

Plants: Outcomes and activities

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.

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.

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.

Science Outcomes:

- 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

Health outcomes:

- 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.

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?

Science 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.

Health 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?

Game: Stations

- Place pictures of the following food groups at three points (stations) on the table. **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.)
- The student selects a card from the box, reads it and then places it at the right food station.

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?

Play shops

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

Family members 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.

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

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. The student can then choose foods for a healthy meal to write a shopping list.

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.

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?

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**



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.

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. We can trust that He will always provide for us.

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

God gives 1

Design a new house for your family.

God gives 2

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.

God gives 3

Name 10 ways God provides for you and your family.

God gives 4

Name 10 foods you have NEVER eaten.

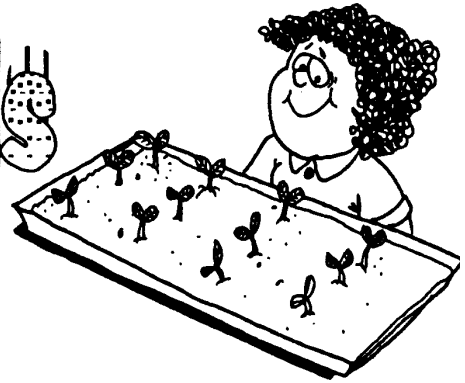
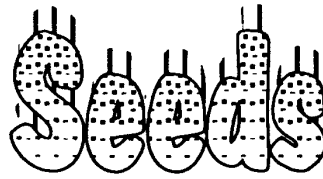
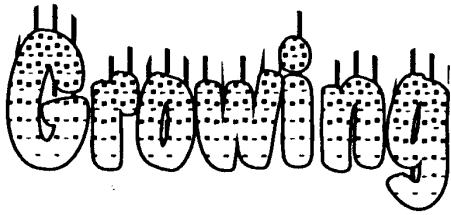
God gives 5

Draw a fridge.
Now change it by using:
B – making it bigger
A – adding something extra.
R – replace something with something else.

God gives 6

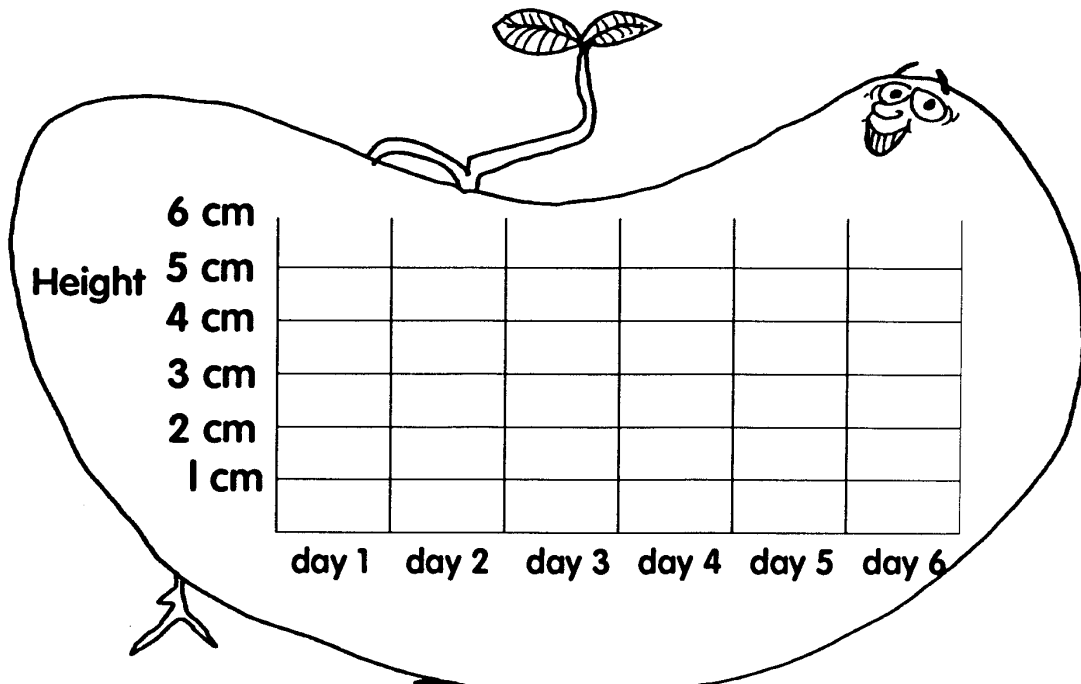
Name 3 good points and 3 bad points about “the place where your family shops for food”.

Plants

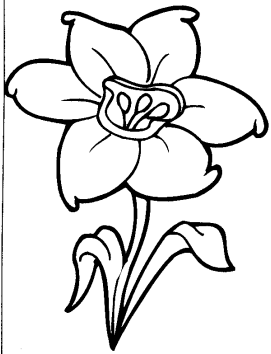


My seed growth chart.

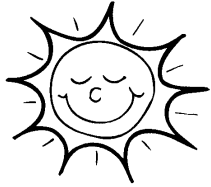
Day	
Day	
Day	



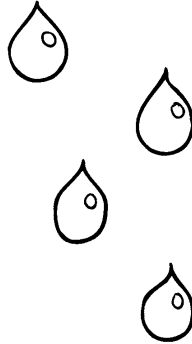
How Do Plants Grow?



A seed falls from a plant.



The sun warms the seed.
Rain wets the seed.



Goodness from the soil travels up the root and feeds the tiny plant.

