

PLANTS (teacher's notes)

FLOWERS, FRUITS AND SEEDS

About flowers:

- Angiosperms are the plants that produce flowers.
- If everything is fine the bud will develop into a flower.
- Depending on the plant, the sepals will remain or not in the flower.
- Some flowers have more than one pistil.
- Some plants have the female and the male parts in the same flower, other plants have them in different flowers or there are also plants that have their flowers in different plants.

About pollination:

There is self-pollination (the pollen comes from the same plant) and cross-pollination (the pollen comes from another plant from the same species). Animals (insects, birds...) are attracted to the flowers by their bright colours, by nectar (food) and by sweet scents.

About fertilization:

If you open a pea pod and one of the peas hasn't grown it's because it hasn't been fertilized

About seeds and fruits:

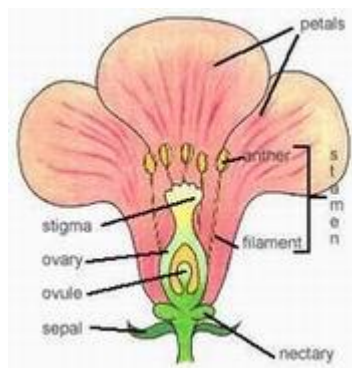
- The seeds of a conifer tree are not contained in fruits, they are contained in cones!
- Animals can disperse seeds or fruits by eating them and passing them out in their droppings or hiding them. Some seeds or fruits catch on to animals' fur.
- Seeds or fruits dispersed by water have a waterproof shell.
- Seeds or fruits dispersed by wind are light.

Activity 1: Before the flower is open: what is in there?



These photographs belong to the same flower.

Activity 2: Let's look at the parts of a flower!




The pistil is also called carpel.

<http://www.plantlife.org.uk/poppy/interactive.htm>

An ovule is the female reproductive cell.

A pollen grain is the male reproductive cell.

Activity 3: There is an enormous variety of flowers.

		
Name of the plant	tulip	sunflower
Number of flowers		many hundreds of florets

Sunflowers and daisies are composite flowers. The florets in the edge has a single petal-like “ray”.

Activity 4: Pollination happens when the pollen sticks on to the flower stigma.

Pollen can be dispersed by wind, water, but the most important way is animals (insects, birds...).

Activity 6: What’s outside and inside a bean seed?

A possibility is to have some seeds in the right conditions to germinate and give the children a dry and a germinated seed to look at, the germinated seed could help them to identify some parts.

If the children can have a look at a pea pod, it will help them to remember that seeds, in this case peas, are inside fruits, in this case inside a dry fruit.

OUTSIDE:

- Seeds are covered by a skin called testa.
- On the testa it is possible to see where the ovule was joined to the ovary; hilum is its name.
- On the testa it is also possible to see where the pollen grain entered the ovule, micropyle is its name.

INSIDE:

- The embryo or developing plant has two parts: the plumule that will be the first plant’s shoot and the radicle that it will be the first plant’s root.
- The rest is the food store.

Activity 7: Are seeds protected?

B)

- **Drupes** have one hard-case seed.
- **Berries** have many seeds.
- **Pomes** have a core with the seeds contained in a capsule.
- **Compound fruit** has many fruits and each fruit has a seed. They come from many ovaries in the same flower.
- **Nuts** have one seed covered by a hard shell.
- **Achenes** have one seed and some have papery wings.
- **Legumes** have the seeds attached to the case.
- **Grains** have their walls fused with the seed coat.

succulent fruit (they are fleshy)				dry fruit (they are dry cases)			
drupes	berries	pomes	compound fruit	nuts	achenes	legume	grain
plum, cherry...	orange...	apple...	raspberry, blackberry...	walnut, acorn...	ash...	pea...	wheat, barley

You can also bring a fruit with its sepals still on it such as, for example, a tomato.

Activity 8: Seeds disperse in different ways.

(The spear boxes to draw can be used to add the correct answers.)

A) Seeds or fruits with their fruits can be dispersed by animals, wind or water.