

# Plants: Teacher's topic guide

## God is Provider (Creation Day 3) Year 2

### Spiritual Awareness

God said, "Let the water under the sky be gathered together so the dry land will appear."

Dry land would provide a place for plants to grow. Then, God created the plants, which would become food, shelter and clothing. On day 3, God created plants for our pleasure, our sustenance and our well-being. God is a loving provider who knows our needs. We should thank God constantly for the things He provides. It was God's plan that in His perfect world there would be no killing. God intended that people and animals would eat only plants. It was not until after the flood, when plant supplies were short, that God gave us permission to eat meat.

### Values: Our response to 'God is a Provider'

- **Thankfulness** to God for the world He has created and for the provision of plants
- **Generosity:** Sharing with others the things that God has provided
- Responsibility in choosing to eat the healthy plant foods that He has provided.

### Outcomes: Students will

- understand God's purpose in creating plant life.
- identify requirements of living plants
- understand that living things, including plants and animals, depend on each other and the environment to survive
- explain the importance of plants for our food, clothing and medicine.
- gain a basic understanding of how green plants 'make' food (photosynthesis)
- identify parts of plants
- classify plants/plant groups and common properties
- care for plants
- observe plants using sight, smell and touch

### Bible stories and passages

Genesis 1 The creation

Genesis 8: 22 – God's promise to Noah after the flood: as long as the world exists, there will be a time for planting and harvest.

Matthew 6:28-29 The lilies of the field. God will provide for us.

Matthew 13:7 – The sower

Exodus 23:16 & 19; Deut 16:15 – The Israelites celebrated the Harvest Festival, bringing God the best of the first fruits and giving thanks to God for His provision.

Ruth – God provided grain for Ruth and Naomi

Psalm 1 – a picture of the requirements for life of a plant

### Bible verses

Genesis 1:29 - I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it. They will be yours for food.

Philippians 4:19 – My God will supply all your needs.

Psalm 92:12-14 – The righteous will flourish like palm trees; they will grow like the cedars of Lebanon. They are like trees planted in the house of the Lord that still bear fruit in old age and are always green and strong. (GNB)

## Key Questions

### *About God:*

- Why did God create plants?
- How can I learn how to use plants for my own well-being?
- How can enjoy the beauty of the Creation?
- How does God provide for me through His creation?

### *About plants:*

- Why does a plant have roots?
- Where does a plant's food come from?
- Which part of a plant is used for 'breathing'?
- How does a plant lose water?
- Why does a tree have a trunk?

## Activities

- Discuss the requirements of a plant to stay alive.
- Set up experiments with plants given different conditions: the control plant is given light, water, good soil; other plants are deprived of one of these elements. Relate to 'the sower', where the good soil is a requirement for good growth of plants.
- Identify parts of a plant; draw and label.
- Classify plants into groups.
- Classify food plants into fruits, vegetables, herbs and cereals, seeds, stems, leaves.
- Classify according to colour, size, and uses.
- Compare large plants (trees) and small plants.
- Grow and tend plants. Measure growth rates.
- Observe seed germination by growing a bean seed in a jar in cotton wool.
- Make a plant collection (pressed plants); a seed collection.
- Observe and identify plants in local area. Identify poisonous plants if any.
- Draw and label a diagram to show how green plants 'make' food.
- Identify plants that are not green, (fungi).
- Discuss different methods of plant reproduction: seeds, spores, bulbs, cuttings, rhizomes, tubers.
- Discuss how seeds are dispersed.
- Name and identify plants that grow in Bible lands, and discuss how Jesus used examples of plants in His teaching.

## Assessment

1. Grow a bean seed in cotton wool inside a jar. Make a diary. Describe and date the changes as the seed germinates and grows into a plant.
2. What have I learned from the study of plants...
  - a. about God?
  - b. about doing what God wants me to do?
  - c. about the Bible?

## Learning Connections

**English:** Observe changes to the seeds/plants you have planted in the school garden and keep a diary recording weekly activities and observations.