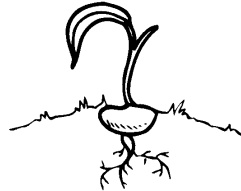
The leaves soak up energy from the sun and help the plant grow.



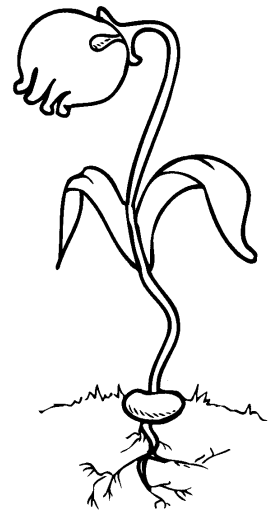
It lands on the soft earth.



A root begins to grow.



A leaf shoots from the seed.

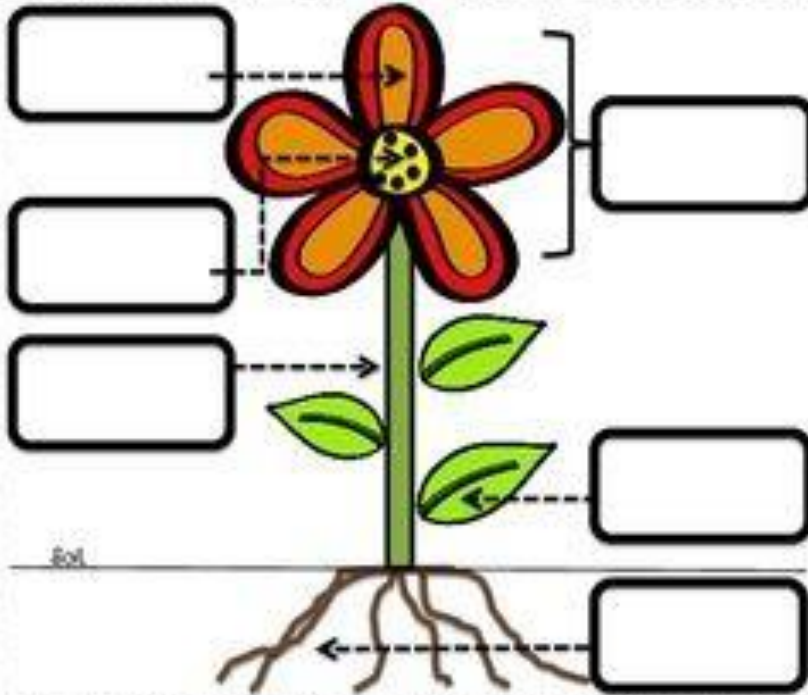


New seeds grow inside the flowers.

Name: _____

Parts of a Plant

Directions: Match each label to the part of the plant.



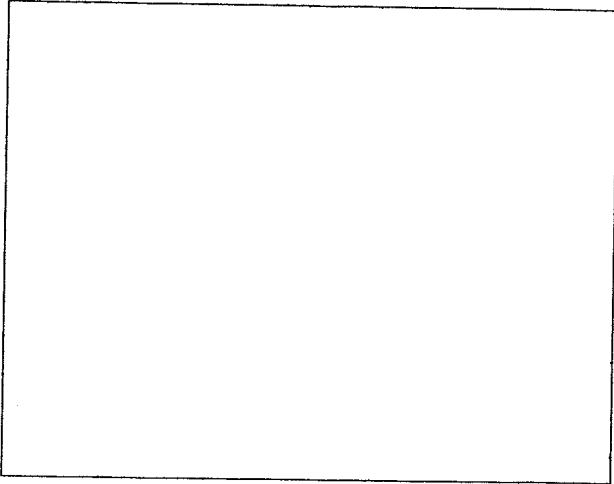
Leaf
Petal

Stem
Flower

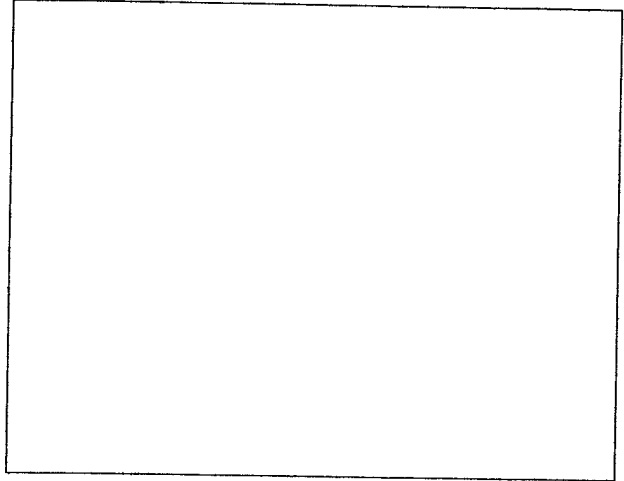
Roots
Seed

Leaves

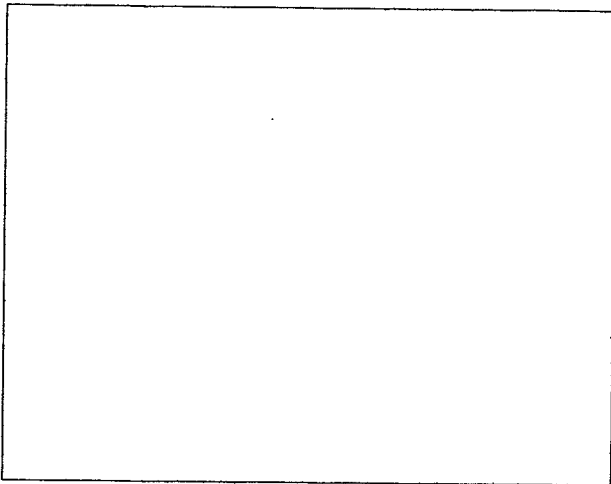
Collect four different leaves from the garden.
Trace around each leaf and colour it in.



