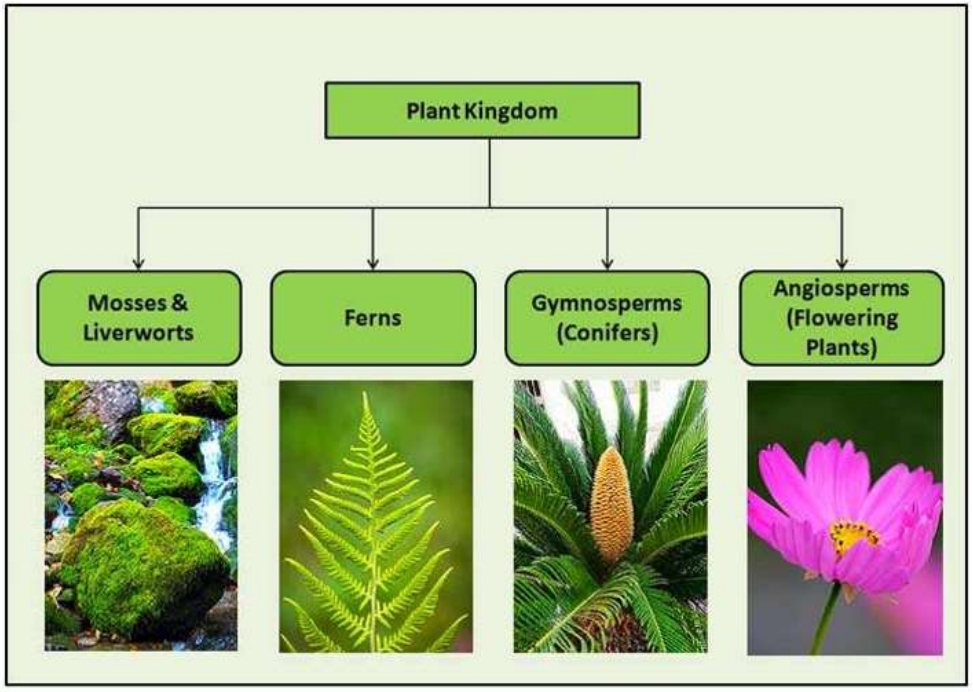
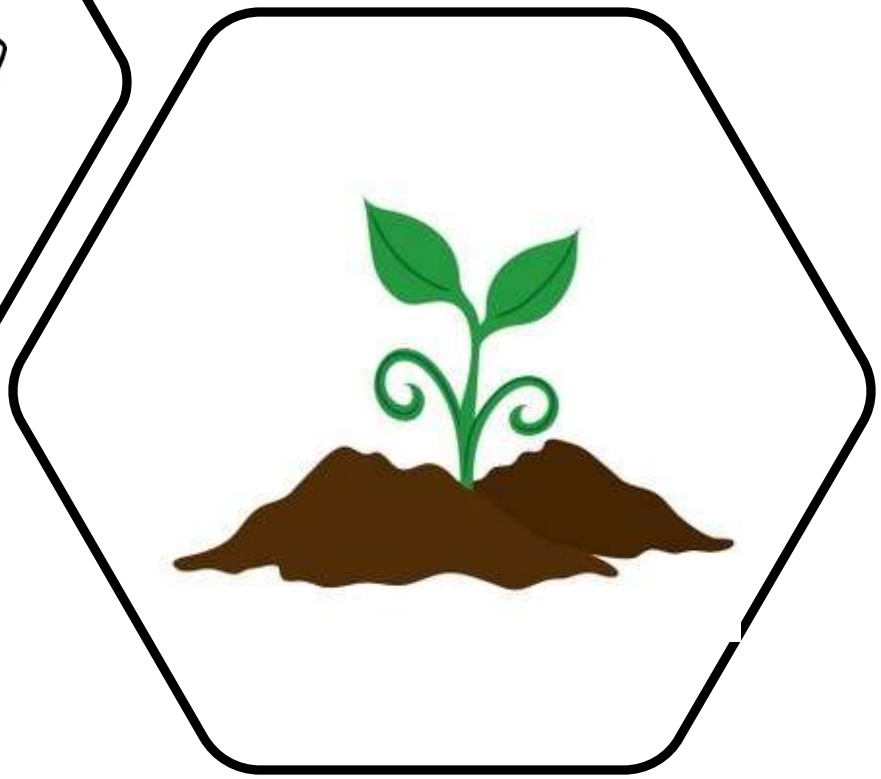
Tuesday 15th June

LO: To describe how living things are classified into broad groups.



https://www.bbc.co.uk/teach/class-clips-video/science-ks1-ks2-ivys-plant-workshop-classifying-and-grouping-plants/zh9jvk7

