

## The Four Common Plant Groups

**PoS** - describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals

**NaG** - pupils should build on their learning about grouping living things in Year 4 by looking at the classification system in more detail

**WS** - pupils might work scientifically by: devising classification systems and keys to identify some animals and plants in the immediate environment

There are four basic plant groups; these include:

- **mosses/liverworts**
- **ferns/horsetails**
- **conifers**
- **flowering plants**

Each plant group is usually common in specific areas; for example you can find mosses and liverworts growing in damp places. The plants in every group also vary in size, with the mosses being the smallest and conifers (trees) being the largest.

### Mosses and Liverworts

The first group of land plants are the mosses and liverworts. They are land plants, but do not have flowers or produce seeds. Mosses reproduce with spores. A spore is a small structure that grows on the end or stem of the plant and then falls off, is dispersed by the wind and will grow into a new plant. Mosses do not have the root and stem system that other plants have for transporting water, so they are small plants (miniature stems) that grow in wet damp environments.



*Moss spores*

### Ferns

Ferns make up the second group of land plants. These plants all have root and stem system that allows the flow of water and nutrients from roots to the rest of the plant. Ferns, however, do not have flowers. Ferns, like mosses, reproduce by producing spores. You can often see them if you turn over a mature leaf. You will see rows of little dots. Each dot is a sori, which contains thousands of spores. Each spore falls off the leaf, is dispersed by the wind and if conditions are right, grow into a new fern plant.



*Fern spores*

### Conifers (also known as evergreens)

These plants make up the third group of land plants. They produce seeds, as opposed to spores, which are contained within a cone. Conifers can grow into very large plants (trees) such as the giant redwood and Douglas Fir. The leaves of conifers have evolved to roll up and turn into needles. The needles stay on the tree all year and hence give the trees the name 'evergreens'. The needles help the tree to retain water. Conifers produce pollen; this pollen is blown by the wind onto the cones of other conifer trees (same species). This is a fairly inefficient process, so the conifers produce a very large amount of pollen to ensure the cones are fertilized (pollinated). If you are in a conifer forest in the spring, you will find that the forest floor, rocks, cabins and cars can become covered in pollen grains. When a conifer cone is fertilized with pollen, it produces seeds.



*Conifer cones*

## Flowering Plants

The final group of land plants are the flowering plants; roses, cactus, thistle, willow and sycamore all belong to this family. The evolution of the flower represents the high point of plant evolution. The flower attracts many animals which assist in pollination, making the process of pollination more efficient and less random than wind pollination. Seeds develop in a seed case (ovary), which becomes a fruit. The fruits can help with seed dispersal, since animals eat the fruits and therefore the seeds, which usually pass unharmed through the animal's digestive system. Animals then deposit the seeds, along with a little bit of fertilizer, a long way from the original plant. Many trees, like the oak, as well as shrubs and garden plants produce flowers to help them with pollination.



Apple tree fruits

Sort these plants into their correct groups according to their observable features.



Moss on Bridge



Douglas Fir



Bracken Fern



Blue Spruce



Fiddlehead Fern



Giant Redwood



Moss on rocks



Plum Tree



Pine



Moss on wood



Daisy



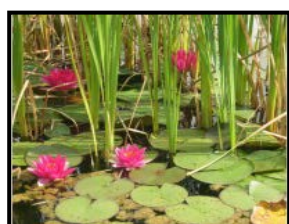
Moss on ground



Rose



Asparagus fern



Water lily

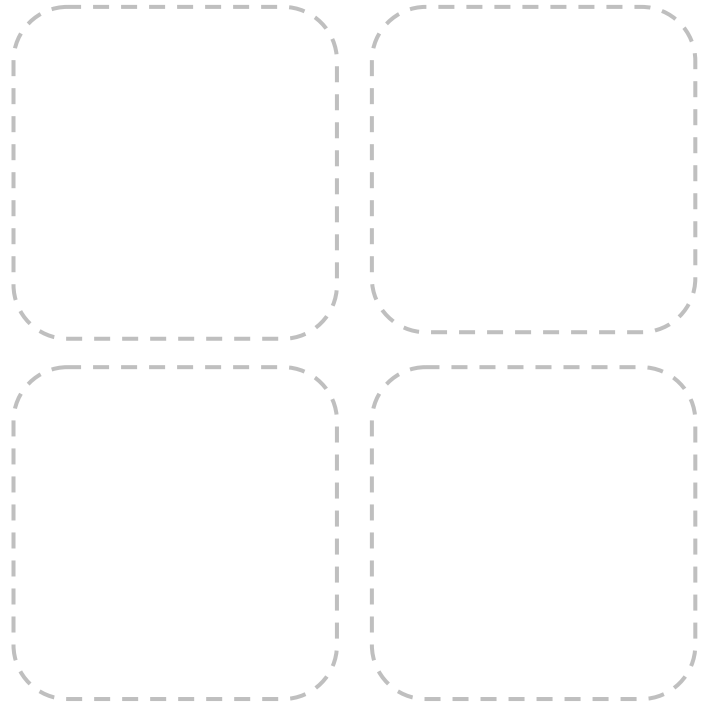


Lady fern

Use the descriptions and images provided to classify the plants into their correct common plant group. Give reasons for your classification. Paste the plant group pages into your science books or design a cover and make your own plant classification booklet.