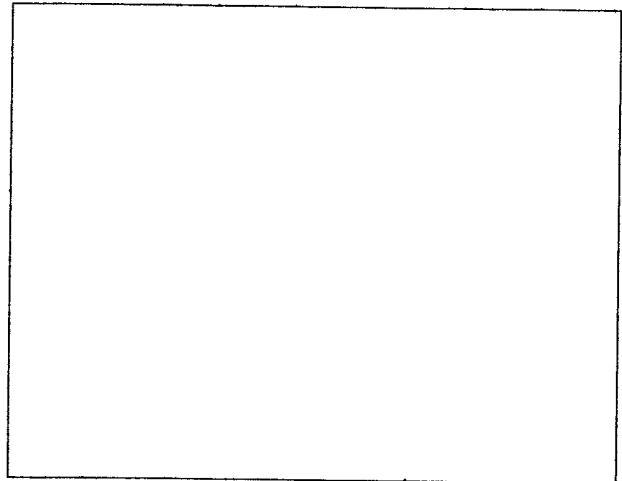
Leaf 1



Leaf 2



Leaf 3

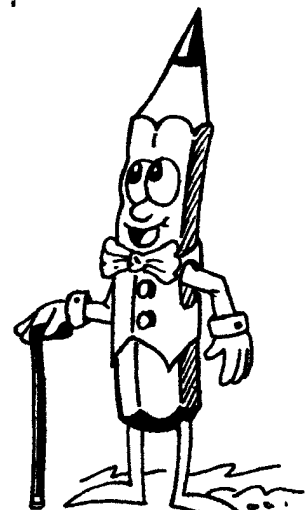


Leaf 4

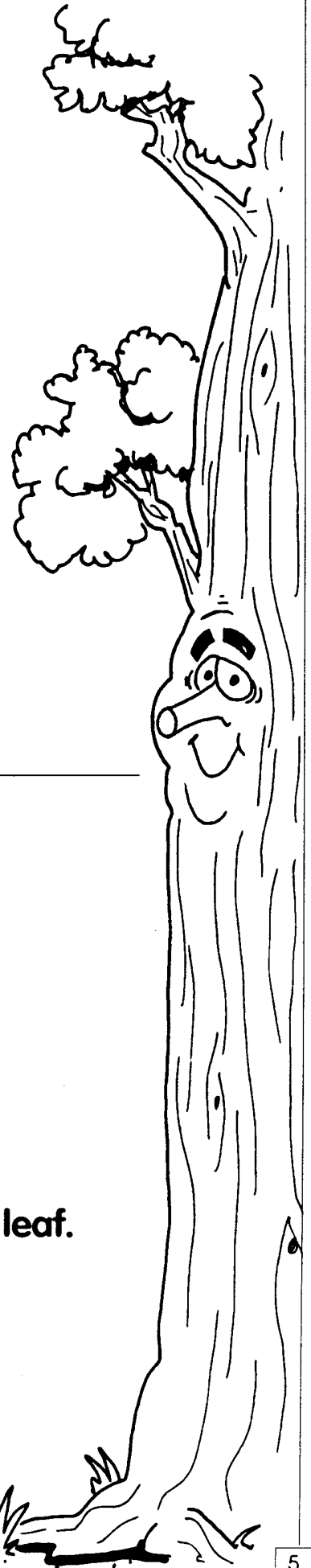
What shapes do the leaves remind you of?

Are there any other leaf shapes that you
have seen?

Draw them on the back of this sheet.



My Leaf

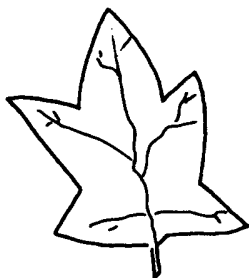
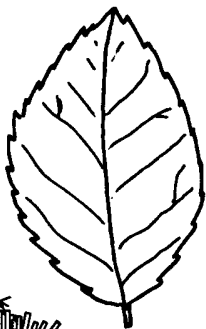


I found my leaf _____

Circle

- Is your leaf long or short?
- Is your leaf thick or thin?
- Is your leaf smooth or rough?
- Are the edges smooth or jagged?
- Are the veins branching or straight?

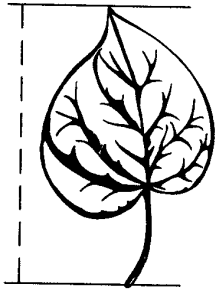
Colour the one which is most like your leaf.



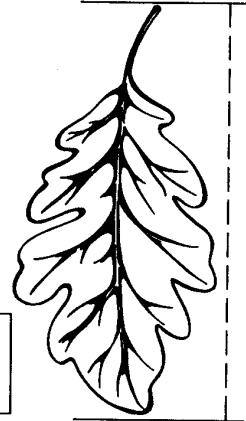
Measure these leaves using your ruler, then cut them out and order them from shortest to tallest.



