

4

HOW DO PLANTS GET THEIR FOOD?

Learning objectives

By the end of this unit, your pupils will have achieved a greater understanding of the following concepts:

- the parts of a plant and how to classify plants by stems and reproduction
- how plants make their own food through the process of photosynthesis
- how flowering and non-flowering plants reproduce
- the life cycle of a plant, through a controlled observation
- how to carry out a practical investigation into plant structure.

Competences

This unit covers the following competences:

- Linguistic competence
- Mathematical competence and basic competences in science and technology
- Digital competence
- Learning to learn
- Social and civic competences

Key vocabulary

Plants: leaves, minerals, moss, roots, season, stem, sunlight, survive, transport, tree, water

Trees, bushes and grasses: bend, branch, herbaceous, ring, stem, trunk

Plant reproduction: angiosperm, cone, evergreen, fern, flowering plant, germinate, gymnosperm, moss, non-flowering plant, reproduce, seed, spore

Flowers: carpel, fruit, ovary, petal, pollen, pollination, sepal, stamen, stigma

Photosynthesis: absorb, air, carbon dioxide, energy, ingredient, light, mineral, oxygen, react, recipe, release, soil, sun, transport

Cambridge English Qualifications practice

You will find **A2 Flyers** activity types in the following exercises:

Pupil's Book, Page 52, Activity 3 – Reading and Writing Part 2

Activity Book, Page 25, Activity 13 – Reading and Writing Part 4

Throughout this unit, you will find the following **A2 Flyers** vocabulary:

air, begin, card, cut, dark, desert, each, end, explain, a few, forget, glass, glue, group, happen, hard, high, important, information, insect, keep, language, large, low, next, other, planet, project, ring, strange, study, sugar, taste, way





Materials needed for *Hands on*

- four seeds (beans, lentils, chickpeas, etc.)
- soil
- water
- four small cups
- stickers

Materials needed for other activities

- carrots
- celery
- cloth
- plate
- sugar
- tall glass
- time-lapse videos of ferns and mosses releasing spores
- two glasses of water
- two green leaves
- water

Investigate

The *Investigate* project that runs through this unit encourages pupils to prepare a field journal about plants in their neighbourhood. The different *Investigate* stages practise the following skills:

- giving descriptions through writing and speaking
- autonomous research
- observing plants with a magnifying glass
- drawing diagrams
- preparing a field journal
- giving a presentation

Digital Lab

- Interactive activities
- Flashcards: *Plants*
- Song: *Parts of a plant*
- Video documentary: *The kingdom of plants*

UNIT 4

PAGES 42-43

Objective:

Pupils will review vocabulary and concepts relating to plants from previous years.

Key vocabulary

plant, tree, season, survive, water

Warm up

- Draw a simple sketch of an animal on the board and a simple sketch of a plant. Elicit that they are both living things. In pairs, the pupils discuss the differences between plants and animals.

Main concepts

- Invite pupils to read out the questions and check comprehension. Ask the pupils to work in a group to answer the questions. Conduct feedback as a class activity. The pupils will probably find it difficult to name some of the plants.
- Ask pupils if they can explain the difference between the two types of trees in the photos. Teach the words *deciduous* and *evergreen*.
- Play the documentary *The kingdom of plants*.

English oak tree, sunflower, primrose, blackberry bush, evergreen / conifer tree, water lilies, cactus

Plants make their own food through a process called photosynthesis.



HOW DO PLANTS GET THEIR FOOD?



Look and see...



Can you identify the seasons by looking at these trees?

How many of these plants can you name?



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Yes, as we are looking at a deciduous tree. The image shows us the same tree in the seasons of spring, summer, autumn and winter. In autumn, the leaves on deciduous trees change colour and fall. New leaves grow in spring. Evergreen trees do not lose their leaves with the change of the seasons.

Cactus

Which of these plants does not need a lot of water to survive?



