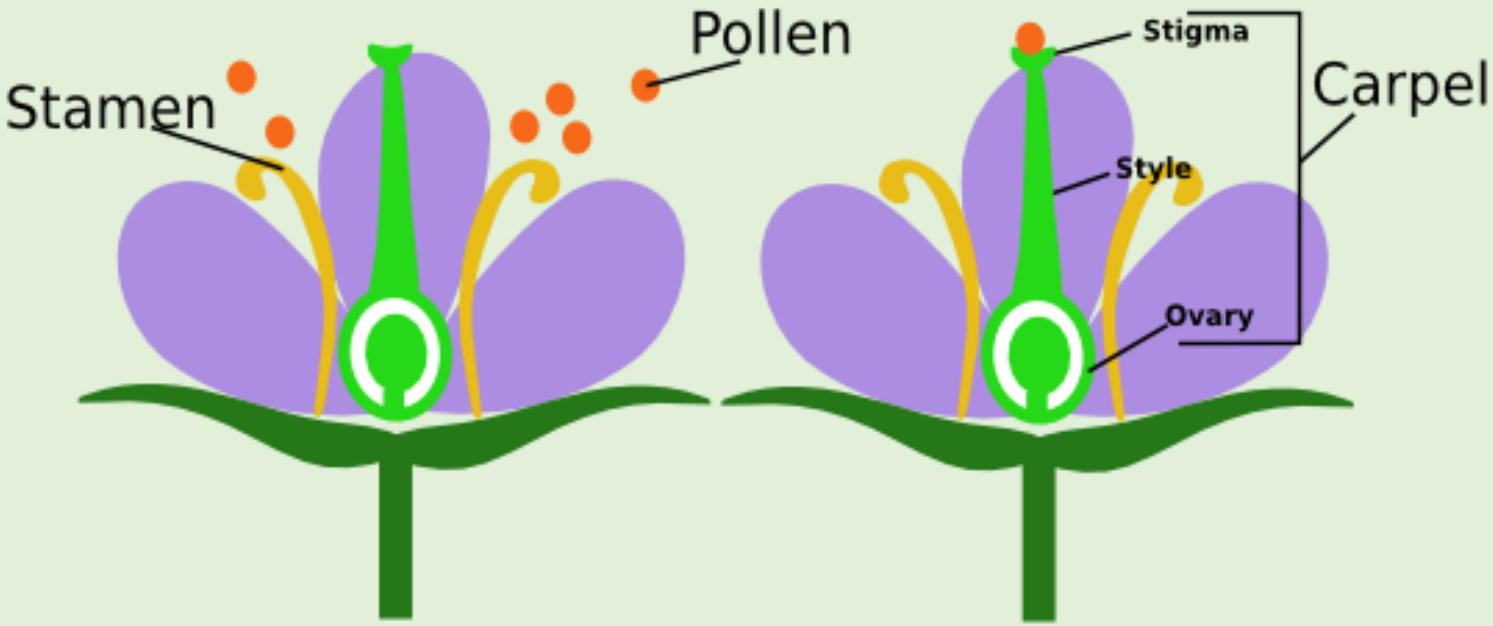
Parts of a flower

Male part:

The anther carries pollen which contains the male germ cell.

Female Part:

Inside the ovary are ovules which contain the female germ cell.



The male and female parts are involved in a process called pollination.

- What is pollination?

Click Me!