**Mathematics:** Record growth rates of plants and graph results.

**Art:** pressed flowers/leaves; leaf and flower prints; collages; drawings

**Thinking Skills:** *God gives*

**Make-your-own books:** Plants; Plant or animals? Flowers; Fungi, Moss, Ferns

# Health Topic: Where our food comes from

## God is Provider

In Genesis 1 God describes the provision of food through the creation. He gave to us all plants for food, and the seeds of those plants, (Genesis 1:29-30). The first two people, Adam and Eve, who lived in God's perfect Creation, had no need for meat. There was no killing. They were able to live very well on plants and seeds. But when sin entered the world, so did killing, and people and animals began to eat meat. As sin increased, God finally judged the world with the Great Flood. At this point God gave people permission to eat meat, as the flood destroyed many plants. Finally God's wonderful plants grew once again, and they provide a wonderful source of food for us. God still allows us to eat meat, so we have available to us a wonderful variety of foods.

God wants to give us good things and can use His miraculous power to provide for us in times when we are in need, like the time when the drinks ran out at the wedding of Cana. He knows what we need, just as He knew when the disciples were having trouble catching fish. They had fished all night and caught nothing, but Jesus stepped in and did a miracle of provision.

### Outcomes: Students will

- understand that the healthiest foods are those closest to their natural form.
- understand the sources of natural food.
- understand the difference between farm food and factory food.
- explain the term "processed food".
- compare processed food to natural food
- identify primary sources of processed foods.
- classify plant and animal foods.
- describe the stages of growth of a food plant.
- make healthy food choices.

### Biblical stories and passages:

John 2 The feeding of the 5000: Jesus provided for the needs of the people  
Genesis 1-3 The Creation: God created healthy food in the Garden of Eden  
Luke 5:1-11 The Great Catch: God is able to do miracles to provide for us.

### Bible verses:

Genesis 1:31 God saw all that He had made and it was very good.  
Genesis 1:1 In the beginning God created the heaven and the earth.  
Genesis 1:30 God said, "I give every green plant for food."  
Philippians 4:19 My God shall supply all your needs.

### Activities

#### Where did food come from in the first place? (For listening and discussion)

When we look at all the different kinds of food in the supermarket we are amazed at how many different kinds there are. God has provided many different foods for our enjoyment. The food God provides are the ones we need. Think of the most delicious tasting fruit you can. It not only tastes delicious, but it is good for your body. God provided it just for you.

The best foods were provided by God when He first created the world. He created a special garden called 'The Garden of Eden'. In this garden were all the wonderful plant foods.

As time went by, people learned to make different foods from the ones God had provided. Some of them were not so healthy. Can you think of any foods that are not so healthy? Some foods that are made in factories can have things added, like artificial colours and flavours. Ask Mum to read the labels when she is buying packaged food, to find out whether good things, or not-so-good things, have been added.

The food that God has provided is the good food, straight from His garden. Let's thank God for giving us healthy food at every meal!

#### **Discussion questions:**

Which foods did God make for us when he created the world?

Which foods are just as God made them? (Teach the meaning of 'unprocessed')

Which foods come from factories? (Teach the meaning of 'processed').

Can you think of a food from a factory that is not-so-healthy?

What should we do before we eat our meals?

#### **Grow a food plant**

Children can grow vegetables from seeds and draw the stages of growth, measuring the plant at different stages.

#### **Game: Stations**

- Place pictures of the following food groups at three points (stations) in the room, or at three different positions on the whiteboard. **Station 1:** plant foods from the garden, **Station 2:** animal foods, **Station 3:** man-made foods.
- Make word or picture cards showing different foods. Place these cards in a box. (There should be a selection from each category. e.g. eggs, milk, chops, apples, bananas, sweets, ice-cream, cake, chips.)
- Children take turns to select a card from the box. Once a child has chosen a card, he/she gets the help of the class to read the word if necessary, and then walks to the matching food station.

Blue-tack can be stuck on to the back of each card so the children can stick it on to the wall/whiteboard underneath the station sign.

**Make a book or a chart.** Make two columns: plant foods and animal foods

**Write** a recipe.

#### **Shopping for food**

##### **Discussion:**

Where do we go to get our food from?

What kinds of things can you buy at the supermarket?

What do you need for shopping in the supermarket?

How do you know where to find what you want?

What foods can we buy at a market?

How does the food get to the market? Who grows it?

**Classify foods into groups:** fruits, vegetables, meats, dairy, desserts, breakfast foods, bread. Another way of classifying could be 'farm fresh' and 'factory-made' foods.