Song
Parts of a plant



DOCUMENTARY
The plant kingdom

Investigate

In this unit, you will investigate the plants in your neighbourhood and make a field journal. To do this, you will:

- take photos or draw pictures of plants in your local area and identify their parts.
- classify these plants as flowering or non-flowering.
- describe the reproduction of flowering plants.
- gather all the information together in your field journal.

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Learn more

- After answering the question about which plant does not need a lot of water to survive, focus the pupils' attention on the cactus. Ask which habitat is best for a cactus. Then, ask pupils to think about how a cactus can survive in a desert with little water. *They have long roots. The stem is thick to prevent evaporation. They can store a lot of water.*

Tip

Create a classroom garden. Bring some different types of plants into class (cacti, flowering plants, ferns, bonsai, etc.). This way you can use real-life examples when explaining concepts related to plants.

Song

The song focuses on the different parts of a plant and their functions.

Documentary

The documentary focuses on the plant kingdom. It shows the life cycle of a flowering plant and examples of non-flowering plants.

For next lesson ... celery, sugar, tall glass, water

UNIT 4

PAGE 44

Objective:

Pupils review the parts of a plant and understand the functions of the roots, stem and leaves.

Key vocabulary

absorb, bitter, celery, dark, hold, leaves, minerals, moss, plants, process, roots, stem, sunlight, sweet, tiny, transport, tree

Warm up

- Brainstorm plant vocabulary and concepts as a class activity. Invite pupils to tell you what they remember from previous years. Classify their suggestions as you write them on the board, e.g. *parts of a plant; what plants need to grow; uses of plants.*

Main concepts

- Draw a simple diagram showing the three main parts of a plant on the board and invite volunteers to label it.
- Pupils prepare the investigation in groups. Review the four tastes from Unit 1. Pupils taste the celery again at the beginning of the next lesson.

Learn more

- Ask pupils to draw a simple plant in their notebooks and label it by writing the functions of each part of the plant.

The taste of celery will change from bitter to sweet if you put the celery stem in sugared water. The sugar mixture travels up through the stem and the stem acquires a sweet taste.

CAN YOU MAKE CELERY TASTE SWEET?

Plants are the largest group of living things on Earth. They can grow almost anywhere, for example in hot deserts or in dark forests. Plants can be tall, like trees, or tiny, like mosses. Most plants have **three parts**: roots, a stem and leaves.

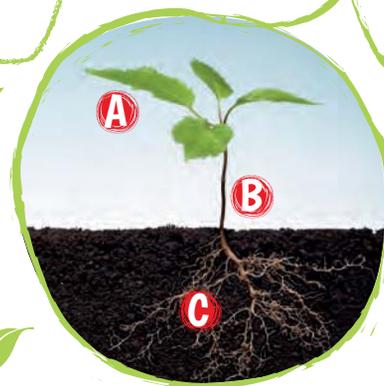
By the end of this lesson, you will know how to change the taste of celery from bitter to sweet!

A The **leaves** are where the plant makes its food, with the help of sunlight.

B The **stem** gives the plant support. Water and minerals are transported through the stem to the rest of the plant.

C The **roots** hold the plant in the ground. They also absorb the water and minerals that the plant needs.

Do you know what this process is called?



Try this ...

Check out this easy experiment! Eat a small piece of celery. Do you like its bitter taste? Put a celery stem in a glass of water mixed with sugar. Wait for a few hours and taste the celery again. Explain what has happened.



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It is called photosynthesis.

Objective:

Pupils will be able to classify plants into trees, bushes and grass by observing their stems.

Key vocabulary

bend, branch, bush, flexible, grass, hard, herbaceous, high, low, ring, short, stem, thick, thin, tree, trunk

Warm up

- In groups, the pupils make a list of the parts of plants we can eat: roots, stems, leaves, flowers, fruit and seeds. Make a chart on the board and fill it in during feedback.

Main concepts

- After reading, remind pupils that there are two main types of trees: deciduous and evergreen. Refer back to the photos on the opening spread. Elicit that deciduous trees lose their leaves in autumn whereas evergreen trees lose their leaves little by little and grow new ones all year round.

