

Living Things and Their Habitats

Lesson 4: Classification of Plants

Science KS2 Year 4



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Science

Key Stage 2 Year 4

Learning Aims:

- find out “What is a plant?”
- learn how we can identify if a living thing is a plant
- learn why plants make up an important part of a habitat
- look at different ways we can classify plants
- create a classification key to help us with this and use it to identify different plant types from our “Classification Challenge”
- learn how scientists classify plants, including flowers, conifers, ferns and moss in real-life, depending on whether they produce seeds, spore or are flowering or non-flowering

Curriculum Links

- recognise that living things can be grouped in a variety of ways
- explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment

Working Scientifically

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings



Keyword Vocabulary

Plant. Photosynthesis. Chlorophyll. Stem. Root. Leaves. Tree. Shrub. Herb. Flower. Moss. Fern. Grasses. Habitat. Conifer.

These can also be found at the end of this PDF and can be placed on a learning wall as they are discussed during the lesson.



Equipment

You will need:

- pens and pencils
- plain paper
- magnifying glasses
- collection pots
- tree identification charts (see the useful links)
- “Leaf Identification Challenge worksheet” (on pages 7 and 8 of this PDF)
- “Classification Challenge worksheet” (on pages 9 and 10 of this PDF)
- samples of flowers, conifers, ferns and moss if possible
- reference books where children can find out more about flowers, conifers, moss and ferns



Reading links: Books for learning about plants

1. [**“A visual encyclopedia of the plant kingdom”**](#) - Explore the incredible world of plants, from the smallest seeds to the tallest trees. Find out about the weirdest, smelliest, and deadliest flowers. Which plants eat insects? How do cacti store water? What flower looks like a bee? Where is the tallest tree in the world? Trees, Leaves, Flowers & Seeds explores the mysterious world of plants to find the answers to these and many more questions.
2. [**“What’s that flower?”**](#) - Know your geraniums from your pansies! This beautiful flower identification book features over 150 British and European flower species along with a simple, visual approach to help you tell them apart with absolute ease.
3. [**“Ultimate Explorer Field Guides British Trees: Find Adventure! Have Fun Outdoors! Be a Tree Detective! \(National Geographic Kids\)”**](#) - This fun, photo-filled, fact-packed guide will get kids outdoors to discover the different types of trees around them.
4. [**“The Green Planet: For young wildlife-lovers inspired by David Attenborough's series \(BBC Earth\)”**](#) This is our Green Planet: a hidden world where plants care for other plants and can smell, taste, touch, hear and even . . . 'talk'.



PowerPoint Presentation

The accompanying PowerPoint presentation has 26 slides with the following learning points. At intervals throughout the lesson, we suggest asking the children what questions they might have. These can be collected throughout the unit of learning and added to the slide at the end of the lesson.

- Slides 1 and 2 introduce the lesson
- Slide 3: Introduces today's learning about classification of plants.
- Slide 4: We use examples to see if we can identify "What is a plant?".
- Slide 5: We find out the characteristics which help us identify whether a plant is a living thing.
- Slide 6: Using the habitat we used for our "Classification challenge", we think about why plants are important in that habitat.
- Slide 7: Using the example of whether a plant is edible, non-edible or poisonous, we look at how we could classify different plants.

Activity 1: Leaf Identification Challenge using the "Leaf Identification Challenge" worksheet

- Slide 8: We go outside and collect five leaves from different trees. Using magnifying glasses, the children will compare the similarities and differences between the leaves and use this to sort them into groups. This could include texture (whether the leaf has hairs), shape and colour. Can the children use their groups to identify which tree the leaf came from? What other features could they use? Examples could include bark, flowers, fruit (acorns, conkers, etc.), height, etc.
- Slides 9 to 13 look at the difference between deciduous and evergreen trees.

Activity 2: Nature Detectives

- Slide 14: Time for the Nature Detectives! What types of plants can the children see in the photo?
- Slide 15: Were they right? Time for the big reveal.



Activity 3: Classification Challenge using the “Nature Detectives” worksheet.

If possible provide examples of flowers, conifers, moss and ferns for this activity.

- Slide 16: We look at these plants in greater detail. The children have to come up with three questions to help classify them based on their features. They could think about shape, colour, texture, whether they have flowers, how do they reproduce? Do they have seeds? They can use the useful links at the end of the PowerPoint to help with their research.
- Slide 17: The children are encouraged to create a classification key for these different plants. They can try it out with a partner who has to guess which plant type they are thinking of.
- Slide 18: We use our Classification keys to try to identify which groups the plants in our “Classification Challenge” from Lesson 1 are part of. The children can start with the examples on this slide. Which groups do these plants belong too?
- Slide 19: We look at how scientists classify flowers, conifers, moss and ferns in real-life.

Quiz

- Slide 20 to 22: Quiz: What have the children learned about plants?
- Slide 23: This slide is kept blank for any questions.
- Slides 24 and 25: Useful links.
- Slide 26: End of presentation.





Leaf Identification Challenge

You will need:

- Collection pot
- Magnifying glass
- Leaf identification sheet (see weblinks)
- Plain paper
- Pen

Instructions:

Step 1

Go outside and collect five leaves from different trees.