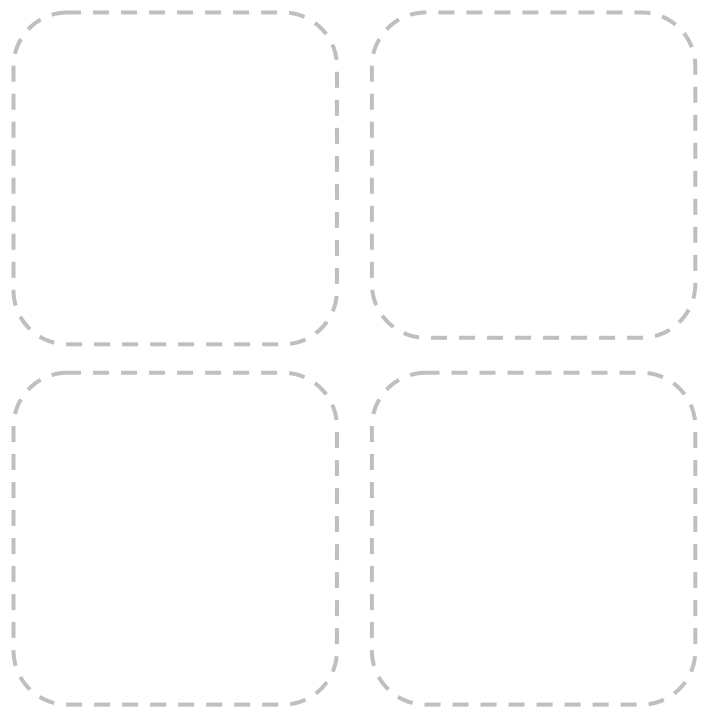
## Mosses

These plants are mosses because:



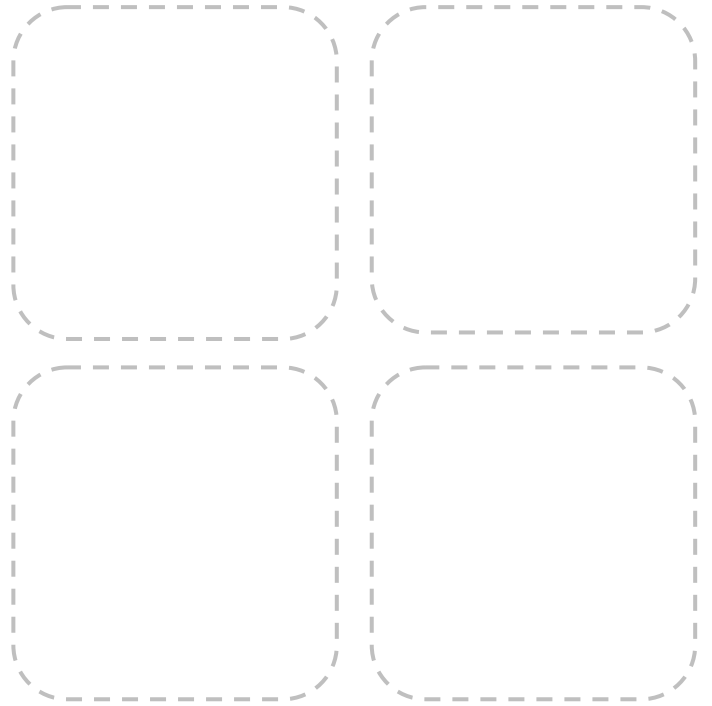
## Ferns

These plants are ferns because:



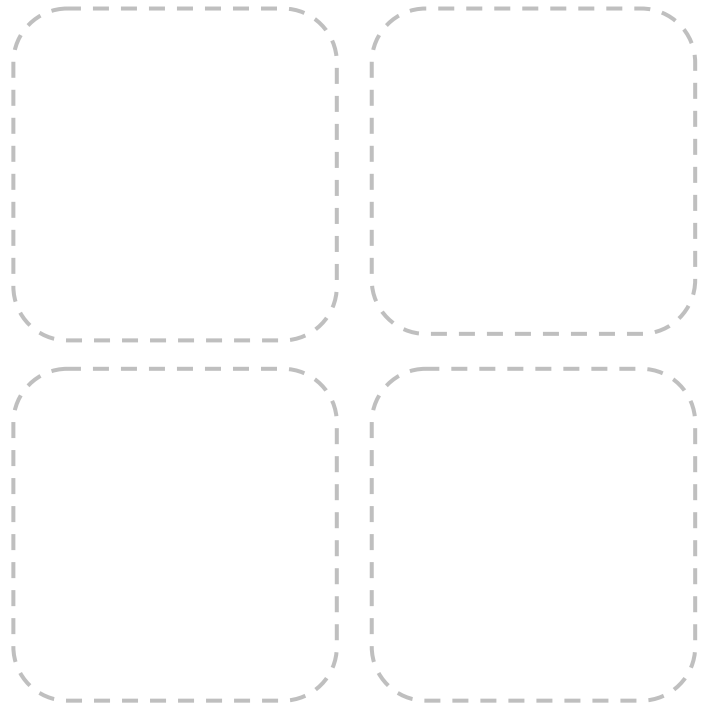
## Conifers

These plants are conifers because:

Four dashed rounded rectangular boxes arranged in a 2x2 grid, intended for drawing or writing about conifer characteristics.

## Flowering Plants

are flowering plants because:

Four dashed rounded rectangular boxes arranged in a 2x2 grid, intended for drawing or writing about flowering plant characteristics.