##### **Play shops**

Use fruit, vegetables and packets of food to set up a shop

Children who are the 'customers' can take play money or counters in a paper bag, and 'buy' food items. (Each counter can represent \$1 and items can be priced in dollars.) The 'check-out cashier' can place 'bought' items into empty supermarket bags.

### **Discussion**

Why are certain foods unhealthy? (too much fat, sugar, salt, artificial colourings and flavourings). Compare putting junk food in our bodies with putting the wrong fuel in a car.

### **Spot the problem**

Present a display of supermarket foods. Discuss foods that have too much salt, sugar and fat. Take a sheet of paper and draw 4 columns. Write or draw supermarket foods, dividing them into these groups: **(1) too much sugar (2) too much salt (3) added colour and flavour (4) healthy**

### **Play the memory game: *I went shopping***

The first person begins: "I went shopping and bought an apple." The next person says, "I went shopping and bought an apple"...then adds something of their own choice. Foods are added one by one. If you forget an item then you drop out of the game. Choose only healthy foods.

### **Make a shopping list**

Discuss the foods you could choose to make a healthy meal. Children can then choose foods for a healthy meal to write a shopping list.

### **Discussion:**

What are some of the most delicious foods that God created for us?

Why did He make these foods with such a delicious taste?

What are some of the foods that God made to build healthy bodies?

What is energy and why do we need it?

Does our brain need energy? How can we give our brain energy?

### **How food helps us to grow and stay healthy**

Children can classify foods, or food pictures into these categories: foods for energy; muscle building foods; bone building foods.

*Foods for energy:* bread (whole meal is better than white); pasta, potatoes, rice, lentils

*Muscle building foods:* meat, fish, eggs, lentils, nuts. (These foods build muscles).

*Bone building foods:* fresh vegetables, fish; meat, dairy products.

### **Make a picture chart**

Ask children to make a picture chart of the three food groups: energy, muscle building, bone building.

### **Draw some healthy meals**

**Healthy breakfast** – suggest natural food options like fruits, eggs, porridge. Discuss the best kind of toast. Encourage children to think of other alternatives to the "milk and cereal" tradition. Help children identify breakfast foods with artificial colourings/flavourings or too much sugar.

**Healthy lunch** – raw vegetables, whole meal bread, eggs, unprocessed meats (as close to nature as possible), cheese; soups or cooked food.

**Healthy dinner** – vegetables (cooked or raw), unprocessed meats, fish, rice, lentils.

### **Discussion:**

Which foods make healthy snacks?

Why is water the best drink? How much should we drink each day?

Children can:

- **Take a class survey on favourite healthy snacks.** e.g. how many like bananas? Graph the results.
- **Draw/make some healthy snacks** e.g. fruits and raw vegetables, home-made popcorn and 'make-it-yourself' treats from the recipe section.

**Draw their water intake** for one day / one week. (Use symbols - drinking glasses).

**Beacon Media Research cards:** Where food comes from

**Thinking skills:** Healthy food

**NEW START stands for:**

- **Nutrients** – are the parts of food that makes us grow, and stay healthy. Only healthy foods do this.
- **Exercise** – at least half an hour every day
- **Water** – 6 glasses a day, (not fruit juice or fizzy drink)
- **Sunlight** – for vitamin D for strong bones.
- **Toxin-free** – avoid artificial food additives and avoid toxic chemicals in the environment
- **Air** – get fresh air every day
- **Rest** – don't stay up late
- **Think happy thoughts and trust in God**



### Some definitions

**Natural food:** Also called 'unprocessed food'. These are foods directly from nature, such as fruit, vegetables, nuts, meat, fish and eggs. Some dried or tinned foods can be classified as natural foods if they do not have food additives, e.g. dried beans, lentils, rice, butter, milk, tinned tomatoes.

**Fast food:** Convenience food from outlets. Ready-to-eat foods such as hamburgers, hot dogs, fried chicken and chips. These have some nutritional value but contain ingredients that are not good for our health. Should be eaten rarely.

**Food additives:** Chemicals added to give artificial colour or flavour, or to preserve the food.

**Processed food:** These are foods that are changed from their natural state and sold in packets, cartons and cans. Some have nutritional value. Some have additives. Food labels should be checked and assessed for health benefits.

**Junk food:** food with no nutritional value and food that may be bad for our health. These include sweets, sugary foods, savoury snacks such as potato crisps, and soft drinks or imitation fruit drinks. Should be consumed rarely.

