

HOW DOES YOUR GARDEN GROW?



LESSON 11: CAN PLANTS SURVIVE WITHOUT LEAVES?

Key vocabulary:

leaf, food, water, air, light, observations, draw conclusions

Resources:

Coloured pens/pencils/highlighters (two colours per pair), the plants from the investigations set up in lesson 3. What would happen if a plant lost its leaves? Children's logs of observations, KWL display

Key information:

This activity is not about identifying the correct answers. The focus is on deciding which statements can be judged as likely to be correct or incorrect based on the evidence the children have collected. It may be the case that we cannot be sure about some statements or that further evidence is required to be sure.

LESSON SUMMARY:

This is the second part of a two-part lesson. In this lesson children will use their ongoing observations from the investigation started in lesson 3 to draw conclusions. By the end of the lesson they will be able to write a conclusion which uses their evidence and other information to answer the question: Why do plants need leaves?

National curriculum links:

Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers

Learning intention:

To evaluate features of a good conclusion and draw their own conclusions from their observations of their investigation into the effect of removing the leaves from a growing plant

Working scientifically links:

Using results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests

Success criteria:

- I can use observations to decide which statements are true.
- I can use my observations to answer my question about whether plants need leaves.
- I can write a conclusion that:
 - describes what my observations show
 - uses my observations to answer my question
 - uses what I know to explain my observations
 - uses what other people know about this question.

Scientific enquiry type:

Carrying out comparative and fair tests

EXPLORE:

Review what children know about the functions of a leaf. Use pair-share questioning depending on how secure the children's knowledge is and refer to the What we know section of the KWL display. Look at the plants and records of observations for each challenge from lesson 3.

Ask: *What has happened to the plants?* Show the statements on slide 1 of Can a plant survive without leaves? (Slideshow 1).

Ask: *Which of the statements are most likely to be correct? What evidence from your investigations supports this judgement?* Discuss the evidence shown on slide 2 as well as highlighting children's own investigations.

ENQUIRE:

Show slide 3. Use pair-share discussion to establish what the slide shows. Explain that drawing a conclusion actually involves writing. Use the success criteria to remind children that a conclusion should describe what happened, what the observations show, answer the investigation question and explain why they think it happened. Provide each pair with a copy of the two conclusions. Pair the children so that less confident readers are supported by partners who can read more fluently. Ask children to decide which is the better conclusion and use coloured pens, pencils or highlighters to identify good points and where improvements are needed. Using slide 4, or children's work on a digital presenter, identify why the second conclusion is better than the first.

Explain to the children that their challenge is to write a conclusion to their investigation into what would happen to a plant if it lost its leaves.

Challenge 1 Children write a conclusion to an investigation.

Children write a conclusion to their investigation using their observations to decide whether a plant can survive without leaves and explaining why plants need leaves.

Ask: *What do your observations show? Did the plant without leaves survive? What do the leaves do to keep the plant alive?*

Challenge 2 Children write a conclusion to an investigation.

Children write a conclusion to their investigation using their observations to decide whether it makes a difference how many leaves a plant loses and explaining why plants need leaves.

Ask: *What do your observations show? Did all the plants survive? Which plants look healthiest? What do the leaves do to keep the plant alive and healthy?*

Challenge 3 Children write a conclusion to an investigation.

Children write a conclusion to their investigation using their observations to decide whether it makes a difference how many leaves a plant loses and explaining why plants need leaves.

They also decide whether their conclusion is supported by evidence from other groups in the class and perhaps what they have read elsewhere.

Ask: *What do your observations show? Did all the plants survive? Which plants look healthiest? Do your observations show the same as those from other groups? What do the leaves do to keep the plant alive and healthy?*

REFLECT AND REVIEW:

Children peer assess each other's conclusions. What is good about them? What could be improved?

EVIDENCE OF LEARNING:

Listen carefully during the pair share session and review children's conclusions.

Can the children describe what happened to their plants? Can they give reasons from their observations when deciding whether statements are true? Does their answer to their investigation question match their observations? Does their explanation refer to the role of the leaf in making food for the plant? Can they recognise the features of a good conclusion? Can they include them in their writing? Can they make suggestions about how a conclusion could be improved?