

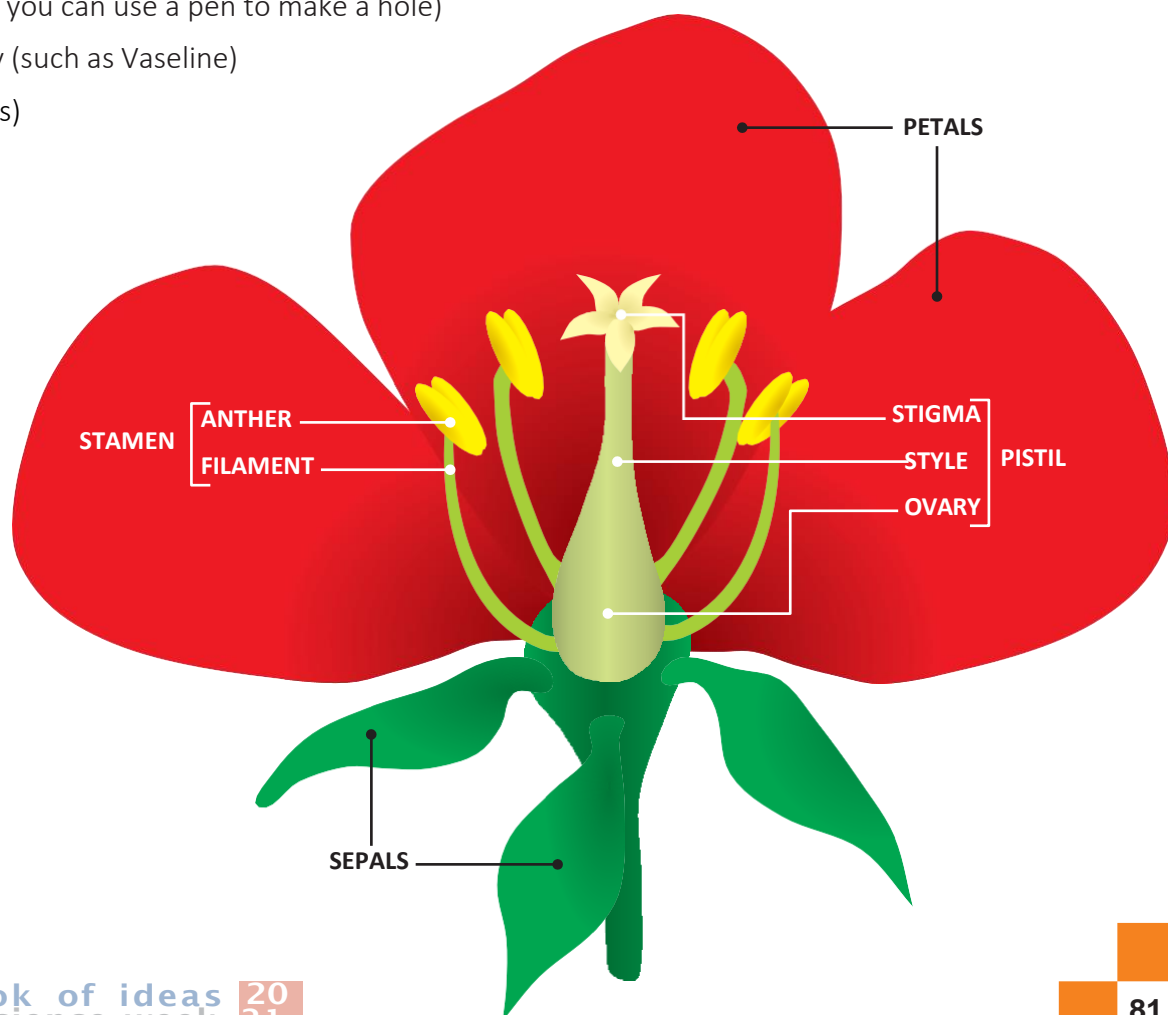
Have a go at this

Activity 7: Design a pollen trap

New plant and animal breeds suited to a greater variety of climate conditions will be required in the future as agriculture and food production continue to adapt.

You will need the following items.

- A few small rectangles white cardboard or stiff white paper
- String
- A hole punch (or you can use a pen to make a hole)
- A petroleum jelly (such as Vaseline)
- (Ask your parents)
- A Pen or pencil



Instructions

1. Use the hole punch to make a hole in each piece of cardboard.
2. Smear a thin layer of petroleum jelly on one side of each piece of cardboard.
3. Using the string, hang the bits of cardboard outside in different places.
 - You can hang them from a tree, near some flowers, near your door or anywhere else you can think of.
 - If you are hanging them from a tree, just tie a loose loop around the branch, so you do not damage the tree.
4. On the back of the cardboard, write where you are hanging it.
5. After a few days, take the cardboard down again.
6. Look at what has stuck to the surface of the cardboard.

What is going on?

On the card, you should see some dust and dirt. If you look closely, you may also notice some yellow grains. This is pollen. Depending on where you put them, you may find the cards have different amounts of pollen on them.

Flowering plants create pollen as part of their reproductive process. It is produced in a part of a flower called the stamen and contains some of the genetic information from the plant that created it. When the pollen from one plant is transferred to a part of another flower called the pistil, the genetic material in the pollen joins with some special cells in the new flower, which then grow into seeds. This is called pollination. Pollination normally takes place between two separate plants of the same species, although there are a few plants that can pollinate themselves.

Pollen can travel from one plant to another in different ways. Some plants rely on insects that visit their flowers to spread the pollen. Others just release the pollen into the air where it floats around and hopefully lands on the pistils of another plant of the same species. It can be extremely hard to see pollen in the air because it's so small, but this is what you have caught on your cardboard. It is this airborne pollen that often triggers hayfever. If you have a hand lens or microscope, use these to inspect the pollen — pollen grains from different species have different shapes.

On its own, pollen does not harm people. People who suffer from hayfever have immune systems that react to pollen as though it was a dangerous substance, like a virus or bacterium. Hayfever is normally caused by specific types of pollen, so sometimes people will find they only suffer from hayfever in particular places, depending on what plants are found there.