Learn more

- Write the adjectives from the key vocabulary on the board: *high, low, hard, thick, short, thin* and *flexible*. In pairs, pupils use the adjectives to compare the three plant groups. *The branches on trees are higher than branches on bushes.*

You count the rings inside the trunk. It grows a new ring every year.

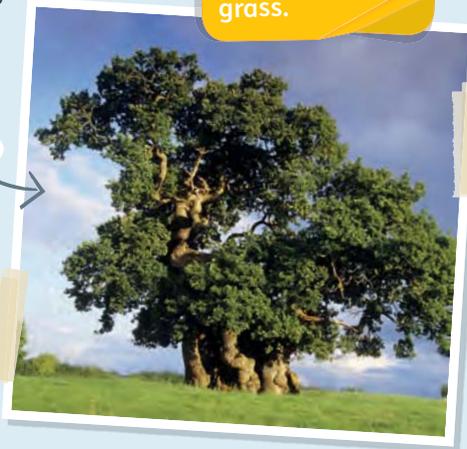
HOW DO YOU KNOW HOW OLD A TREE IS?

We **classify** plants in different ways. One way we classify them is by their **stems**.

By the end of this lesson, you will understand the differences between trees, bushes and grass.

Trees are the tallest plants. They have high branches and a hard, thick stem called a trunk.

Did you know that you can find out how old a tree is by counting the rings inside its trunk? They have one ring for each year of their life.



Grasses are also known as *herbaceous plants*.



Bushes are shorter than trees. They have low branches. Many bushes have more than one hard stem.

Grasses usually have a short, thin stem. The stems are usually flexible and bend in the wind!



Investigate STAGE 1

- Find plants in your local area. Take photos of them. You can also draw pictures of them.
- Label the parts of the plants.
- In pairs, classify your plants as trees, bushes or grasses.

This plant is a ...

You can see its ...

Pupils can look for examples of plants over a weekend. Explain that if they cannot take photos, they can draw the plants. Tell them to bring the photos or drawings to class so they can label them and also classify them. Supply scaffolding for their writing.

For next lesson ... carrots, plate, water; time-lapse videos of ferns and mosses releasing spores

UNIT 4

PAGES 46–47

Objective:

Pupils will understand and be able to explain how flowering and non-flowering plants reproduce.

Key vocabulary

angiosperm, cone, develop, evergreen, fern, flower, flowering plant, fruit, gymnosperm, moss, non-flowering plant, observe, produce, resistant, seed, spore

Tip

You may wish to ask the pupils to look online for examples of gymnosperms at home. Once they become familiar with some, they can look for real-life examples in their local environment.

Warm up

- Write the words *roots*, *stem*, *leaves*, *trees*, *deciduous*, *evergreen*, *bushes* and *grass* on the board. In pairs, the pupils write a definition for or explain the function of each term. Pupils give their feedback as a class activity.

They reproduce by means of seeds or spores.
New plants can also grow from parts of an existing plant.

HOW DO PLANTS REPRODUCE?

We can also classify plants by how they reproduce. There are two groups: **flowering plants** and **non-flowering plants**.

By the end of this lesson, you will know how some plants reproduce without seeds.

FLOWERING PLANTS



Angiosperms

- Produce **flowers** and **fruit**.
- **Seeds** develop inside the fruit.
- Examples include apple trees and roses.



Use the internet to find more examples of angiosperms and gymnosperms.



Gymnosperms

- Do not produce fruit.
- Seeds develop inside **cones**.
- Most gymnosperms are evergreen trees.

Focus on the correct pronunciation of *angiosperm* and *gymnosperm*. How many syllables does each word have?