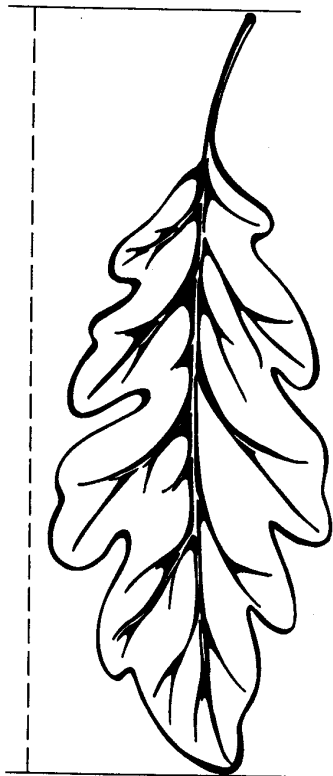
____ cm



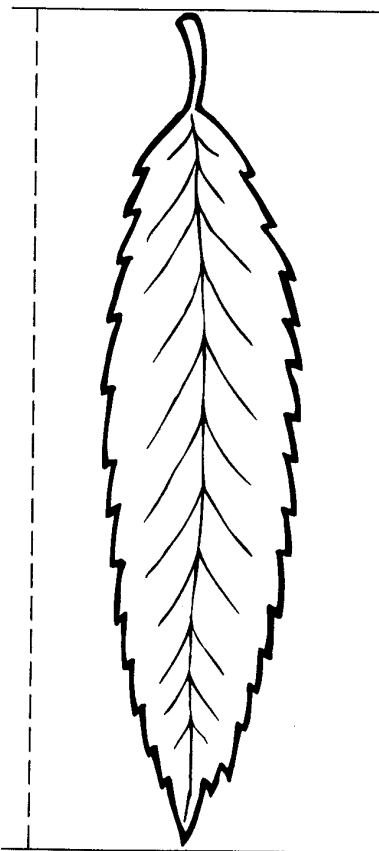
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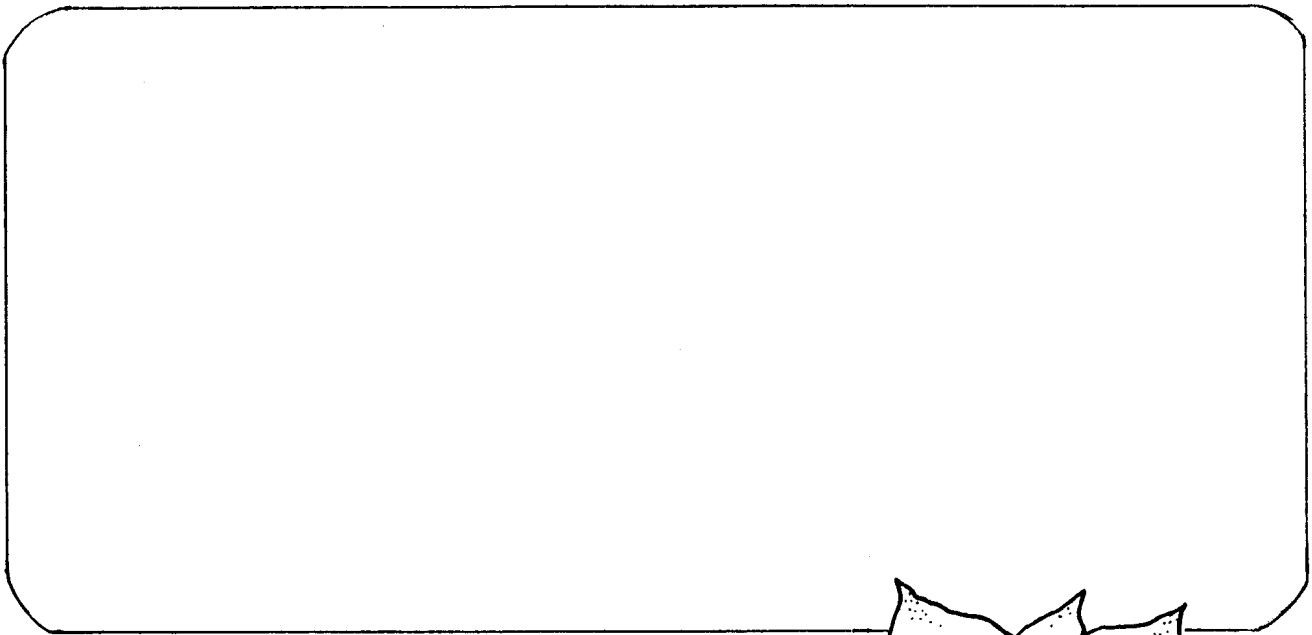
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____ cm



