

Dissecting a strawberry

To dissect is to cut and separate the parts of something, usually a plant or an animal, for scientific or medical study and to examine it in detail. Doing this helps us understand how things work.

As it's nearly summer and most of us like to munch a few (or more than a few) strawberries I thought we'd start with a strawberry (then you can gobble it up when you've finished) Strawberries are not real 'berries' they are pseudocarps (false fruit)

You will need

- a large strawberry
- a sharp knife (you might need an adult to help)
- a clean piece of paper
- a sharp pencil

Instructions

Take a large strawberry, (wash and dry it, then wash and dry your hands)

Cut the strawberry it down the middle from the green calyx to its tip (then wash and dry your hands again)

If you have a magnifying glass/ lens or sheet hold this over the strawberry and carefully examine the strawberry can you see these things;

- ✓ Stalk and Green calyx (leaves at the top of the strawberry)
- ✓ Epidermis (the skin of the strawberry - usually bright red)
- ✓ Achene (what you might think are little brown 'seeds' stock to the epidermis)
- ✓ Pith (this may look like a pale inner shape that resembles the shape of the strawberry)
- ✓ Vascular bundle (look like thin pale almost white 'strings' that connect the achene to the pith)

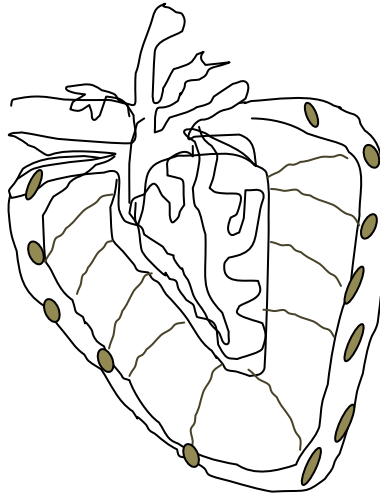
Draw a careful diagram of your strawberry and label it, then you can gobble it up (providing you haven't left it out too long)

IF you eat only half of the strawberry you could try growing new plants from the seeds from the other half. You can see the method at the very bottom of this document!

Remember to wash you hands after you've dissected or eaten the fruit.

