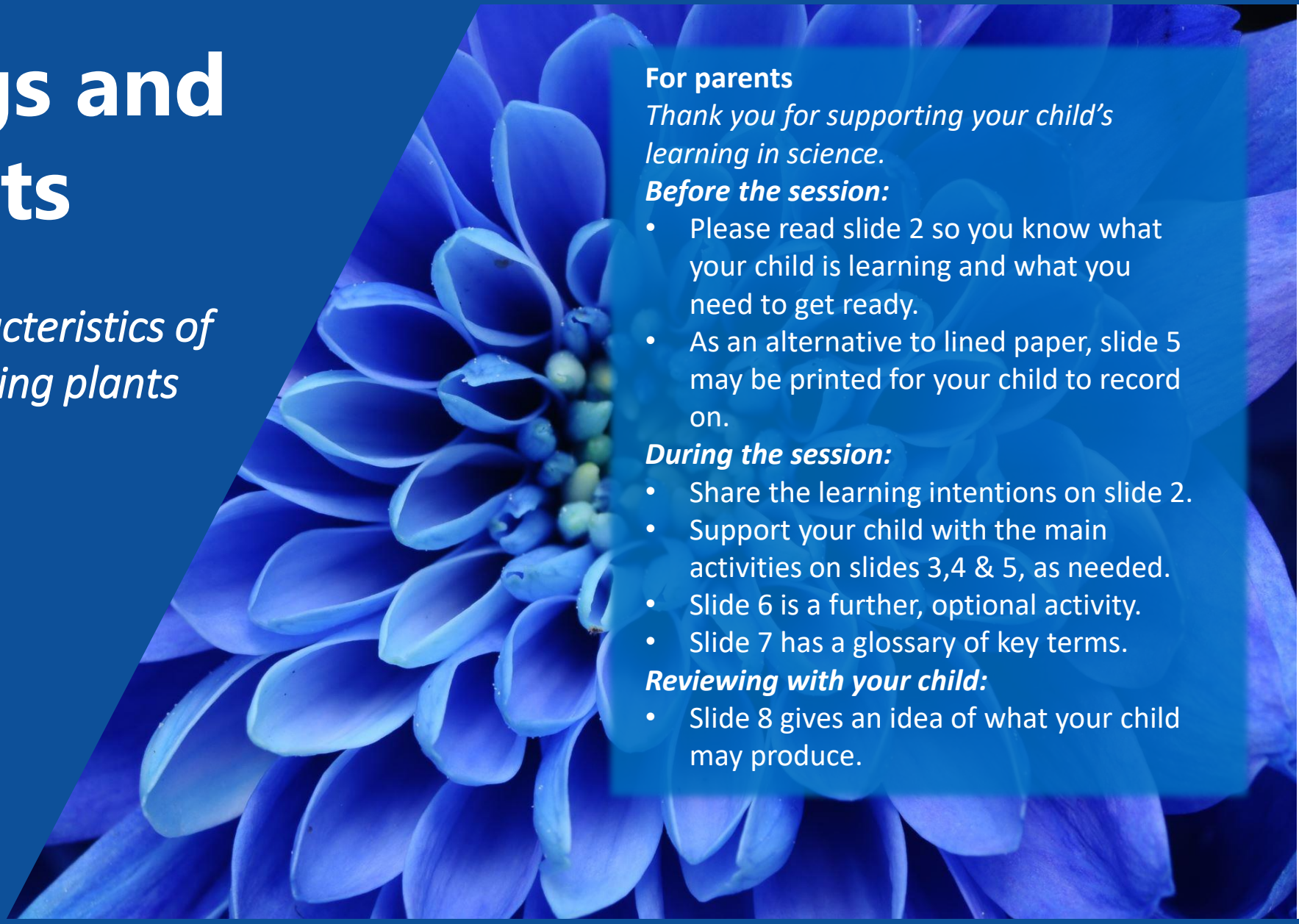
Living things and their habitats

Plant classification: characteristics of flowering and non-flowering plants

Year 6
Age 10-11



For parents

Thank you for supporting your child's learning in science.

Before the session:

- Please read slide 2 so you know what your child is learning and what you need to get ready.
- As an alternative to lined paper, slide 5 may be printed for your child to record on.

During the session:

- Share the learning intentions on slide 2.
- Support your child with the main activities on slides 3,4 & 5, as needed.
- Slide 6 is a further, optional activity.
- Slide 7 has a glossary of key terms.

Reviewing with your child:

- Slide 8 gives an idea of what your child may produce.