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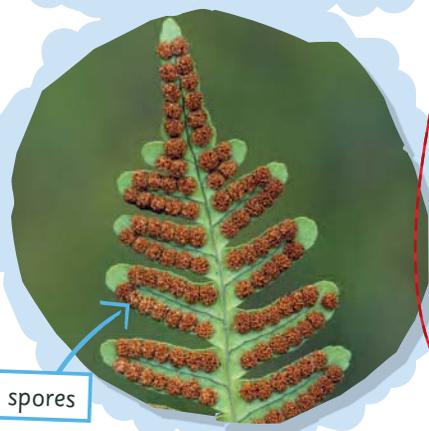
Angiosperms: apple tree, orange tree, palm tree, plum tree, etc.
Gymnosperms: pine tree, fir tree, cypress, cedar, etc.

an-gi-o-sperm
gym-no-sperm

Hidden cone on page 51.

NON-FLOWERING PLANTS

- Do not reproduce with seeds.
- Reproduce with **spores**.
- Plants release¹ spores into the air.
- Examples include **mosses** and **ferns**.



Did you know that you can grow a plant without using seeds or spores? Cut the top off a carrot and place it on a plate with a little water. Observe what happens.



Spores are very small but very resistant. After a forest fire, ferns and mosses are the first plants to grow again.

Find the cone hidden in the unit.

Look back

Which of the plants on pages 42–43 are non-flowering?



This is a flowering plant. It is an angiosperm because ...

Investigate STAGE 2

- Look at the images of your plants from Stage 1.
- In groups, classify them as flowering or non-flowering. Include extra interesting information.

* If you are not sure how to classify your plants, use the internet to help you.

¹ to release: to allow something to move freely and independently

Moss

In groups, pupils classify their plants from Stage 1 as flowering or non-flowering. You may prefer to ask them to complete this stage at home and to look for extra information on the internet.

Main concepts

- Once the pupils have read the texts about flowering plants, ask them to explain the difference between angiosperms and gymnosperms.
- Focus on the correct pronunciation of *angiosperm* and *gymnosperm*. Ask the pupils to find out how many syllables they have by clapping the syllables out with them.
- Read the text about non-flowering plants. You may like to show the pupils time-lapse videos of ferns and mosses releasing spores to help comprehension.

Learn more

- Prepare the investigation in which a carrot is grown from a carrot top. Demonstrate it with one carrot in class and ask the pupils to do their own investigation at home. Suggest that they take photos to record the investigation.
- As a class activity, build up a chart on the board in which plants are classified by reproduction. The pupils copy the chart into their notebooks as a study aid.



UNIT 4

PAGE 48

Objective:

Pupils will understand that a plant's reproductive organs are inside the flower and will be able to identify the parts of a flower and explain their function.

Key vocabulary

carpel, fruit, ovary, petal, pollen, pollination, sepal, stamen, stigma

Warm up

- Write these anagrams on the board:
mesnyrpomg (gymnosperm) – *mest* (stem) – *wfleur* (flower) – *troos* (roots) – *selave* (leaves) – *kntru* (trunk) – *serops* (spores) – *edess* (seeds) – *nisemagopr* (angiosperm).
In pairs, pupils unscramble the letters to make words.

Main concepts

- After reading page 48, ask pupils to name the parts of the flower. Display a diagram of the parts of a flower on the board and invite pupils to come up to the board and label the *petals*, *sepals*, *stamen*, *carpel*, *stigma* and *ovary*.

Learn more

- Pupils draw the diagram of the parts of a flower in their notebooks and label it.
- Make false statements about the parts of the flower and ask pupils to correct them, e.g. *Sepals attract insects. The carpel produces pollen. etc.*

They are such beautiful colours because insects are attracted to them. This means they are more likely to visit the flower and pollinate it.

WHY ARE PETALS SUCH BEAUTIFUL COLOURS?

Did you know that the **reproductive organs** of a flowering plant are inside its **flowers**? These reproductive organs make seeds that later grow into new plants.

By the end of this lesson, you will know the role petals play in the reproduction of flowering plants.

Petals come in lots of different colours, which attract insects.

The **stamens** produce pollen. Insects carry the pollen to other flowers.

The **carpel** is where the seeds grow. It has two parts: the **stigma** and the **ovary**.

Sepals are small leaves. They protect the flower before it opens.