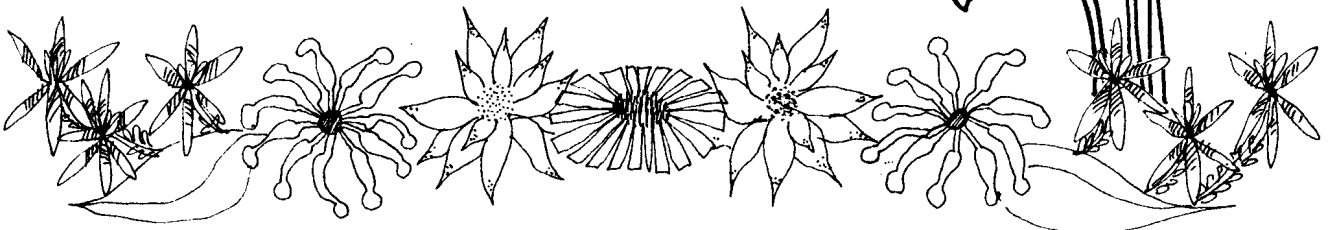
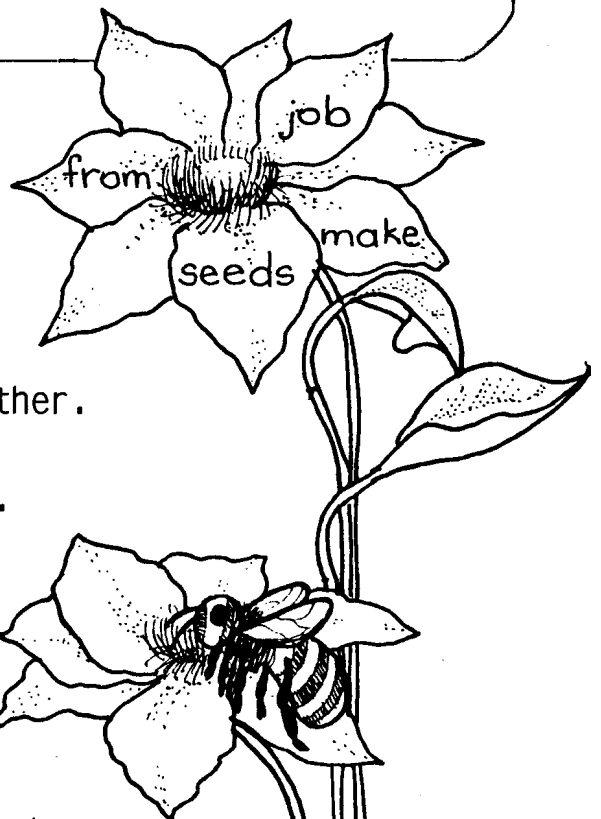
There are so many beautiful flowers in our world. God has made them all! Paste or draw pictures of flowers that you like in the space. Do you know their names?



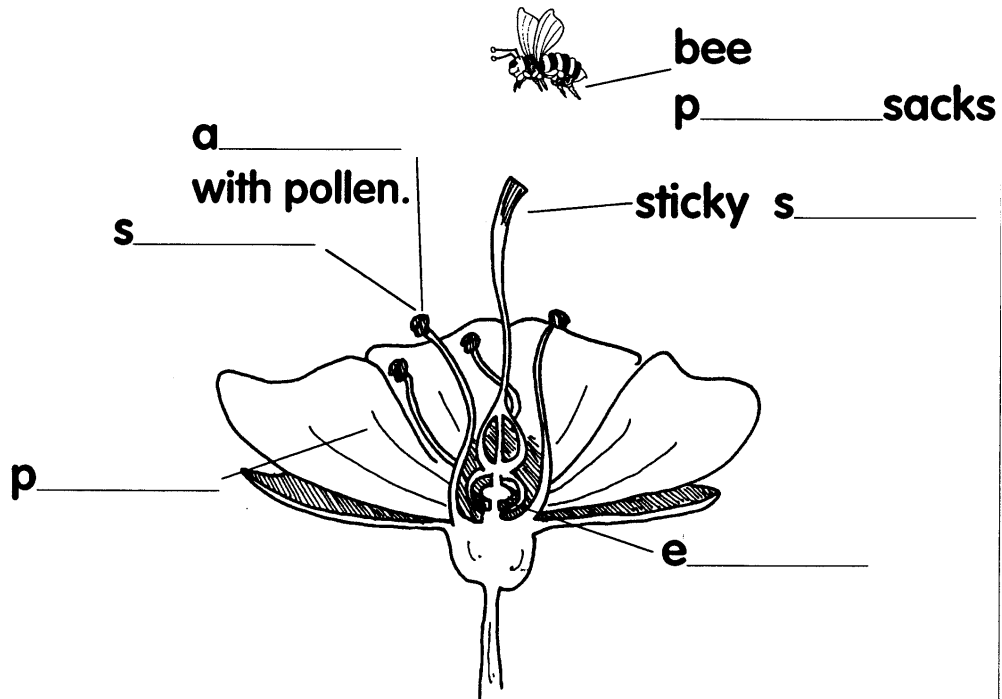
Choose the right word.

It is the flower's _____ to
make the _____. Bees carry
pollen _____ one plant to another.
This helps to _____ the seeds.

What else carries pollen?



How Seeds Are Formed



Missing words: pollen, anther, stamen, stigma, petal, egg

The bee likes the coloured petals so the bee comes to the flower.

The bee lands on the flower and pollen from the anther rubs off on to the bee's body. (You can find the anther on the tip of the stamen.)

Next, the bee brings pollen to the sticky stigma. The pollen goes down the tube to the egg. This is how a seed starts.

Plants

Fun with seeds

Look at a packet of seeds.



1. What is the name of the seeds?
2. Are these flower, vegetable, grass or tree seeds?
3. What is the best time of year to plant the seeds?
4. Can you eat this plant?

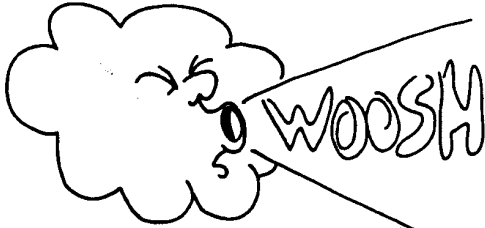
Make a collection of seeds.