The Association for Science Education

Living things and their habitats

Plant classification: characteristics of flowering and non-flowering plants

Key Learning

- **Plants** can be divided broadly into two main groups: **flowering plants** and **non-flowering plants.**
- **Flowering plants** reproduce with seeds which are protected by a flower or fruit.
- **Non-flowering plants** include **conifers**, **ferns**, and **mosses.**

I can…

- Describe the characteristics of flowering and non-flowering plants.
- Use a statement key to classify a group of plants.

Activities (pages 3-5): 30 - 40 mins

- Use lined paper, a ruler and a pencil.
- Alternatively, print page 5 as a worksheet.

Find out more… (page 6): 30 – 60 mins

- Find out more about your local trees.

Explore, review, think, talk…

What do you already know about flowering and non-flowering plants?
(10 minutes)

Watch these two BBC clips about classifying plants.

https://www.bbc.co.uk/bitesize/clips/zsdkjxs

https://www.youtube.com/watch?v=cgVlrtGnG6s

- Think about these questions as you watch:
  - Which type of plants produce seeds?
  - Which type of plants produce spores?

A **Flowering plant** reproduces with seeds which are protected by a flower or fruit.

https://www.dkfindout.com/uk/animals-and-nature/plants/flowering-plants/

https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/plants/grasses-and-sedges/

- Why are the flowers of some plants brightly coloured and those of other plants a dull green or brown?

Insect-pollinated plants usually have coloured petals. Many trees and grasses have dull, hanging flowers as they rely on the wind for pollination.

Non-flowering plants

Exploring the characteristics of conifers, ferns and mosses
(Page 4-5: 20-30 minutes)

Non-flowering plants include **conifers**, **ferns**, and **mosses.**

- **Conifers** reproduce with seeds in cones.
- They often have needle-shaped leaves.



- Conifers include firs, pines, spruces and yews.
- Many are evergreen and do not shed their leaves in winter.


Mosses and **ferns** reproduce with tiny spores rather than seeds.

Mosses often grow in shady, damp places and do not have true roots.

More details about conifers, ferns and mosses:
https://www.dkfindout.com/uk/animals-and-nature/plants/non-flowering-plants/
https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/plants/ferns/

Use the key to classify these plants:

Hazel tree

Buttercup

Bracken

Moss

Spruce tree

Grass

I can use a paired statement key to classify plants.

I can use a paired statement key to classify plants.

1	reproduces with seeds	go to 3
	reproduces with spores	go to 2
2	has roots	plant A:
	has no true roots	plant B:
3	produces flowers	go to 4
	does not produce flowers	plant C:
4	flowers are colourful	plant D:
	flowers are not colourful	go to 5
5	has a rigid stem	plant E:
	has a flexible stem	plant F:

A **paired-statement key** is set out as a list. You start at number one on the list and work your way through the statements. Identify plants A to F by looking at the pictures and using what you have learnt.

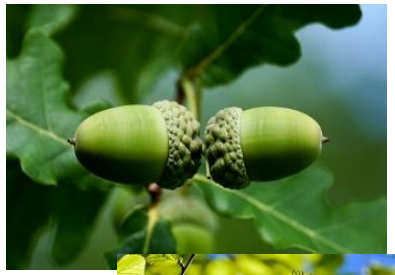
Hint: Some plants hold their seeds in cones.

Hint: Wind pollinated plants do not have colourful flowers to attract insects.

Find out more about your local trees

You may like to investigate the trees in your garden or nearby woodland
(30-60 minutes)

You may like to find out more about your local trees. The Woodland Trust website has a wide variety of information about trees in the UK.
https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/british-trees/how-to-identify-trees/



Alternatively, 'Trees for Learning' have three suggested activities for the Summer.

https://communityforest.org.uk/treesforlearning/download-ks2-activity-summer/

Glossary of terms

Characteristic: **Characteristics** are features of living things which help scientists **classify** them.

Classification: **Classification** is the method scientists use to group living things.

Flowering plant: A **flowering plant** reproduces with seeds which are protected by a flower or fruit.

Non-flowering plant: **Non-flowering plants** include **conifers**, **ferns** and **mosses.** Conifers reproduce with seeds in cones. Ferns and mosses reproduce with spores. Mosses do not have true roots.

Paired-statement key: A **paired-statement key** is set out as a list. You start at number one on the list and work your way through the statements until you reach the name of the living thing you are classifying.

Pollination: **Pollination** is the transfer of **pollen** from one flowering plant to another, usually carried by insects, animals or the wind.