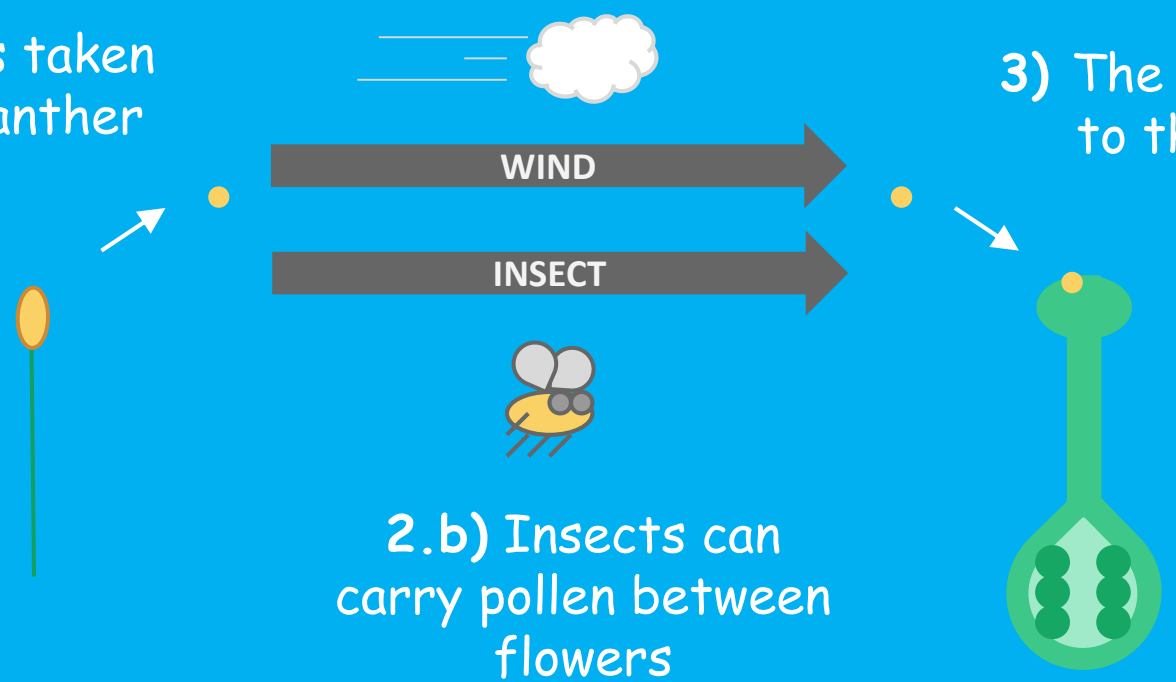
What animals are involved in pollination?

- Birds – Hummingbirds
- Insects – Bees, Butterflies and Ants.
- Mammals – Bats and Kinkajous.

Pollination

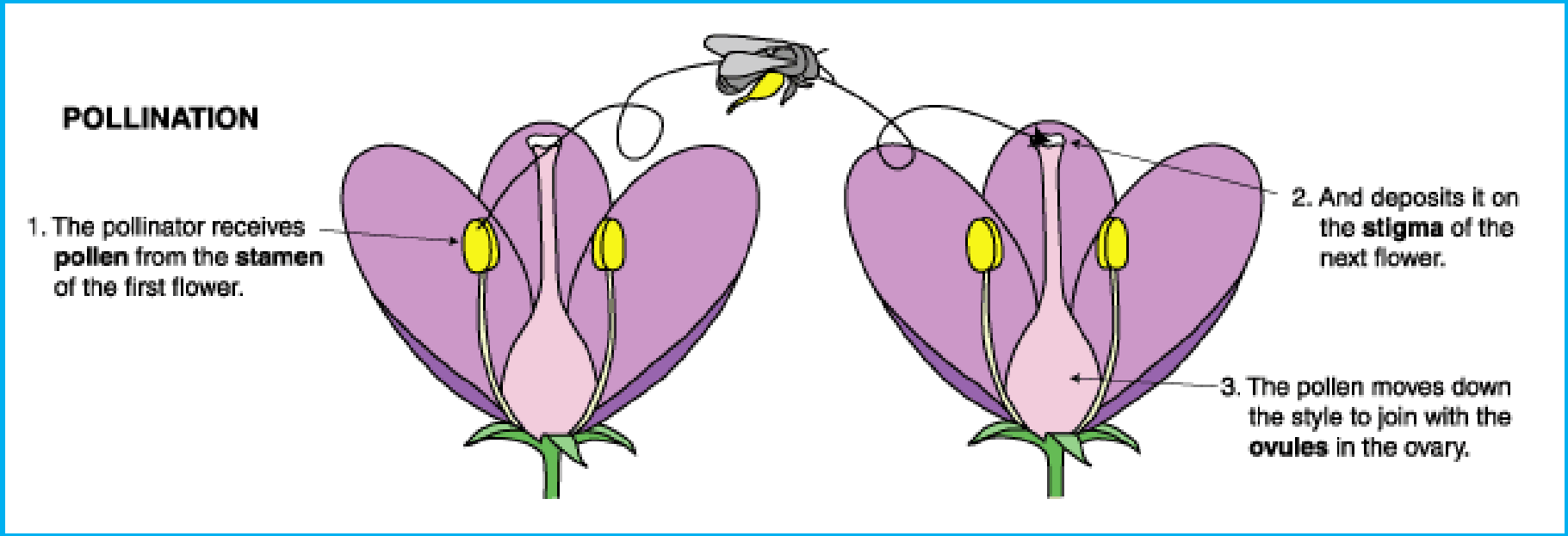
2.a) Wind can carry pollen between flowers

