

Plants 1

God gives life to plants

In the beginning God made the heavens and the earth. On the first day He separated the light from darkness. There was night and day. There was no sun yet, but God was the light. On the second day God divided the water and land. There was now soil for plants to grow in, and water to keep the plants alive. But the plants were not on the earth yet. On the third day God created plants. On the third day the earth had everything that plants needed:

- *Light and warmth (God was the light)*
- *Air*
- *Soil*
- *Water*

Parts of a plant

Draw a plant, show and label these parts:

Roots

Most plants have roots. Their roots go into the soil and hold them in the ground. Roots get food and water for the plant. The food and water come from the ground. Some roots are long and thick. Some roots are short and thin.

Why does a plant have roots?

Leaves

Most plants also have leaves. Leaves are nearly always green. Food is made in the leaves.

Where does the plant's food come from? (two answers)

Stems

Stems grow up from the roots. They take food and water to the leaves. They lift up the leaves into the sunlight.

Why do stems need to be strong?

Flowers, seeds and fruit

These allow a new plant to grow.

Plants 2

The Bible is food for our thoughts

Plants need food. Jesus said that people need food and water to stay alive. But we don't just need food and water that goes into our stomachs. We need a type of food and water we cannot see. The Bible is *like* a food because it helps us get through life, just as food helps us get through the day. The Bible has the things we need for life. That life comes from Jesus.

1 Peter 2:2 tells us that just as new born babies love milk, we should love God's word, the Bible, because by learning from it, we can *grow* into the people that God wants us to be.

What is a good food for people who want to become more like Jesus?

The Holy Spirit is water for soul

Plants need water. One day Jesus was thirsty. He went over to the well, where the water came from in the olden days. He saw a lady there and asked her to bring the bucket up from the well so that he could have a drink of water. Jesus told the lady something about herself that surprised her very much, because she did not know Jesus at all. The lady immediately knew that Jesus was special. Jesus told the lady that when people drink ordinary water, like the water from this well, they will get thirsty again. But when they drink the water of life that Jesus gives, they will never thirst again. We cannot see the water of life. It is something you have to pray for. It's a special something that Jesus gives you when you really love him. It is the Holy Spirit, which can live in us. Just as plants need water to stay alive, we need the Holy Spirit to help us through life. The Holy Spirit is God's spirit. He helps us do what Jesus would do. (John 4:7-29)

What is the water of life that Jesus gives?

Plants 3

Plants need air to stay alive

We know that the leaves of a plant make food for the plant. The plant uses sunlight to make the food. The leaves also help the plant get air. A plant breathes with its leaves and its stalk, a bit like we breathe with our lungs. Some plants have thick leaves. Some plants have thin leaves. A plant cannot live without air. People cannot live without air. But if a person wants to live forever in Heaven, then they must have Jesus. Jesus is just as important as air.

How does a plant breathe?

9. Plants need stems to stay alive

Some plants are big and some are small. A plant is held up by its stalk or stem. But if it is a very big plant, like a tree, the stalk is called a trunk. Grapes grow on grape vines. The branches of the vine grow out from one main thick stem. Jesus said that he is the true vine. He is like the main stem of the vine, and we are the branches. He holds us up and helps us through life when we stay connected to him. We can read about this in John 15 verses 5-10.

How can we stay connected to Jesus?



JESUS
is the vine,
we are the branches

Plants 4

Seeds are different shapes and sizes

Nearly all the plants around us started as seeds. Seeds are different shapes and sizes, but they are alike in two ways.

- A seed always contains the young plant, called the *embryo*
- The seed contains food for the young plant to live on, before it can make its own food.

Draw some seeds you know to show their different shapes. Try to draw them the right size too. Here are some examples: pea, apple, pumpkin, tomato, bean, orange, watermelon, lettuce.

Copy:

Seeds are alike on two ways:

- a) the seed contains the _____
_____ (this is called the em _ _ _ _).
- b) the seed contains a supply of _____.