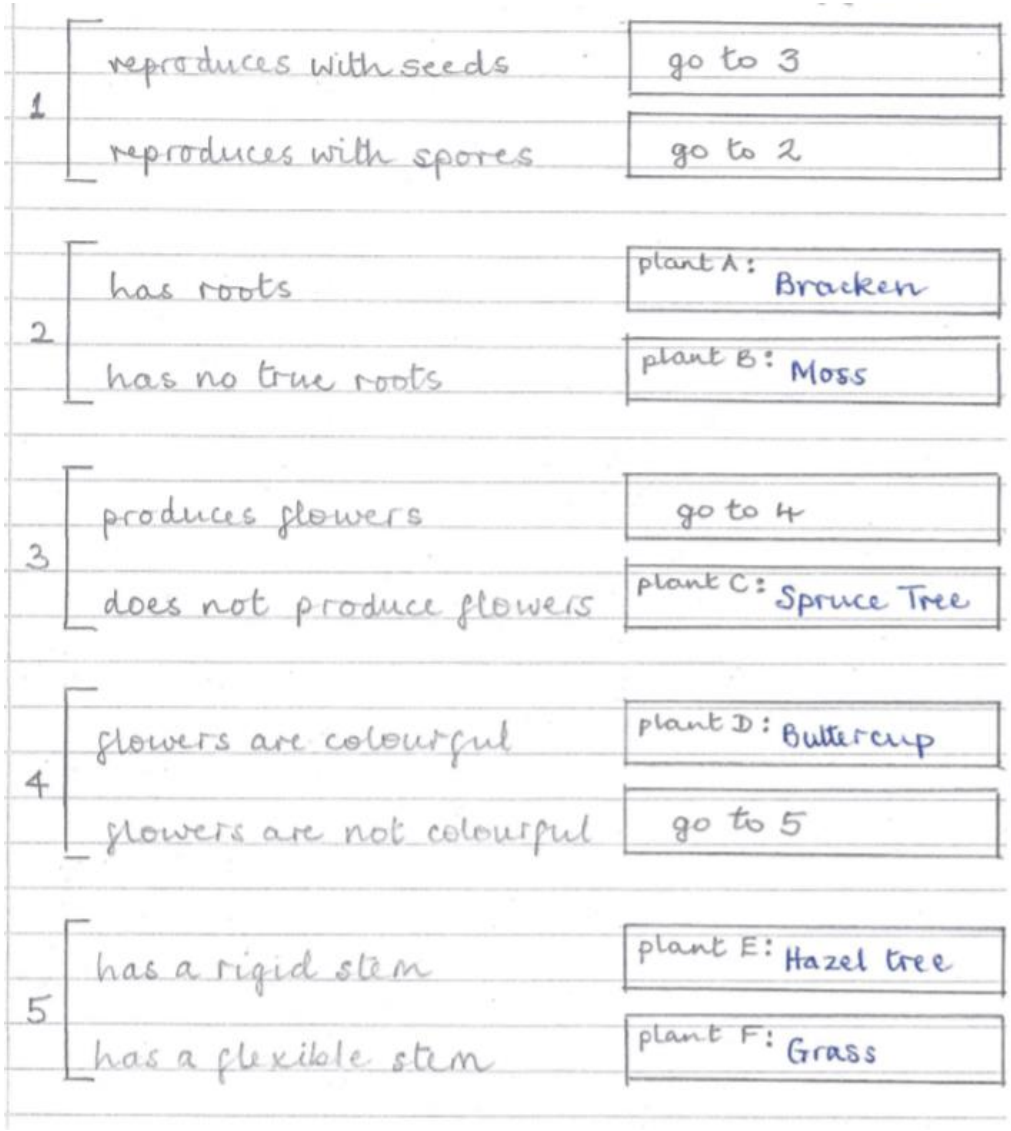
Plant A: Bracken. It is a fern. It reproduces with spores. It has roots, stems and leaves.

Plant B: Moss. Moss reproduces with spores. It has no true roots and usually grows in damp, shady places.

Plant C: Spruce Tree.
It does not produce flowers. It has seeds contained in cones.

Possible learning outcome for reviewing your work.

I can use a paired statement key to classify plants.



Plant D: Buttercup.
It has brightly coloured petals that attract insects for pollination.

Plant E: Hazel Tree. It has catkins as flowers which hang down so the pollen is carried by the wind.

Plant F: Grass. Grasses usually have dull green or brown flowers and stems which bend in the breeze.