1. Look at the seeds.
2. Which is the biggest seed?
3. Which is the smallest seed?
4. Which seeds are round?
5. Which seeds are flat?

Finding 'ee' words

1. Write the word seed in your book.
2. Write down rhyming words starting with these letters: f,
w
3. Make a list of more words that have 'ee' in them.

How Seeds Spread



Flowers spread their seeds so that they don't become overpopulated in one area.



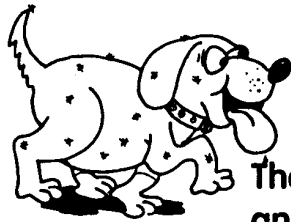
They are blown by the wind.



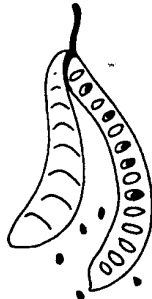
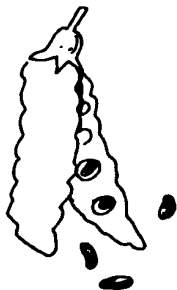
They get caught on clothing.



Birds and animals eat the seeds and then excrete them as they move around.



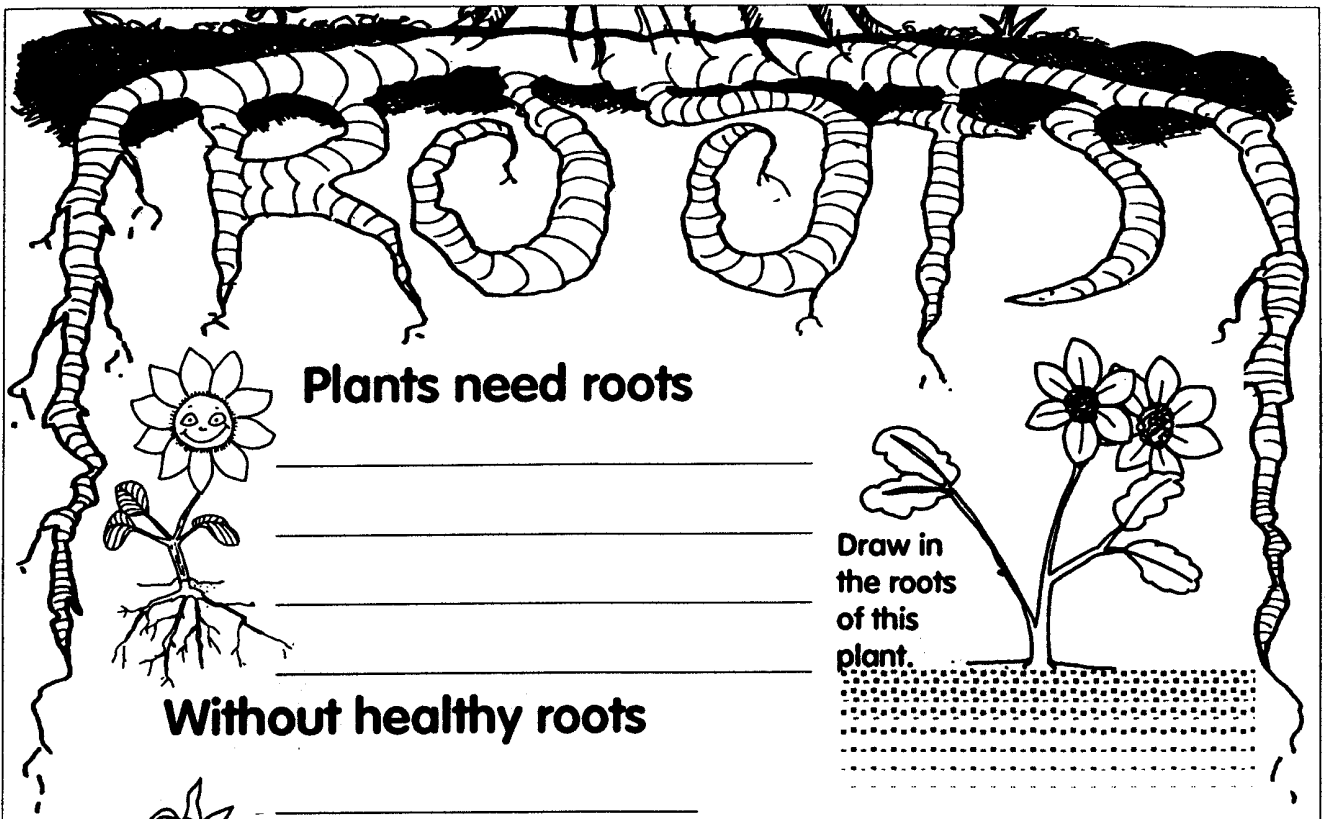
They get caught on animal coats.



Some plants spread their own seeds by bursting open and throwing their own seeds away from them.

My seed collection.

A large empty rectangular box for drawing or writing.



Plants need roots

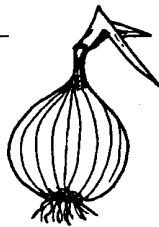
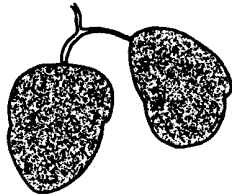
Draw in the roots of this plant.