Why does the embryo need food from the seed?



Plants 5

Seeds have a hard coat

If you look at a seed closely and feel it, you will notice that it is hard and dry. The hard coat protects the young plant inside from hard. On the outside of the seed you will see a little scar. This is where it was attached to the stalk while it was growing on the parent plant. On the hard coat you will also find a little hole. It is here that the water gets into the seed when it is planted.

Why did God give seeds a hard coat?

Ephesians 6 says "Put on the whole armour of God so that you may stand against the arrows that the devil fires at you."

What is a hard coat that we can put on to protect us from fiery darts of evil?

Copy:

The little scar on the outside of the seed is where it was _____ to the stalk when it was growing on the _____ plant.

Draw some peas growing in a pod. Show the little stalks attaching the peas to the pod.

Copy:

The little hole on the hard coat of the seed is where the _____ gets into the seed.



Plants 6

Germination

When a seed starts to grow into a plant, we say that it has germinated. Before it can do this it must have three things: water, warmth and oxygen. Yes a seed needs oxygen just as we need it. The oxygen comes from the air in between the soil particles. The water comes from the moisture in the soil, and of course the warmth comes from the sun.

1. We say that a seed has germinated when

2. Add "ion" and "ing" to make words:

germinat _ _ _

germinat _ _ _

3. Before a seed can _____ it needs three things:

a)

b)

c)

4. A seed gets oxygen from the _____.

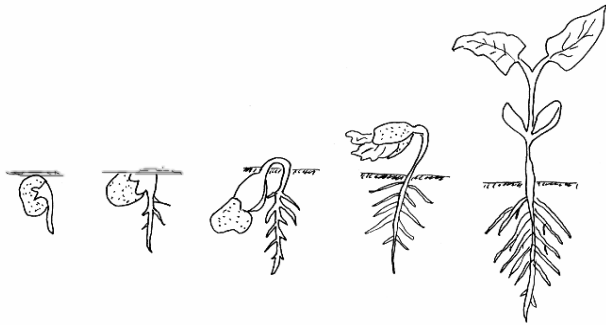
Draw the soil showing small particles with air between them.

5. How does a seed get the moisture it needs for germinating?

6. How does a seed get the warmth it needs for germinating?

Plants 7

Plant a bean seed



1. Draw the diagram and label it using the words in bold words below.

Stage 1: the skin splits and soaks up moisture. Then a little white **root** appears. The root points down and pushes down through the soil.

Stage 2: a white **shoot** pushes upwards into the air.

Stage 3: tiny **hairs** grow out from the root and these suck in water and food from the soil.

Stage 4: two thick leaves from the seed. These are called the **seed-leaves**. They give food to the plant.

Stage 5: The plant grows **true leaves** and can make its own food.

2. Copy and choose the correct word:

The root grows (up / down)

3. How does a seed take in moisture at first?

4. How does the seed take up moisture later on?

5. What do the see-leaves do?

6. What can the plant do once it grows true leaves?

Plants 8

God is a Provider

We can see how God has planned for new plants to grow from seeds. God provides everything the seed needs, even before it can make food for itself. God provides for new born babies too, by giving them milk to drink from Mum. Babies cannot get food for themselves, so God provides.

How does God use the following to provide for you? (Write one sentence for each.)

- parents
- plants
- animals
- the sun
- the earth
- the sky

God looks after his creation. He says, "Look at the flowers. Aren't they dressed in beautiful colours? I look after them. Look at the birds. They don't make their own food but I look after them. And I look after you, so don't worry about anything!" (Matthew 6:25 – 31)

How do you know that God will look after you?



Plants 9

How seeds travel

Think about what would happen if seeds didn't travel. What do you think would happen if seeds dropped to the ground only directly below the plant?

Seeds have special devices for making them travel faster through the air. Here are some:

- a) wings
- b) bits of fluff
- c) parachutes

Find out which seeds have these devices, then draw and name them. Make a collection if you can.

