

GOD IS PROVIDER

Trees and Forests

Term 1

Year 5

Trees 1

Student activities

What does a tree need?

Did you know that trees can teach us about God?

A tree is very strong, but it needs a constant supply of certain things from God's creation in order to stay strong.

Draw a picture of a tree and show how it needs the following things:

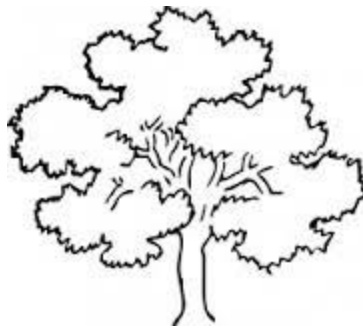
- Sunlight
- Nutrients from the soil
- Air
- Water

Sometimes, when there is a serious drought that goes on for a long period, a tree can die. A tree can also die if it gets too much water. If an area becomes flooded, and water surrounds the roots for a long time, the tree will die because the roots cannot get air.

To stay alive, a tree must have a constant supply of the life-giving resources from God's creation.

What does a tree need to stay alive?

What happens when a tree does not get the things it needs?



Trees 2

The Grape Vine

Jesus told us that as Christians, we are like trees. In order to stay alive in our relationship with Jesus, we must stay connected to Him. Jesus gives us the things we need.

Jesus is the living water. A tree needs water. We need the living water to keep our relationship with Him alive.

Read the story of Jesus and the Samaritan woman in John 4.

What is special about the water that Jesus gives? (verse 13)

Jesus said, "I am the Vine, you are the branches. A grape vine is a kind of tree. We have to stay connected to the strong part of the grape vine. Jesus is the strong part of the vine. When we stay connected to Him we will have eternal life.

Read about the Jesus, the Vine in John chapter 15.

1. What do we have to do to stay healthy in our relationship with Jesus? (verse 5)
2. What happens to those who do not stay connected? (verse 6)
3. What kind of life is Jesus offering?



Trees 3

A tree planted by the water

Psalm 1 says, "Happy are those who reject the advice of evil men, who do not follow the example of sinners. Instead they find joy in obeying the law of the Lord, and they study it day and night. They are like the 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." (GNB)

1. What do you think the water in the stream represents?
2. What are the benefits of having your roots on the bank of the stream?

Psalm 92:12-14 says, "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 flourish in the temple of our God, that still bear fruit in old age, and are always green and strong." (GNB)

3. Name two trees mentioned in these verses.
4. What are the benefits of being planted in the House of the Lord?



Trees 4

Parts of a tree

1. Make a drawing of a tree big enough to fill half a page. Write the names of all the parts. Use arrows. Here are the names of the parts of a tree.

trunk roots leaves branches bark twigs

2. There are some parts of the tree that we only see sometimes. Add these to your drawing

- fruit
- nuts
- sap
- berries
- cones



Trees 5

The leaves

The leaves have a special work to do. They make food for the tree. They use sunlight and water and a special gas called carbon dioxide from the air to make sugar. We can see this sugary food on trunks sometimes. It is called sap. It looks like syrup. The leaves have another important job to do. They give out oxygen to the air.

1. What is the special job of the leaves?
2. What do the leaves need to make the food?
3. What does the food look like?
4. What else do the leaves do?



Trees 6

The roots

The roots have a special work to do. They hold the tree in the ground. They also take water from the ground and send it up to the leaves. The leaves need water to make food.

The trunk

The trunk has a special work. It carries food and water up and down the tree. It has little tubes that act like the veins and arteries in our bodies.

The branches

The branches have a special work. The leaves, fruit, flowers and nuts grow on them. They must be strong!

Why are the roots important?

What does the trunk do?

What is the job of the branches?



Trees 7

Festival of Fruits

The Jewish people have a festival each year to celebrate the fruits produced by their trees. When a tree matures it produces its first fruits.

Jewish people give thanks to God each year for the first fruits of the trees of Israel. These fruits are oranges, raisins, figs, dates and carobs.