# Values education Year 2

## God is Provider

### Trust

Trust is ...

- Knowing that God will provide for me
- Knowing that my family will provide for me
- Not worrying about food or clothes

### Trust Game

How well do you trust these? (Give a score between 1 and 5, according to how well you trust each one.) When finished, share your answers.

- a) Dad's cooking
- b) A Jumbo jet
- c) Your chair
- d) A family car
- e) Advertisements
- f) A dentist
- g) A doctor
- h) A chair lift

### Discussion

What's the difference between trusting these things/people, and trusting God?

Who can we trust to take care of us?

Who would we not trust?

### What does the Bible say about trust?

Matthew 6:26 Look at the birds and flowers. If God provides for them, how much more will He care for you.

Try to think of different people in the Bible who trusted God in hard times.

Write up ideas on a large piece of paper.

## Lucy's Garden

"Would you like to have a garden of your own, Lucy?" asked Dad one day.

"Yes please!" answered Lucy.

"You'll have to help me get the garden bed ready then," said Dad.

Together, Dad and Lucy dug and raked, removing sticks and stones until the soil was fine and soft.

"Now for the seeds," said Dad. "What would you like to plant?"

"Something useful and something pretty," answered Lucy.

Dad and Lucy went to the shop to choose some seeds

"I need some vegetables," said Lucy. She chose carrots and lettuce. 'They're good for munching on,' thought Lucy. "Now I need some flowers. She chose a packet of colourful mixed flower seeds.

The seeds were soon in the soil. Every day Lucy would water her garden and watch for the seeds to come up. First the lettuce seeds came up. Soon the other seeds had sprouted as well. Lucy continued to water her plants every day. She couldn't wait to see the colours of the flowers.

A few weeks passed by, and the garden became a colourful mass of blue, purple, pink and yellow flowers.

Lucy was glad that God had given the flowers such beautiful clothes to wear. She was also glad that God had made plants like carrots to crunch on. That night Lucy lay in bed thinking about her garden. She remembered to say thank you for giving her clothes to wear like the flowers, and food to eat. She also remembered other children who didn't have as much as she did.

'Just as God provides for the flowers and the animals, God also provides for people,' she thought, 'but sometimes He asks those with a lot to give to those with only a little.'

Lucy wondered whether she could help others who didn't have enough. She prayed a prayer: "Thank You God for providing so much for me. I want You to use me to help provide for others."

### Activities

1. What did Lucy plant in her garden?
2. What did her garden teach her about God?
3. How can we help those who don't have very much?
4. Name a country where there are many poor people.



# Practical Science Year 2 God is Provider

## Topic: Plants

### Grow a bean seed

#### Things you will need:

- Bean Seeds
- Cotton wool or paper towel
- Soil
- Glass jars
- Paper
- Pencil
- String

#### What to do:

1. Ask your students to observe the bean seeds and discuss the shape, color and size with their friends.
2. Help them prepare a journal in which they will record the growth of the plant on a regular basis.
3. Have the students use a piece of string to measure the length of the bean seed and mark the length under 'Day 1' in their journal.
4. Ask the students to wet the cotton wool and place it down at the side of a glass jar. Let them place a seed between the glass and the cotton wool.
5. Fill the jar with soil, keeping the cotton wool pressed against the side of the jar.
6. Put the jar in the sunlight and occasionally water it .
7. Every day, let the students measure the length of the bean and mark it in their journals. Also discuss the changes seen in the plants.
8. When the daily changes become less prominent, have the students record weekly changes instead.
9. Continue growing the plant inside the classroom until you feel the students have learned enough about plant growth. Thereafter, you can allow the children to take the plants home or plant them in the school garden.

## **Practical Science: Plants**

### **Do Plants need Water?**

#### **You will need:**

- Knife
- 2 sticks
- Potato with buds
- Water
- Dirt patch

#### **Instructions:**

- Cut the potato into half.
- Dig two holes in the dirt and plant one half of the potato in each. Make sure the buds are face up.
- Cover up with mud and mark both places with sticks.
- Water one place immediately and do so regularly. Do not water the other place at all. Make sure you remember which one to water. Continue for a week.
- What difference do you see between the two places after one week?

