

Food Poison Medicine – accompanying notes for presentation

1. Introduce the game.
2. Uses of plants. Alternatively, get students to come up with as many plant uses as possible in their groups and create a class list to write on the board before showing this slide.
3. Students will need to work in teams for this activity. Teams of 4-6 pupils works well. Once in a team and students have decided on who are describers and who are foragers, ensure students in each half of the team don't get to see the plant image or description from the other half. They need to communicate clearly to be successful. You could arrange it so plant images are physically distant (e.g. at the other side of the classroom) so they students have to remember the relevant information between hearing a description and foraging.
4. Once students have matched the plant images with the descriptions hand out the plant names and they can have a go at adding a name to each plant – they may recognise and be able to name some of the plants e.g. tomato, aubergine. It doesn't matter if not as the correct answers will be revealed in the next slide.
5. Check your answers – did you get the names of each plant right?
6. Check your answers – did you get the names of each plant right?
7. Check your answers – did you get the names of each plant right?

Did you match the right plant with the right description? Hand out answer sheets to each team or read out the description for each plant. Students can re-arrange so that they are matched correctly.

Q. In what way are illustrations of plants useful for identification? What advantage do they have over a photograph?

A. They show all parts of the plant at one time which wouldn't be seen at the same time in reality, e.g. flowers and fruit together. They also show a 'typical' specimen of the plant which helps with identification.

8. Feedback to class.
9. Sorting their plants into edible, medicinal, poisonous is based on reading the plant descriptions, discussing as a team and any prior knowledge students may have. There are many different ways the plants could be sorted and its not straightforward. The main purpose of this part of the activity is to encourage discussion as a team.
10. Its not that easy to sort neatly into three is it? Many of the plants have multiple uses depending on which part of the plant you are using and so fit into multiple categories. All the plants in the 'Edible' column also have parts which are toxic and would make you sick if you ate the wrong bit (but that aren't as highly poisonous as some of those plants in the poisonous column).

Q. Is there a better way to sort? How could you sort them more accurately?

11. How about like this? Would it work better? This way of sorting allows plants to fit into multiple categories.

12. Discuss and feedback.

13. Students need to think about the properties of the different parts of the plant (edible, medicinal, poisonous) but also what will happen to the whole plant once that part has been harvested. Fruits can be picked without killing the plant and also contain seeds which you could plant to grow more. Roots and tubers will need to be dug up to be used and the plant won't survive without them though tubers can also be planted to produce a new crop (e.g. potatoes)... there are no right or wrong answers of which plants to keep, just make sure you are all in agreement as a team, have thought through your answers and have good reasons to support your choices!

14. Which plants did you keep and why? Feedback to class.

15. Plants have families just as animals do (think of the members of the big cat family for an animal example).

Q. Why might it be useful to know what family a plant belongs to?

Often, members of the same family will have features in common with each other and by knowing a characteristic, for example, leaf shape of one member of the family, you may be able to hazard a guess at which other plants belong to that family too, even if you don't know exactly what species they are.

Knowing which family a plant belongs to can help us make an educated guess about what the plant might be like and what characteristics it may have, whether its likely to be poisonous, a possible food plant, or a plant that could have other uses such as fibrous stems to make rope or fabric, or useful medicinal compounds within its leaves. Sometimes plants from within a family need similar growing conditions and can suffer from similar pests and diseases so it can also be useful when thinking about the best conditions for growing a particular plant.

16. **Q.** What characteristics do your plant have in common? Feedback.

There are around 2,700 species of plant in the Nightshade or *Solanaceae* family.

There is great diversity within this family, but some common features for the majority of members include:

- Five-petaled flowers, typically conical or funnelform in shape.
- Alternate or alternate to opposite leaves.
- Colourful berry-like fruits (typically, berries are fleshy, rounded, brightly coloured and do not have a stone or pit, although many pips or seeds may be present. They are indehiscent which means they do not split open to release their seeds when ripe).
- Many members of this family contain potent alkaloids and some are highly toxic.
- This family contains a number of agricultural crops, medicinal plants, spices weeds and ornamentals.