Step 2

1. Look at the leaves closely using a magnifying glass. Do some of the leaves look similar? Which features do they have in common: look at their shape, texture, colour, do they have hairs?

2. Use your plain paper and group the leaves which look similar together. Can you label these groups depending on their features?





Leaf Identification Challenge

Step 3

1. Can you describe what makes some of the leaves different from one another?
Why did you put them into the different groups?

Step 4

1. Use your tree identification chart (see the weblinks in the PowerPoint). Could you split your groups further to help identify your leaves? Give your partner a leaf. Could they use your groups to identify what leaf they have?
2. Can you think of other features a tree has that you could use to identify it?



Nature Detectives Activity



Flower



Conifer



Moss



Fern

1. Research each of these plant types using books and the weblinks.
Can you find out more about them?

2. Which features do they have which are the same?



3. Which features do they have which are different?

4. Can you think of three questions which you could use to tell some of them apart?

**Remember they need to be yes or no answers.
For example, does it have leaves?**

Question 1

Question 2

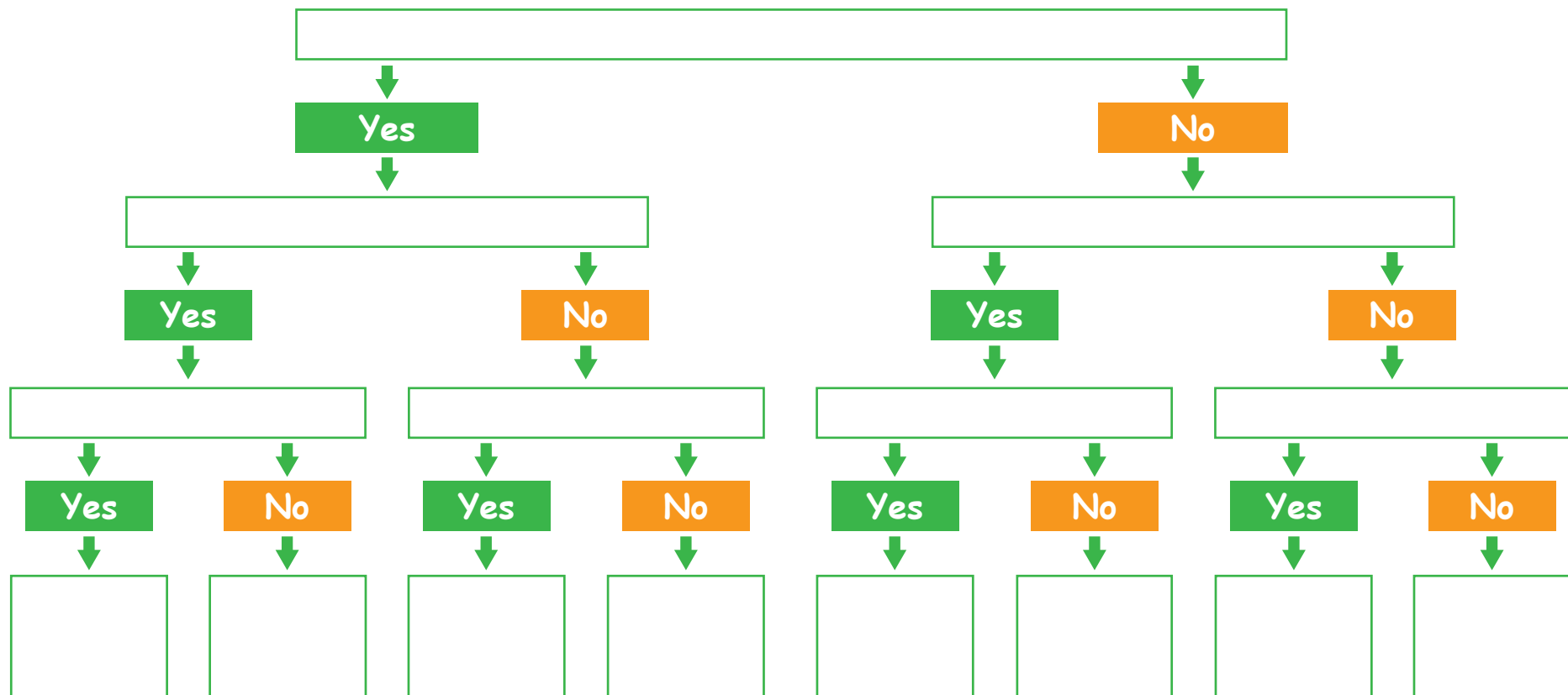
Question 3



5. Can you create a classification key to help identify which type of plant you have?
Is it a **flower**, **conifer**, **moss** or **fern**?

What is your first question? Draw your classification key below.

Can you add more questions to identify each type of plant you have?



Think of one of the types of plant. Test your classification key works by getting your partner to work through the questions to guess what type of plant you are thinking of!



Living Things And Their Habitats: Keywords



Plant

Photosynthesis

Chlorophyll

Stem

Root

Leaves

Tree

Shrub

Herb



Living Things And Their Habitats: Keywords



Flower

Moss

Fern

Grasses

Habitat

Conifer



Plant



Photosynthesis



Chlorophyll



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