Seeds have another way of traveling. They can get a ride on people or animals. These seeds can have:

- a) bristles
- b) hooks
- c) gluey coats

Find out which plants have these, draw and name them.

Some seeds travel by floating on the sea or down a river. It may be the fruit that floats, and the seeds get a ride inside the fruit. Coconuts do this.

Find out which fruits or seeds float. Draw and name them.

Some seeds can act like rockets. As soon as they are ripe, the cases enclosing them become dry and brittle and snap open. The seeds shoot out in all directions.

Find out which seeds act like a rocket. Draw and name them.

Plants 10

Seeds bring new life

God uses seeds to provide for us and bring new life.

Jesus said, "Unless a grain of wheat falls into the earth and dies, it remains alone; but if it dies it bears much fruit." John 12:24

When the seed falls from the plant, it seems dead. It has no life. But when it receives the things it needs for life – soil, water and warmth – it comes to life. Think of an apple seed. How many apples do you think you might get from one apple seed?

But Jesus was talking not just talking about wheat seeds growing into wheat plants. He was talking about Himself. Jesus had to die in order to bring new life. When Jesus died for our sins, He gave the opportunity to everyone in the world who wanted to accept His gift of love and forgiveness, to receive new life.

Jesus also said, "If you have faith the size of a mustard seed, you shall say to this mountain 'Move from here to there,' and it shall move. Nothing shall be impossible to you." (Matthew 17:20)

How big is a mustard seed? Have a look in the supermarket next time you are there. You will find them with the spices. Mustard seeds are used in Middle Eastern cooking. They are very tiny. When we have faith in God, we can do great things. But it's not us doing the great things. It's God. When we have new life in Jesus, and listening to His voice, nothing is impossible!

What is the new life that Jesus gives?

Plants 11

Plants we eat: Roots, stems and seeds

Carrots are roots. Because root vegetables grow underground, they absorb a great amount of nutrients from the soil.

Some vegetables that grow underground are swollen parts of underground stems called tubers. Examples of these are potato, taro, yams and taro.

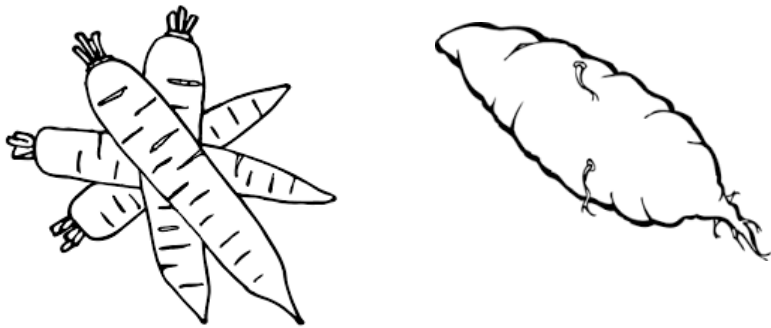
Onions and garlic grow underground too but are actually bulbs.

Sugar cane is an example of a stem foods growing above the ground.

Draw and label some roots and stems that we eat. Draw them growing underground or above ground.

There are many seeds that we eat. Seeds are found inside the fruit. For example, wheat, rice, corn, beans, peas and even coconuts are seeds. Nuts are also seeds from fruits.

Draw and label some seeds that we eat.



Plants 12

Plants we eat: leaves, flowers and fruits

Some of the leafy vegetables are cabbage, spinach, lettuce, coriander. The green leaves have many nutrients.

Broccoli and cauliflower are examples of the flower of the plant.

Draw and label some vegetables that are actually leaves or flowers.

There are many fruits that God has provided for us to eat. Did you know that tomatoes and pumpkin are technically fruits? We call them vegetables because they are not sweet like mangoes and pineapples.

There are many sweet fruits: pineapple, mango, papaya, bananas, guava, bread fruit, apples, pears, oranges, lemons, berries and many more.

Draw and label some fruits that we eat.