When pollen lands on the stigma of a plant, it travels to the ovary. The ovary grows into a fruit. The seeds develop inside the fruit.

Pollen is also transported by the wind.

Investigate STAGE 3

- Look for an example of an angiosperm in your neighbourhood. Bring a sample into school.
- Dissect and examine it using a magnifying glass.
- Separate the different parts. Use transparent sticky tape to stick the reproductive organs onto small pieces of paper and label them.

48

First, pupils remove the petals and sepals and place them on the paper. Using a toothpick, they dissect the parts of their flower and examine them using a magnifying glass. The separate parts are taped on to a piece of paper and labelled. The finished work should be kept in a plastic sleeve and added to the field journal.

All the beans should have germinated with the exception of the beans without water. The beans with no soil will rot.

The control beans should have grown best. The beans in the cupboard will be thin, tall and of a pale colour. They are tall because they are searching for light. The beans that had no soil but were watered will have gone bad and died.

TIME TO WAKE UP!

Hands on...

Before you start

Germination is when a seed begins to grow into a plant. A seed will only grow into a plant if the conditions are correct.

Materials

four small cups, four seeds (beans, lentils, chickpeas, etc.), soil, stickers, water

Method

- 1 Put a seed into each cup. Put soil into three of the four cups.
- 2 Label the cups: *no water*, *no light*, *no soil* and *control*.
- 3 Place the *no light* cup in a cupboard. Place the other cups in a sunny part of the room.
- 4 Add a little water to each cup, except the one marked *no water*, every day.
- 5 Check the results after a week.

Conclusions

Which beans have germinated?

Which have grown the best?

Did any seeds die?

What do seeds need to germinate?

This experiment shows us that seeds need ...

They need water and warmth. The seed does not need sunlight to germinate but the plant needs sunlight to grow well.

Try the experiment on page 93. It gives pupils the opportunity to observe how an avocado seed germinates and grows.

For next lesson ...

cloth, two glasses of water, two green leaves



Archaeologists in Israel found some seeds when they were excavating ancient ruins. They planted the seeds and a few weeks later, a plant began to grow. The plant was a palm tree and the seeds were about 2,000 years old.



UNIT 4 PAGE 49

Objective:

Pupils will carry out a controlled observation of seed germination and the life cycle of a plant.

Key vocabulary

beans, chickpeas, germinate, germination, lentils

Warm up

- Show the pupils a selection of seeds and ask them if they think seeds are living or non-living. Explain that a seed is a living thing but it is dormant.

Main concepts

- Hand out the materials. Volunteers read the investigation steps to the rest of the class. Pupils work autonomously in groups, sharing the tasks.
- Suggest that the pupils keep a diary to record the development of the plants. Remind them to date each entry.

Learn more

- Ask the pupils try to germinate a seed in their fridge at home. Suggest they plant a seed in soil in a plastic cup and leave it in the fridge. They plant a second seed as a control and place it in a sunny place in their house.

UNIT 4

PAGES 50–51

Objective:

Pupils will understand and be able to explain the process of photosynthesis. They will appreciate the importance of photosynthesis for life on Earth.

Key vocabulary

absorb, air, carbon dioxide, energy, ingredient, light, minerals, oxygen, photosynthesis, react, recipe, release, soil, sun, sunlight, transport, water

Tip

You may wish to display a diagram of a plant on the board when explaining the movement of substances around the plant.

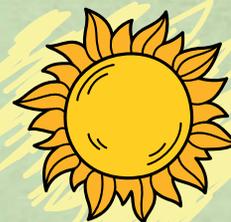
Warm up

- Describe the parts of a plant, including the parts of a flower, and ask pupils to identify them. Finish the activity by asking what the function of the leaves is. Explain that in this lesson they are going to learn how plants make their own food.

Plants use the process of photosynthesis to make their own food.

WHAT IS PHOTOSYNTHESIS?

How do plants get the **food** they need to grow? Animals eat plants and other animals. But what do plants eat?