#### **Explanation:**

The plant that was regularly watered survives and grows roots and baby potatoes. The potato piece that was not watered will not survive or grow. This shows that water is essential for the growth of plants.

<http://www.schoolofdragons.com/how-to-train-your-dragon/science-activities/science-activities-kindergarten>

# Practical Science: Plants

## What plants need

### Things you will need:

- Cotton wool
- Soil
- Glass jars or plant pots
- Water
- Dark cupboard
- Seeds

### What to do:

1. Set up 4 plant pots or glass jars.
2. Fill three with soil and one with cotton wool. Set them up in a sunny place, except for one.
3. Make labels for the four pots as follows:

Pot no. 1

Plant the seeds in the soil. Do not water.

Pot no. 2

Plants the seeds in the soil. Water them.

Pot no. 3

Place the seeds in the soil. Water them. Place in a dark cupboard.

Pot no 4

Place seeds on cotton wool. Water them.

What to do next:

Keep watering the seeds every few days so that they do not dry out. Don't water pot no. 1

Keep a diary of how the seeds grow. Make a report on which plants grow the best. Say what is happening.

Date	Pot 1	Pot 2	Pot 3	Pot 4
March 11th	Planted seeds	Planted and watered seeds	Planted and watered seeds	Planted and watered seeds
March 18th		Seeds sprouted	Seeds sprouted	Seeds sprouted

# Art Year 2

## God is Provider

### Topic: Plants

**Biblical connection:** God has provided healthy plant foods through His creation, to make us strong. He also provides God's word to make us strong in our faith in the Lord.

**Bible art as a wall display:** Psalm 1:1-3 Happy are those who obey God's word. They are like trees that grow beside a stream, that bear fruit at the right time, and whose leaves do not dry up. They succeed in everything they do. (The outline of a large tree can be the basis of the display to accompany the Bible verses. The students can fill it in with paint, add the stream and make paper leaves and fruits to stick on the tree.)

#### 1. Drawing and painting

Ask students to:

- Look through a small hole in a piece of cardboard. Take your cardboard outside and look at plants, trees, flowers and grass. Look at these things carefully. Then draw or paint some of the things you saw outside.
- Collect leaves, flowers, fruits and vegetables and use for still life drawing.
- Paint or draw the plants of your country and make a display.

#### 2. Collage

- Press plants and use for a collage.
- Use dried food plants such as lentils, dried peas and beans for collage.
- Use tissue paper for a flower collage.

#### 3. Construction

- Make a garden by cutting shapes from coloured paper, e.g. long thin strips for stems, petal shapes for flowers. Use fringing on some flowers

#### 4. Flower arrangement

- Make an arrangement of plants for a table decoration.

#### 5. Printing

- Leaf prints and plant prints: Paint the back side of the leaf with thick paint, so that the veins of the leaf stand out. Place the leaf paint-side down on paper, cover with paper towel and press with fingers or roll a jar over it.

**Thinking Skills: Provider Year 2**

<p><b>God gives 1</b> Design a new house for your family.</p>	<p><b>God gives 2</b> What if: What would it be like if there were no houses for us to live in. Give 3 different ideas about what it would be like.</p>
<p><b>God gives 3</b> Name 10 ways God provides for you and your family.</p>	<p><b>God gives 4</b> Name 10 foods you have NEVER eaten.</p>
<p><b>God gives 5</b> Draw a fridge. Now change it by using: <b>B</b> – making it bigger <b>A</b> – adding something extra. <b>R</b> – replace something with something else.</p>	<p><b>God gives 6</b> Name 3 good points and 3 bad points about “the place where your family shops for food”.</p>

# Plants

## God is Provider

A book to make

Most plants have roots.  
Roots hold the plants in the  
ground.

The roots get food and water for the plant. Food and water go up into the plant from the ground.





Most plants have leaves.  
Food is made in the leaves.  
The green part of the plant is  
food for the plant.

People breathe with lungs.  
Plants breathe through their  
leaves and stalks.

Some plants have big thick leaves. Some plants have small thin leaves.

Many plants have flowers.  
Flowers have seeds.  
Seeds begin new plants.

Some plants are very, very tiny. Some plants are very, very big.

Some plants have stalks or trunks.

Stalks and trunks hold up the leaves so that they can get sun. Without sun the leaves cannot make food.

To stay alive a plant needs  
light, air, water and soil.