1) Pollen is taken from the anther



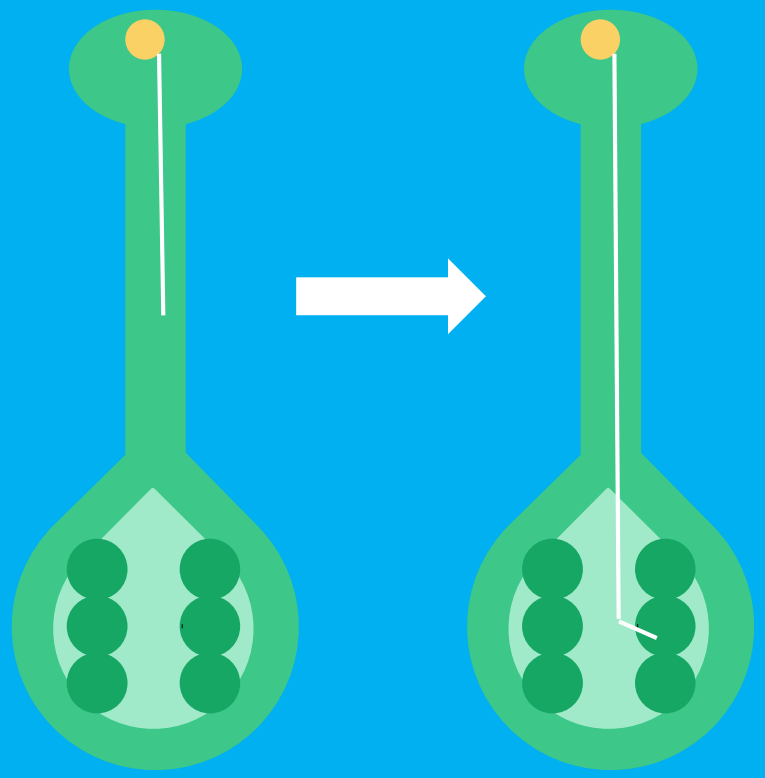
3) The pollen sticks to the stigma

2.b) Insects can carry pollen between flowers


POLLINATION
1. The pollinator receives **pollen** from the **stamen** of the first flower.
2. And deposits it on the **stigma** of the next flower.
3. The pollen moves down the style to join with the **ovules** in the ovary.

Fertilisation

Once the pollen has landed on the stigma, a pollen tube grows down the inside of the style.



When the tube reaches an ovule, fertilisation takes place and a seed forms.

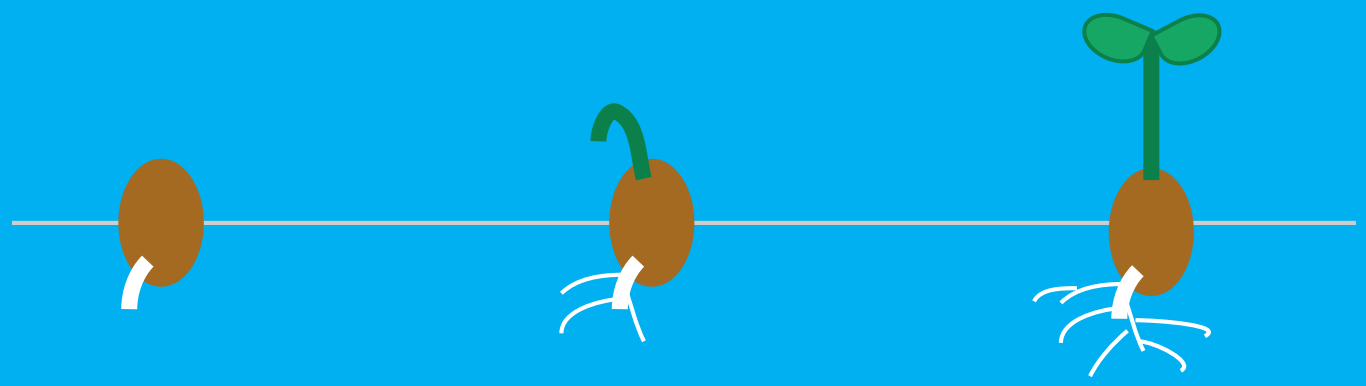
Seed dispersal

Once an ovule has been fertilised it will become a seed. To avoid competition (for light, water, etc.) with the parent plant the seed will be dispersed.

- **Dispersed by animals** - seeds can be contained within a fruit or attach to fur/skin
- **Dispersed by wind** - seeds can be very small and light or have an adapted fruit that catches the wind.
- **Dispersed by 'explosion'** - seeds are thrown from the parent plant.

Germination

When the conditions are suitable (e.g. warmth and moisture), a seed will germinate. Germination is the first stage of growth.



1) a root emerges from the seed coat.