Recipe for plant food

Ingredients

Light energy from the sun

Water and minerals from the soil

Carbon dioxide from the air



Plants make their own food. This process is called **photosynthesis**.

For photosynthesis to take place, plants need: **water, minerals, light energy** from the sun, and **carbon dioxide**.

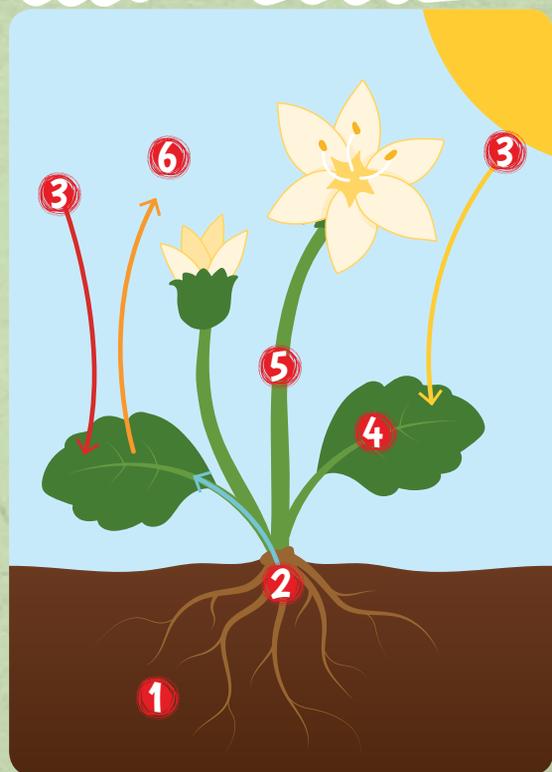
Where do plants get the things they need to make their food? Which parts of a plant help to get these things? Look at the recipe on this page to help you.

50

Plants absorb the light energy from the sun through their leaves; carbon dioxide from the air through their leaves; and water and minerals from the soil through their roots.

People and animals need oxygen to breathe. Plants take in carbon dioxide and release oxygen. High concentrations of carbon dioxide are harmful for people and animals. Too much carbon dioxide in the atmosphere contributes to global warming.

Let's look at how photosynthesis works.



By the end of this lesson, you will know what ingredients a plant needs to make its food.

- 1 Water and minerals are absorbed from the soil by the roots.
- 2 They are then transported through the stem to the leaves.
- 3 The plant takes in light energy from the sun and carbon dioxide through the leaves.
- 4 The light energy helps the water, minerals and carbon dioxide react to make the food.
- 5 The food is then transported to all parts of the plant.
- 6 Photosynthesis also produces oxygen. The plant releases the oxygen into the air.

Why is the oxygen produced by plants important for the planet?

Investigate STAGE 4

- Bring in an angiosperm from your neighbourhood. Try to include the roots.
- Examine the leaves, stem and roots with a magnifying glass.
- In your notebook, write a paragraph explaining how these parts help the plant make its own food.

Photosynthesis is made up of two words. Photo means light and synthesis means to put together.

to take in something: to absorb something

Here's the hidden cone!

The pupils investigate the angiosperms they have brought to class. Help them find the small holes on the underside of the leaves, which allow carbon dioxide and oxygen to pass into or out of the plant. Suggest that they cut across the stem to look for the capillary tubes inside it. Encourage them to look for the root hairs on the roots.

Main concepts

- After reading pages 50 and 51, ask pupils to work with a partner to answer the questions.
- Invite volunteers to read the six steps of photosynthesis. Choose one pupil to show the process on the diagram on the board as the sentences are read out.
- Before the class, prepare six sentence cards for the process of photosynthesis. Place the sentence cards in a random order on the board. Invite pupils to come up to the board and order the sentences.
- In groups, the pupils discuss why it is important that plants produce oxygen.