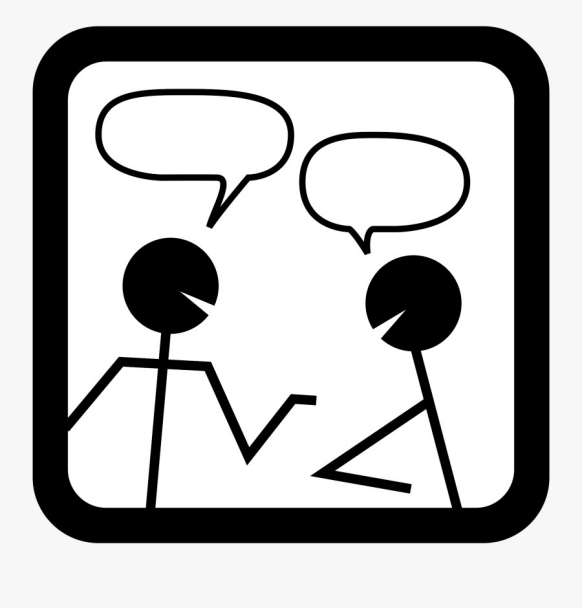


Starter:

Today we're going to go outside for 10 minutes to find as many plants as possible. This could be anything from grass, to moss on a tree or even algae at the pond!

What will you find? Think about how you will classify/sort/organise your plants linking to last week's lesson!

Discuss…

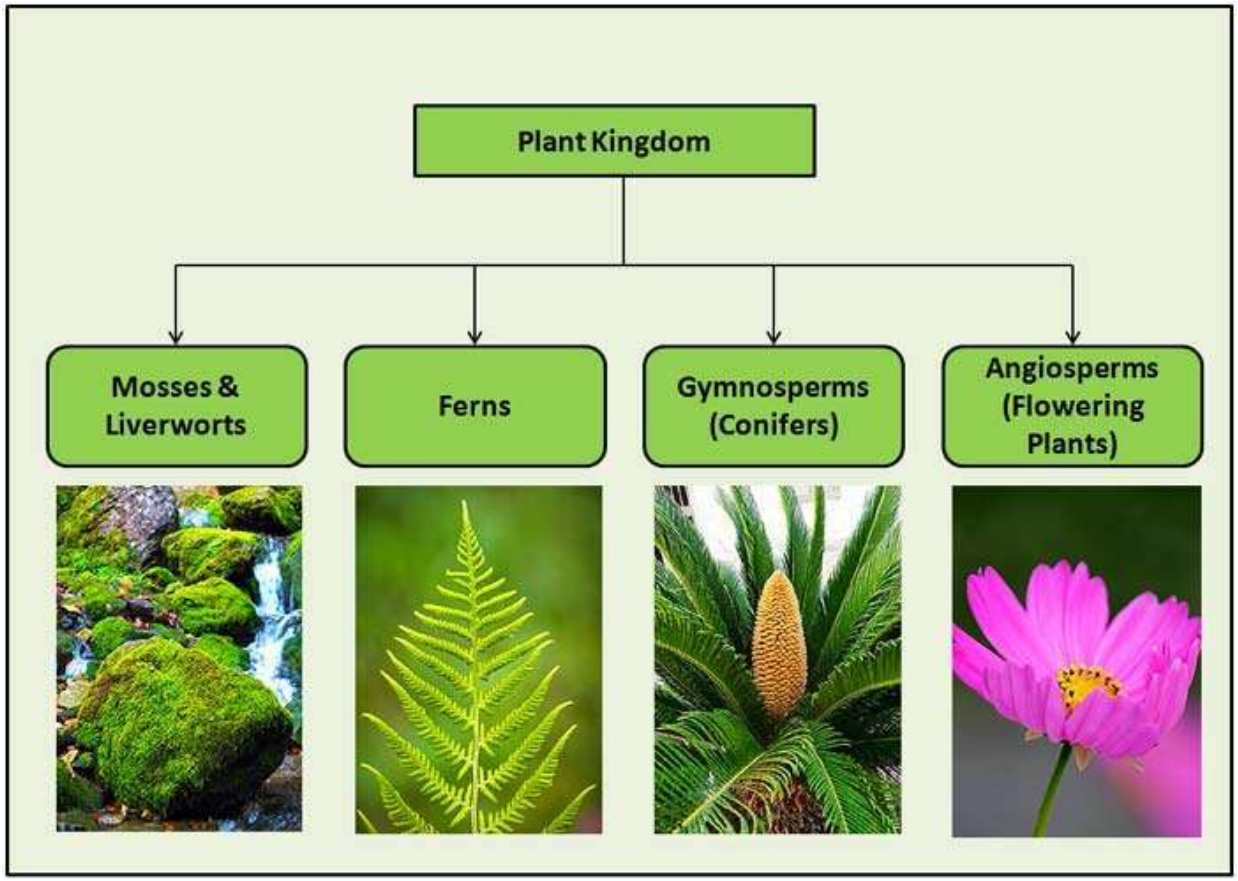


Now we're back inside the classroom with your collection of plants, what observable characteristics do you see?