2) Using energy stores, the seed produces a shoot

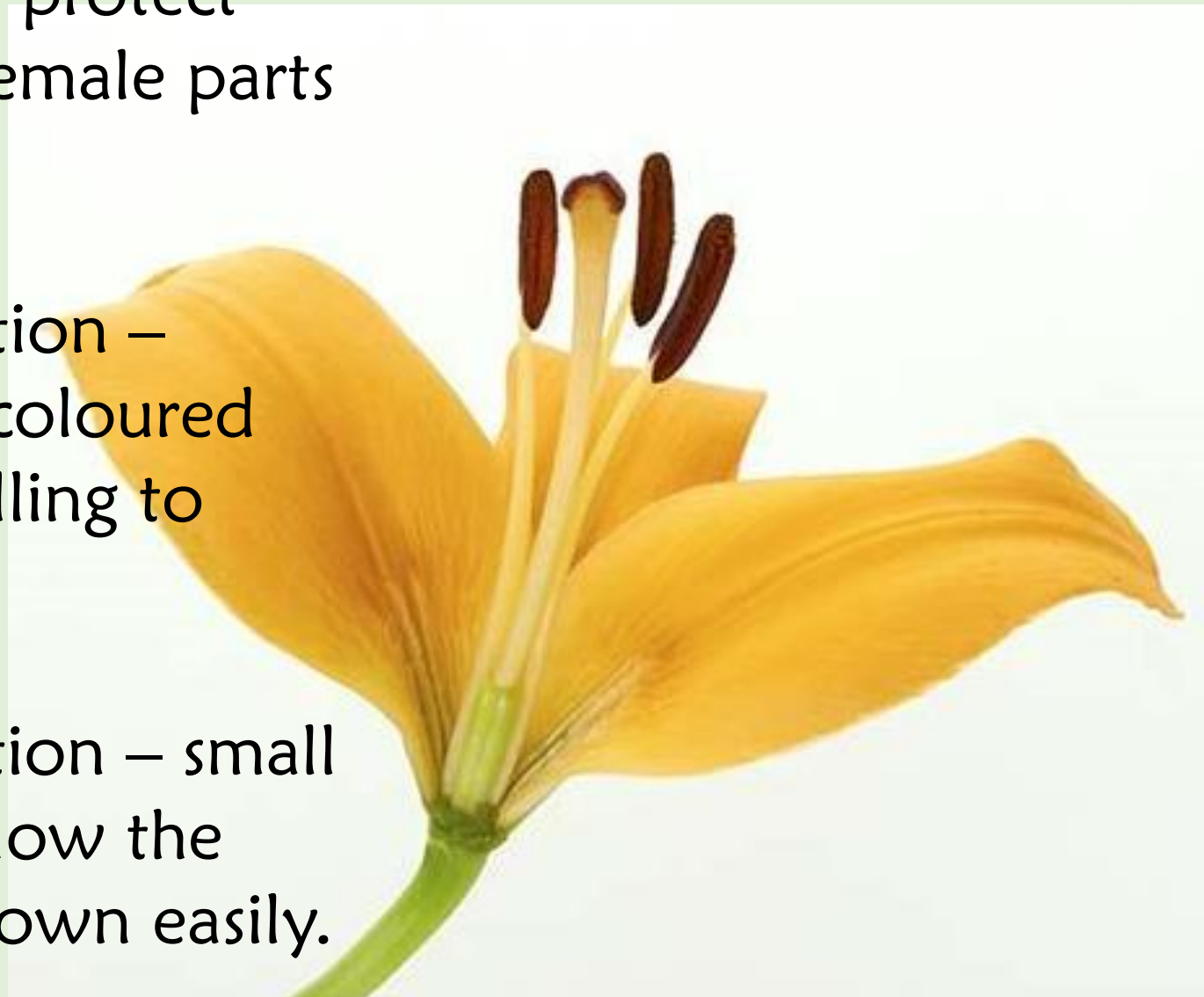
3) Seed leaves appear allowing the plant to start photosynthesis

What are petals for?

- Partly used to protect the male and female parts of the plant.

- Insect pollination – large, brightly coloured and sweet smelling to attract insects.

- Wind pollination – small and plain to allow the pollen to be blown easily.



Insect Pollination – the process

- Pollen grains brush against the insect
- It flies to another plant
- The grains rub on the stigma
- The grain of pollen grows a tube, which goes down the style until it reaches the ovary
- The male part joins with the female part to form a seed (this is <u>fertilisation</u>)
- After fertilisation the petals drop off because they are no longer needed

Key words to help you:

petals

pollinate

fertilise

anther

pollen

stigma

style

ovary

insect pollination

wind pollination

nectar

Your task:

- Create a comic strip to show your understanding of insect pollination. Make sure all the steps of the process are in order, and draw a brief image to show each step.