Learn more

- Pupils copy and label the diagram of photosynthesis in their notebooks. Ask them to get into pairs and explain the photosynthesis process to each other using the diagram they have just drawn.
- Place two glasses of water in a sunny place in the classroom. Put a green leaf in each glass. Cover one glass completely with a cloth so that no light can enter the glass. The pupils will see bubbles forming around the leaf in the open glass. There will be no bubbles in the water of the covered glass. Elicit that the bubbles are oxygen which the leaf made because it absorbed sunlight. The leaf in the dark glass could not perform photosynthesis and, therefore, could not produce oxygen.

UNIT 4

PAGE 52

Language skills answers

- 1 a Is a rose *prettier* than a cactus?
Yes, it is. / No, it isn't.
- b Is a tree *shorter* than a bush?
No, it isn't.
- c Are grasses *thinner* than trees?
Yes, they are.
- d Are trees *taller* than daisies?
Yes, they are.
- e Are grasses *stronger* than trees?
No, they aren't.
- 2 a It is made of cotton.
- b It is made of wood.
- 3 1-c; 2-a; 3-d; 4-b

This activity gives pupils practice of *A2 Flyers* Reading and Writing Part 2.

Language skills

- 1 Rewrite the questions in your notebook and answer them.
- a Is a rose **pretty** than a cactus?
b Is a tree **short** than a bush?
c Are grasses **thin** than trees?
d Are trees **tall** than daisies?
e Are grasses **strong** than trees?

Is a rose prettier than a cactus? Yes, it is.

Remember the rules

short – shorter
big – bigger
pretty – prettier

- 2 What is it made of? Look at the photos and write sentences in your notebook.

It is made of ...

a



b



- 3 Read the conversation and choose the best answer.

- 1 Sarah: Oh no! My plant is dying!
Chris:
- 2 Sarah: I don't understand. It's been next to the window and had plenty of light.
Chris:
- 3 Sarah: Of course. It's had plenty of air too.
Chris:
- 4 Sarah: I did forget! I'm so silly.
Chris:
- a Did you leave the window open?
b I'll buy you another one! But don't forget to water it.
c That's a pity.
d That's strange. Maybe you forgot to water it.
e Great!

Encourage pupils to revise the unit content using the techniques on page 85.

UNIT 4

PAGE 53

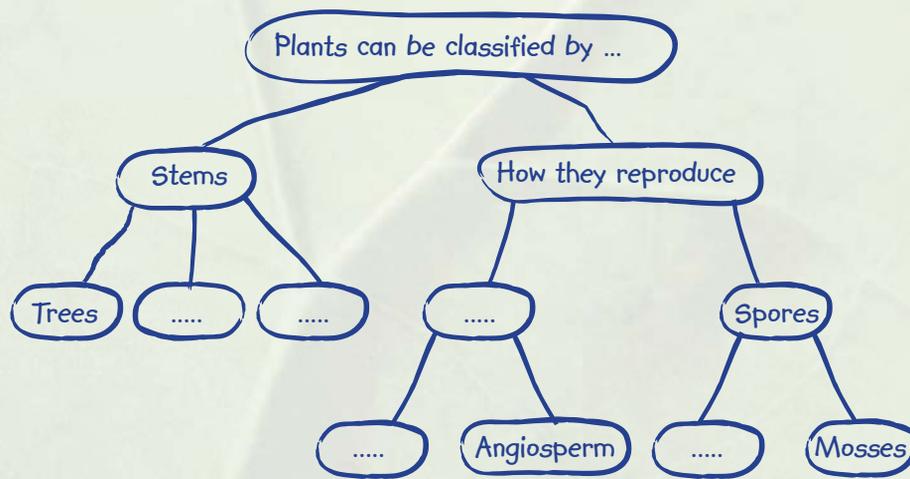
Review answers

- 1 Stems: trees, bushes, grass
How they reproduce: seeds – angiosperms, gymnosperms; spores – ferns, mosses
- 2 a leaves
b Gymnosperms
c spores
d Trees
e oxygen

Review

- 1 Complete the mind map in your notebook using the words in the box.

seeds bushes ferns gymnosperm grasses



- 2 Choose the correct word and write the sentences in your notebook.