Anatomy of a strawberry

Your strawberry diagram should look something like this

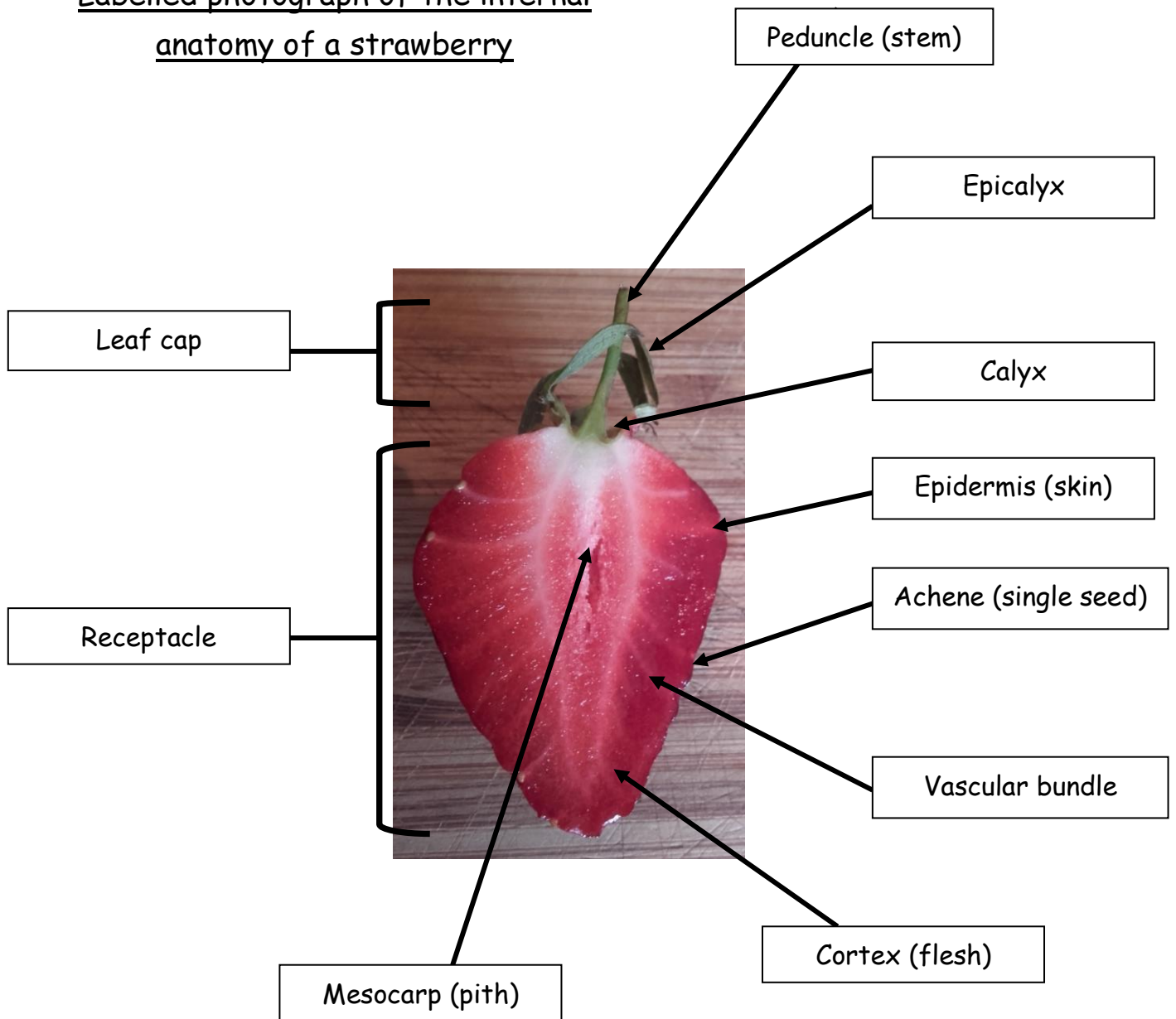


Here are the scientific words to help you label your diagram. Labelling should not be in cursive writing. See if you can match your strawberry parts to the diagram and label it yourself. (Try by yourself first but if you get stuck there is a labelled picture below)

- Receptacle (the whole strawberry excluding the leaves and stalk)
- Leaf cap (the epicalyx and calyx (the leaves))
- Peduncle (Stalk)
- Epi calyx (small leaves that come before the calyx appear)
- Calyx (leaves that protect the flower's internal organs and developing fruit, also helps provide additional food through photosynthesis)
- Exocarp (the outer layer or skin) It's also called the **Epidermis** (just like our skin)
- Achene (single seed) There are approximately 200 seeds on a medium sized strawberry!
- Cortex (the fleshy juicy yummy bit) Storage area of photosynthesised products, water and minerals
- Vascular Bundle (look like white threads, these transport water & minerals to the Achene (seeds))
- Mesocarp (Pith) (we sometimes remove this when presenting strawberries - it is rich in fatty acids, amino acids and vitamins essential to the seeds but almost tasteless to us)

Send us a picture/ scan of your dissection diagrams; remember you can earn a point for completing this challenge. Try dissecting and labelling other fruits (you can find lots of help from your adults, in books or on the web) We'd love to see your scientific work!!

Labelled photograph of the internal anatomy of a strawberry



Want to grow more strawberries?

Smush up the other half of your strawberry in a bowl with some water or you can use a blender (ask an adult to help or permission first!) Strain the mix and you will be left with the brown oval achene (seeds) you can drink the juice! Tip the mush onto a paper towel and spread it out to dry. Whilst that is drying prepare a pot of compost. When the mush is dry collect the seeds, then simply drop them onto the top of the pot, cover with a thin layer of compost, label the pot and give it good water. Always wash your hands after handling soil/ compost!

You won't get strawberries this year and you'll have to wait for the plants to grow but next year you'll have strawberry plants to pot on (put in bigger pots)

Did you know you can grow even more strawberry plants from strawberries by almost doing nothing!

Strawberry plants produce tendrils (we call them runners in this case as they seem to try to run away from the parent plant which we call the 'mother' plant) Simply find a runner and stick a pot of soil underneath it where it is naturally flopping toward the ground. Mrs Owen uses a small rock to hold it in place on the top of the soil but some people like to stick them down with a upside down U shaped piece of wire or cane (called pegging) After a while a 'daughter' plant will grow from roots where the tendril (runner) has been touching the soil. The tendrils come from the centre of the 'mother' plant when they do this they are called a stolon. It's much quicker to grow new plants this way than to wait for seeds and it's usually a more successful process. The new plants are usually stronger because they are also getting food from their mother plant, and when they start to photosynthesise for themselves they get an even bigger boost. There are usually many runners made by the parent plant, you could encourage each runner to be a new plant or cut a couple off so that you are left with only a few runners which should grow even stronger as there's less competition for food. Once the daughter plants are growing green leaves and look nice and healthy you can cut through the runners and move them somewhere else.

Strawberries can be grown in yards, out of baskets and planters and on windowsills but be mindful of slugs & snails (they like strawberries as much as we do) and in cold weather cover the plant with some leaf mould or straw to stop them getting frozen. Put them somewhere they can get lots of sunshine and make sure you give them plenty of water and scare birds off (they're as bad as slugs and snails)

Choose only healthy looking plants because diseased plants will produce poorly 'daughter' plants and you won't get nice strawberries next year.

When your strawberries are red and juicy pick them, wash them and gobble them up! You might have to share though!!