What is similar and different about each plant?

Discuss with your partner.

How plants are classified?



Mosses

- Mosses are flowerless/seedless plants. They reproduce by **spores**. They are plants that most people have seen but many have ignored. The most commonly found group is the green mosses that cover rotting logs, grow on the bark of trees, and grow in the spray of waterfalls, along streams and in bogs. Even though mosses often thrive in wet habitats, some mosses and some liverworts can survive in quite dry environments such as sandy soils and exposed rock outcrops.

Ferns

Ferns are a group of non-flowering plants that reproduce by releasing **spores** rather than seeds and they include the true ferns and other graceful, primarily forest-dwelling plants. There are about eleven thousand different species of ferns making them the most diverse land plants after the flowering plants (angiosperms).

Cycads

The 220 species of the non-flowering cycads are found in the tropics. Most of them look like ferns, having a cluster of long fronds growing from a central stalk but they have male and female **cones** containing **seeds**. Cycads appeared in the fossil record about 230 million years ago.

Ginkgo biloba

There is only one species of ginkgo. It is a tree, sometimes growing to a large size, native to China but widely planted around the world. Ginkgo is often referred to as a "living fossil" because nearly identical plants are known from fossils nearly 200 million years old.

Conifers

With around 588 living species, this is the largest gymnosperm group. Conifers grow in all climates and on all continents except Antarctica. They all bear their **seeds** within a cone or a structure resembling a berry. Most conifers are trees. Conifers appeared in the fossil record about 290 million years ago and have been an ecologically important, widespread group ever since then.

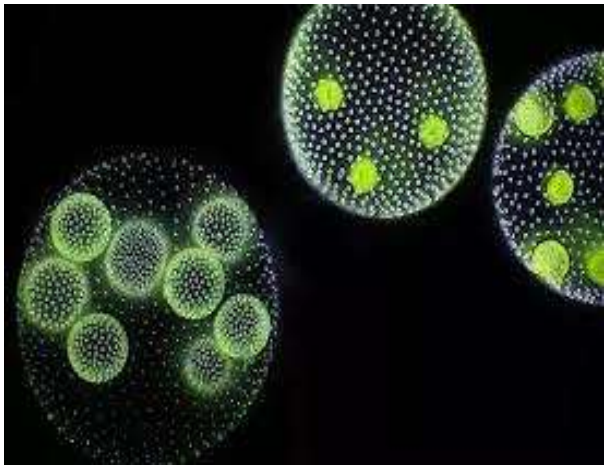
Angiosperms (flowering plants)

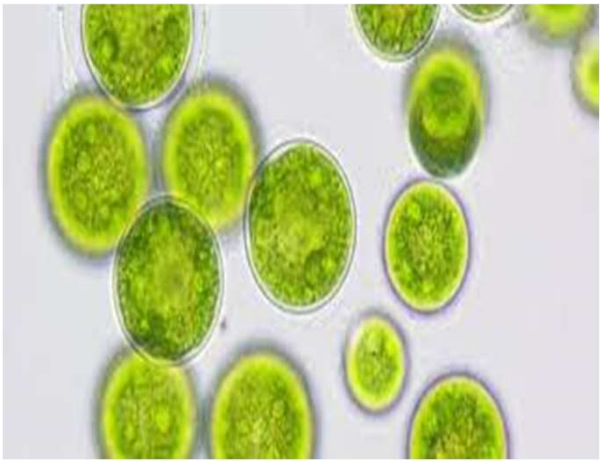
The angiosperms are plants whose **seeds** develop within a surrounding **fruit**. This can easily be seen by slicing into a tomato, for example. Some defining characteristics of angiosperms include flowers, carpels and the presence of endosperm, a food substance found in seeds.

Algae

Algae are a diverse group of aquatic living things, that like plants have the ability to conduct photosynthesis (make their own food using light energy). Certain algae are familiar to most people; for instance, seaweeds, blanket weed in ponds and single celled forms found in plankton.

Originally algae were classified as plants but as they have no proper roots, stems, leaves or produce spores or seeds they are now put in the group called protists.