We grow some plants to eat.

We eat the roots of some plants.

We eat the leaves of some plants.

We eat the seeds of some plants.

We grow some plants for animals to eat.

A few plants are poisonous. If we eat poisonous plants we get sick. We could even die.

# Words to learn

roots

ground

water

people

leaves

lungs

flowers

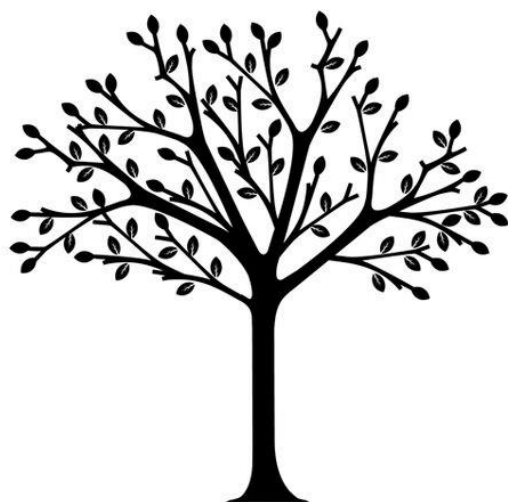
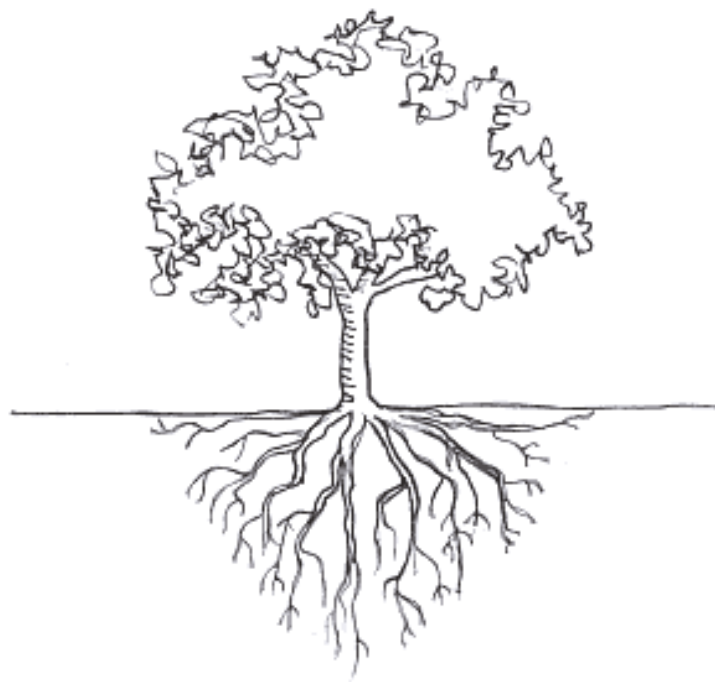
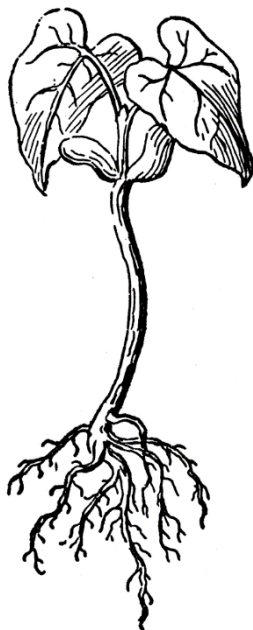
stalks

light

air

soil

# Picture collection



# Flowers

God is Provider

A book to make

Many plants have flowers.  
Many flowers have bright  
colours.  
The petals have bright  
colours.

In the middle of the flower is a little box where the seeds are made.



Around this little box are some yellow parts with pollen on them.

Pollen makes the seed begin to grow.

Bees and other insects and the wind move the pollen into the seed box.

Flowers that have bright colours are easy for the bees to see.

Some flowers are red. Some flowers are yellow. Some flowers are orange.

Flowers with a strong smell  
are easy for bees to find.

When the pollen gets into the seed box the seeds are made.

Seeds start new plants. The seeds spread about and new plants begin to grow.



Some seeds are spread by birds.

Some seeds are spread by animals.

Some seeds are spread by the wind.

# Words to learn:

flowers

bright

colours

petals

pollen

spread

birds

animals

# Picture collection