Without healthy roots



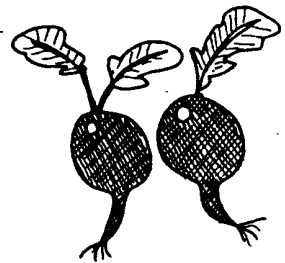
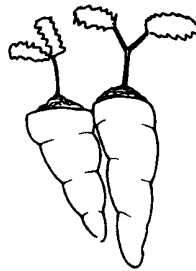
Some roots that we eat are

p _____



o _____

c _____



b _____

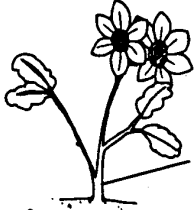
Some others are

Grow your seeds.

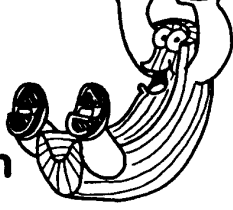
Draw your seeds' roots as they grow.

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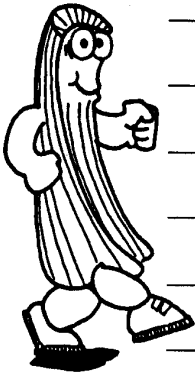
Stems



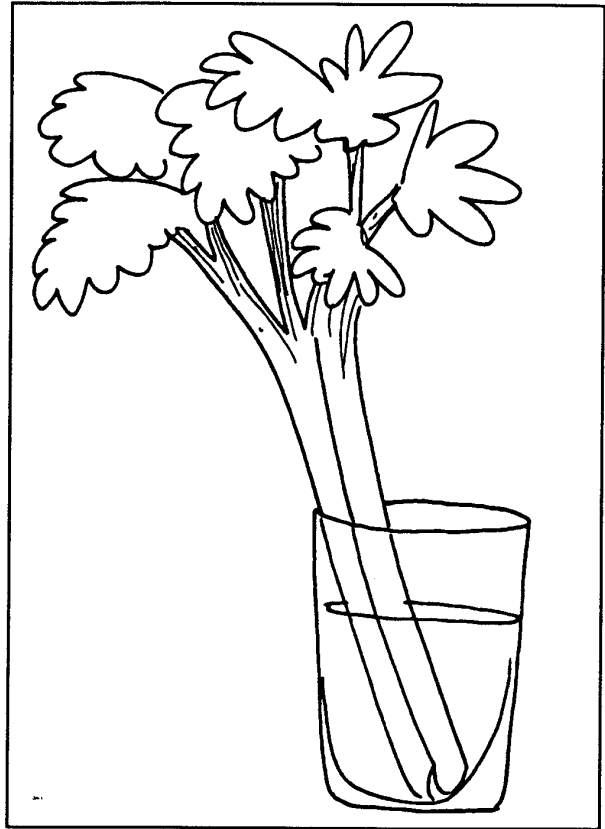
stem



The stem's functions are

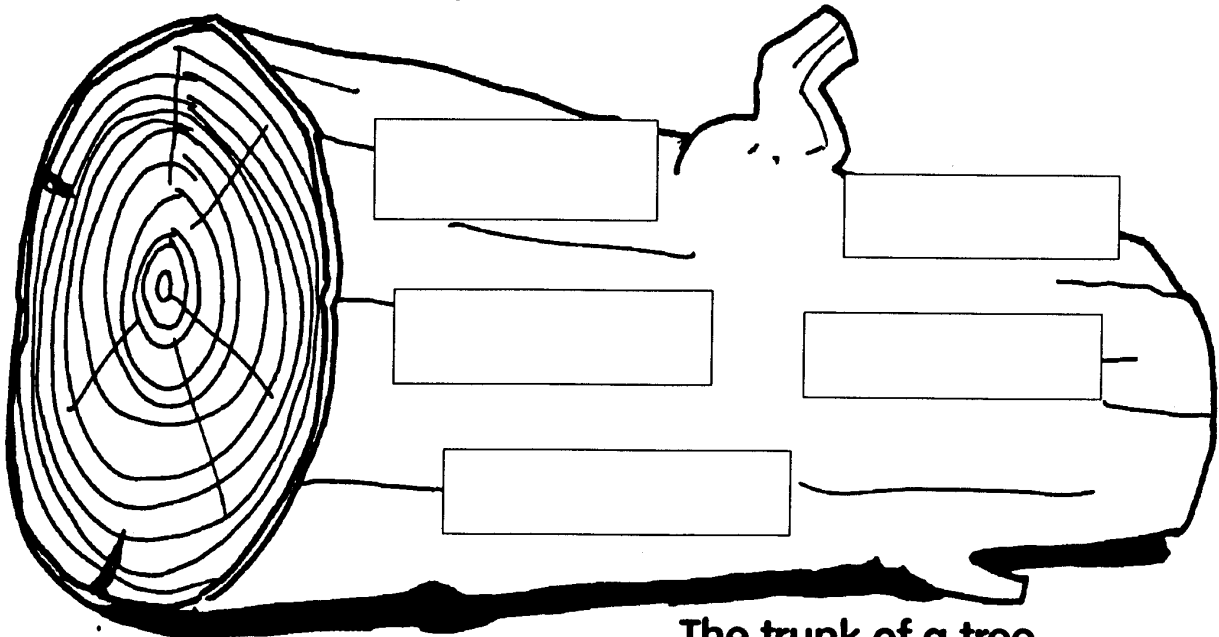


What do you think happened?