Now you have learnt a little more about plants, we've collected some of our own and discussed the different categories, what ways can we record which plants belong to each category? What might we use?

Hmmm, maybe the clue on my right will help…

Dichotomous Key for Plants

What type of plant is that?

- The plant grows seeds
  - The plant grows flowers (angiosperm)
    - The leaves look like a net → It's a dicot
    - The leaves look like a highway → It's a monocot
  - The plant doesn't grow flowers (gymnosperm)
    - The plant has needlelike leaves → It's a conifer (Pinophyta)
    - The plant has fan shaped leaves → It's a ginkgo (ginkgophyta)
- The plant doesn't grow seeds
  - The plant has stems and leaves → It's a fern (pteridophyta)
  - It doesn't have leaves or stems → It's a type of moss or algae (bryophyta)

This is true for lots of different plants. Can you think of any exceptions?

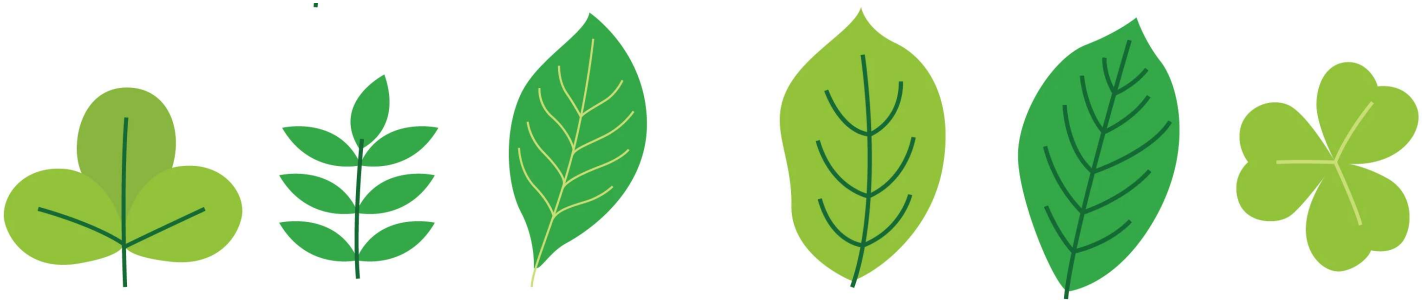
Main Task:

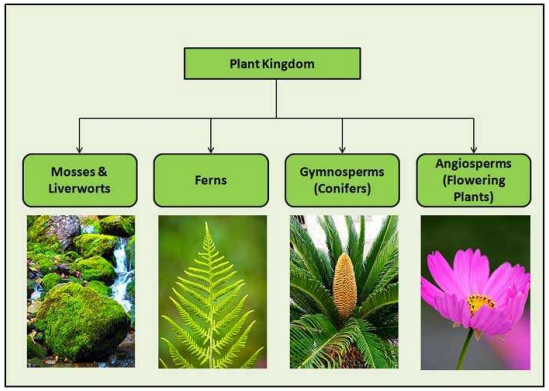
Today, you will be creating your own Dichotomous key for plants.

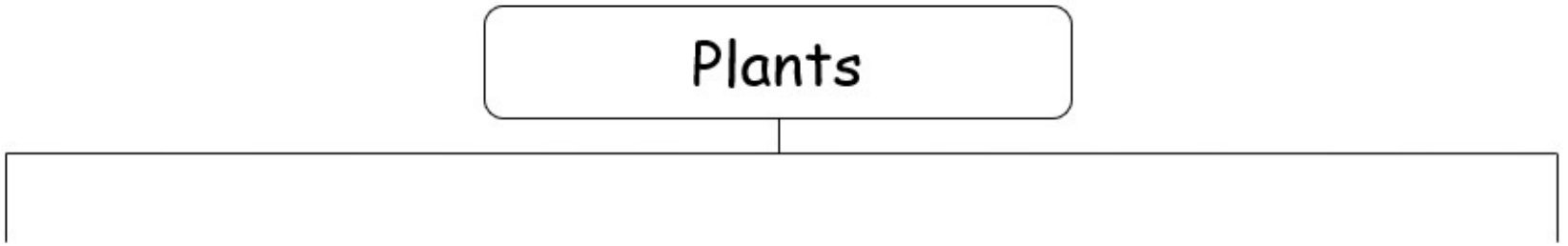
Use the A3 template to help you if needed. If you're drawing your key, make sure you use a ruler!

Use scientific vocabulary – angiosperm, conifers, ferns, growth, seeds…

Use colour to show some of the observed characteristics.







Use this template if needed.
Or draw with a pencil and ruler.

Mosses & Liverworts | Ferns | Conifers | Angiosperms