- a Plants make food in their *leaves / stems*.
- b *Angiosperms / Gymnosperms* produce seeds inside cones.
- c Ferns reproduce using *spores / seeds*.
- d *Trees / Bushes* have a thick stem called a trunk.
- e Plants produce *carbon dioxide / oxygen* during photosynthesis.

Investigate FINALE

- Organise all your information in your field journal.
- Separate your work into sections: *parts of a plant, classification, nutrition and reproduction*.
- Include your photos, drawings, paragraphs and labelled plant parts.
- Exchange journals with a partner, read their information and ask them questions.

Assessment link
Go to page 84 for more activities.

53

Pupils organise all the information in their field journal. Encourage them to separate the work into sections: *parts of a plant, classification, nutrition and reproduction*. Remind them to include their photos, drawings, paragraphs and labelled plant parts.

They exchange journals with a partner and read their information. They may like to share their journal with the whole class or to make a classroom display.

UNIT 4 ASSESSMENT, PAGE 84

Think about it answers

- | | | |
|-----------------------------|------------------|---|
| 1 Roots, stem, leaves | 5 Moss, fern | 9 Colourful petals, scent, sweet nectar |
| 2 Trees, bushes and grasses | 6 Photosynthesis | 10 Water and warmth |
| 3 False | 7 Oxygen | |
| 4 Inside the fruit | 8 Flower | |

Think harder answers

- 1 The roots hold the plant in the ground and absorb water and minerals from the soil.
- The stem supports the other parts of the plant. Water and minerals are transported through the stem to the leaves, and from there food to all parts of the plant.
- The leaves are where the plant's food is produced, using light energy from the sun to combine water, minerals and carbon dioxide.
- 2 By their stems and by how they reproduce.
- 3 Trees are the tallest plants. They have a strong, thick stem called a trunk and high branches. Bushes are shorter than trees and the branches are lower. They have more than one hard stem. Grasses have short, thin, flexible stems.
- 4 Seeds develop inside a fruit in angiosperms. Seeds develop inside cones in gymnosperms.
- 5 They reproduce by means of spores.
- 6 Water and minerals are absorbed from the soil by the roots and are transported through the stem to the leaves. The plant takes in light-energy from the sun and carbon dioxide through the leaves. The light and energy from the sun helps the water, minerals and carbon dioxide react to make the food. The food is then transported to all parts of the plant. Photosynthesis also produces oxygen. The plant releases the oxygen into the air.
- 7 The process of photosynthesis produces oxygen, which animals and people need to be able to breathe. Plants need carbon dioxide to perform photosynthesis. High concentrations of carbon dioxide are harmful for animals and people.
- 8 The petals attract insects to the flower. The sepals protect the flower before it opens. The stamens produce pollen. The seeds develop inside the carpel, which is made up of the stigma and the ovary. Pollen has to pass from the stamens to the stigma if a seed is to develop.
- 9 When insects visit plants to eat the nectar inside the flower, pollen often gets stuck to their bodies. When they travel to a different plant, the pollen sticks to the stigma, which is at the top of the carpel. The pollen passes down through the inside of the carpel and arrives at the ovary. This is where the seed develops and grows. As the seed grows, the ovary grows too and becomes a fruit.
- 10 A seed germinates and begins to grow. The roots grow first and then the stem and leaves. The new plant produces flowers. Pollen from the stamens land on the stigma and pass down into the ovary. A seed develops inside the ovary. The ovary gets bigger as the seed grows and becomes a fruit. The petals fall. The fruit falls from the plant and opens. It releases the seeds. If the conditions are correct and the seeds have water and warmth, the seeds will germinate.

UNIT 4 TRACKLIST



Track 26 Page 42, Song: *Parts of a plant*

Track 27 Page 44, *Can you make celery taste sweet?*

Track 28 Page 45, *How do you know how old a tree is?*

Track 29 Page 46, *How do plants reproduce?*

Track 30 Page 48, *Why are petals such beautiful colours?*

Track 31 Page 50, *What is photosynthesis?*