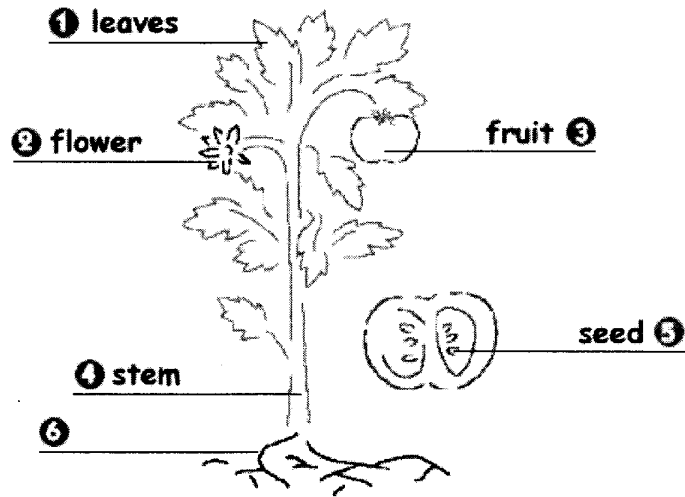
Colour to show what happened to your celery.

Some stems we eat are



The trunk of a tree is the stem of the tree.

Plants we eat



Can you guess what part number 6 is?

Make a chart of plants we eat. Put them in the right group:

roots, stems, leaves, fruit or seeds

Draw a picture for each.

Example:

roots	stems	leaves	fruit	seeds
carrot	celery	spinach	pineapple	rice
cassava	sugar cane	dalo	mango	wheat

Plants

Draw a picture in each box.

1

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

2

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

3

Most plants have leaves.

4

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

5

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

6

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

7

Many plants have flowers.

8

**Flowers have seeds.
Seeds begin new plants.**

9

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

10

Some plants have stalks or trunks.

11

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

12

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

13

**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.**

14

**We grow some plants for animals
to eat.**

15

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

16

Words to learn

roots

ground

water

people

leaves

lungs

flowers

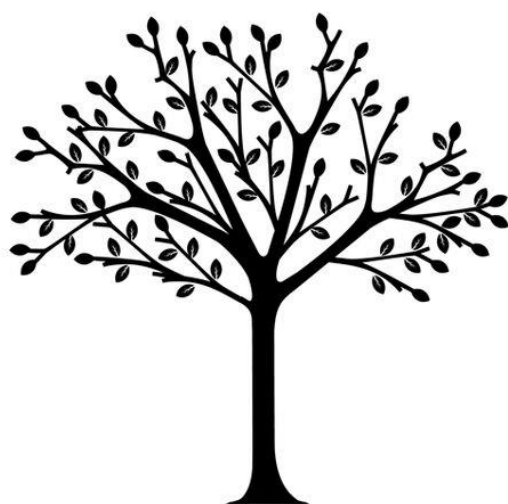
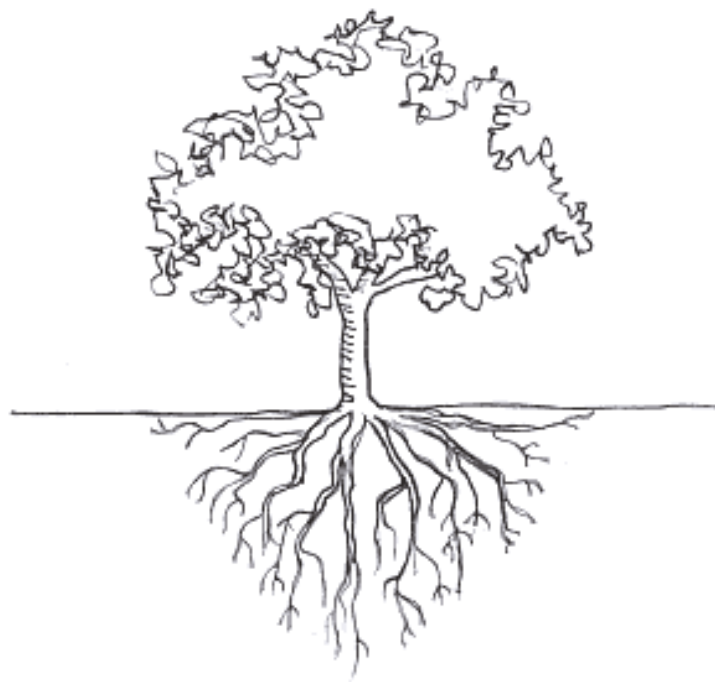
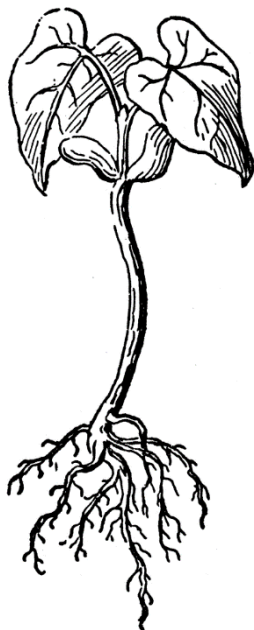
stalks

light

air

soil

Picture collection



Flowers

1

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

2

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

3

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

4

Pollen makes the seed begin to
grow.

5

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

6

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

7

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

8

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

9

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

10

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

11

**Some seeds are spread by birds.
Some seeds are spread by animals.
Some seeds are spread by the wind.**

12

Words to learn:

flowers

bright

colours

petals

pollen

spread

birds

animals

Picture collection

