GREAT GATHER & GROUP

Great Science Share for SCHOOLS

Can we identify and classify living things around us?

AGE RANGE: 7-11 years

OVERVIEW

Pupils are involved in an observational enquiry to apply their knowledge of keys to identify and classify living things. They learn about the work of Carl Linnaeus and are challenged to consider whether a mushroom can be classified as a plant (a common misconception). Pupils are inspired to get outdoors and observe living things around them, asking questions about what they find, and how mushrooms and different types of fungus are similar and different. They work scientifically by classifying and justifying their reasoning.

Identifying mushrooms video

Types of mushroom video

LEARNING OBJECTIVES

- To recognise that living things can be grouped in a variety of ways, according to common observable characteristics and based on similarities and differences
- To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
- To talk about criteria for grouping, sorting and classifying; and use simple keys

WORKING SCIENTIFICALLY FOCUS

- To ask relevant questions and using different types of scientific enquiries to answer them
- To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions

RESOURCES

FOR EACH GROUP

- a variety of mushrooms sourced from local supermarkets, e.g. button, flat, shiitake, oyster, white, chestnut
- a variety of plants - flowering and non-flowering, e.g. vegetables, grasses, ferns, daisies
- magnifying glasses / lenses (or a digital microscope if available)

TO SUPPORT TEACHING

- Video - Identifying mushrooms
- Video - Types of mushroom
- BBC Bitesize: What are classification keys
- 7-11 Conclusion Creators

KEYWORDS

- living things, alive, once alive, never alive,
- observe, classify, similarities, differences
- structure of plants: leaves, flowers, petals, stem, roots, seeds

The Linnean Society of London

Learn more about Carl Linnaeus and his work and legacy here

SKILLS DEVELOPMENT

Pupils may hold a misconception that mushrooms are plants. This may be because they have seen wild mushrooms growing, or because when in a supermarket the mushrooms will be with vegetables. Carl Linnaeus was perplexed for a while about how to classify them. However, we now know that mushrooms are classified as fungi. There is a wealth of information on the internet to find out more.

Questioning

Using a variety of flowering and non-flowering plants, along with a variety of mushrooms (e.g. button, flat, shiitake, oyster, white, chestnut) engage pupils in investigating the question: **Can we identify and classify the living things around us?** They can:

- spot the odd one out and give reasons for their decision
- group and organise in different ways based on their characteristics. Encourage the use of Venn diagrams or sorting hoops and reinforce that when pupils are sorting, they are using the scientific practice of classification.

Elicit previous understanding by asking pupils to regroup using the categories: **alive, once alive and never alive**. Observe pupil grouping and listen to their reasoning. Are pupils aware that mushrooms are special because they are alive but not classified as a plant? Watch the Video Clip 1 and Video Clip 2, which show James, the Linnean Society's fungus expert, explaining what mushrooms are and the different types.

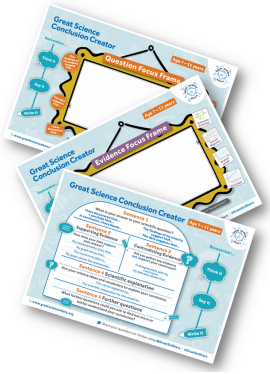
Learn more about the **Carl Linnaeus**, known as the 'father of modern taxonomy'. He created a system by which scientists today still classify plants. It is interesting to make pupils aware that even Linnaeus became confused about how to classify mushrooms. At one point, he grouped all of the organisms he did not understand how to classify into one category which he called 'chaos'! We now know of course that mushrooms are classified as fungi.

Gathering evidence

Pupils to take part in the **Great Gather & Group** by either going beyond the classroom on a nature walk/forage or by collecting shop-bought herbs, flowers, fruit and vegetables. Younger pupils can use and make simple guides or keys to explore and identify plants. Older pupils can use and develop keys to identify, classify and describe living things.

Drawing conclusions

The GSSfS Conclusion Creators will enable pupils to develop conclusions to answer the scientific question: **Can we identify and classify the living things around us?**



Share

Provide time for pupils to share their investigation and conclusions with new audiences. **They could:**

- deliver a presentation in a class assembly
- write a letter to The Linnean Society explaining how they worked like Carl Linnaeus to classify following their Great Gather & Group
- write a Haiku poem (17 syllables, divided into 3 lines with a 5-7-5 syllable structure)
- produce a video for your school website
- Tweet **@GreatSciShare** #GSSfS2023

Teachers may wish to further develop working scientifically skills by using the stimulus of mushrooms to ask the question: **Can mushrooms provide a suitable alternative to paper in the future?** Explore this question by comparing and contrasting the properties of mushroom paper in comparison to other forms of paper, e.g. tissue paper, writing paper, blotting paper, wrapping paper etc. Explore properties such as absorbency, strength, colour, texture etc. To make mushroom paper, go to activity guides e.g. How to make mushroom paper at home