The festival is called Tu B'Shvat. They recognize the importance of trees by planting new trees planting in the desert areas. The children are told this story, to help them understand how important trees are. Here is the story:

The king was riding through the countryside, when he noticed an old man planting a tree.

"What are you planting?" he called.

"A carob tree," replied the old man.

"How long will it be before your tree bears fruit?" asked the king.

The old man shrugged his shoulders. "Maybe seventy years," he replied.

"And how old are you?" the king said.

Seventy years old," was the answer.

"Do you expect then, to eat the fruit of that tree you are planting?"

"Oh no!" answered the old man.

"But I when I was young there were many fruit trees and plenty of fruit for me to eat. The trees were planted by people in the past. So I plant trees, so that my children's children may eat fruit too."

What can we learn from this story?

Trees 8

Trees of the world

Trees grow all around the world.
Some trees grow where it is hot. Some trees grow well where it is cold.

Many countries have summer and winter seasons, where it is hot in the summer and cold in the winter. It would be too cold for the leaves of many the trees to stay green. So these leaves turn yellow, red and brown before winter, and fall to the ground. Then the tree has no leaves for the winter. But that is alright, because when the spring comes, the tree grows new leaves. God has made it that way.

There are some trees that grow perfectly well in the snow. These are pine trees. They have thin needles that can survive the snow. They do not lose their leaves. You have probably seen a pine tree. A Christmas tree is a pine tree.

Leaf shapes

Trees have leaves of many different shapes.
Draw some different shaped leaves.
You could also do some leaf rubbings.

Draw a pine tree.
Draw a tree that has lost its leaves for the winter.
In which country might you find this tree?



Trees 9

The Importance of Trees

Trees occupy an important place in the life of man. The trees provide us flowers, fruits, fodder for animals, wood for fire and furniture and provide cool shadow from scorching sun.

They give us so many such good things and yet expect nothing in return. Trees give us fruits for food and flowers for pleasure. They provide us timber (wood) for building our houses and making furniture. They provide us wood for fuel. They supply sleepers for the railway line. Many trees provide us medicinal products such as mile- a-minute and eucalyptus. In fact, most of the medicines that we use ultimately come to us through trees and vegetation.

Trees play an important role in purifying the air around us. They breathe in carbon dioxide and breathe out oxygen that sustains our life. Thus, they make this world a better place to live in.

Trees are also very necessary for having good rainfall. The trees attract rain bearing clouds and prevent soil erosion and conserve the earth.

Therefore, it is essential for mankind to play their role in taking good care of the trees since they are taking great care of us.

Read the text and answer these questions.

1. List two ways in which trees are useful to man.
2. In your context, identify at least two herbal medicines and the sickness it can cure.
3. Explain how trees purify the air?
4. State any other way trees can be of use to us.
5. How can you take good care of the trees around you?

Use the fact file below; give a report on the importance of trees.

Fact Files:

- Trees produce oxygen
- Trees clean the air
- Trees shade and cool
- Trees fight soil erosion
- Trees provide food and fruits

Rainforests 1

What is a Rainforest?

On the outside, a rain forest has a wall of about 6 metres (20 feet) thick that is made of a tangle of vines that love light.

This wall is very thick on the outside and it looks as if the whole jungle is this thick. But inside this wall you will find animal paths or a stream to follow. It is like entering another world.

Once you're inside, you can look up and see a tree canopy that's as high as a 17-storey building!

It's fairly dark inside the canopy. Only 1% of the sunlight ever actually gets to the floor of the forest because of the tall trees above. And moonlight, even a full moon, doesn't get through at all.

Layers of a rain forest

Rain forests have different layers that support different animals and insects. Some plants and animals live in specific layers, while others live and feed wherever they can.

EMERGENT LAYER

The tallest trees are the emergents, growing high as 60 metres (200 feet) above the forest floor with trunks that measure up to 5 metres (16 feet) around. Most of these trees have broad-leaves. Sunlight is plentiful up here. Many animals can be found here.

CANOPY LAYER

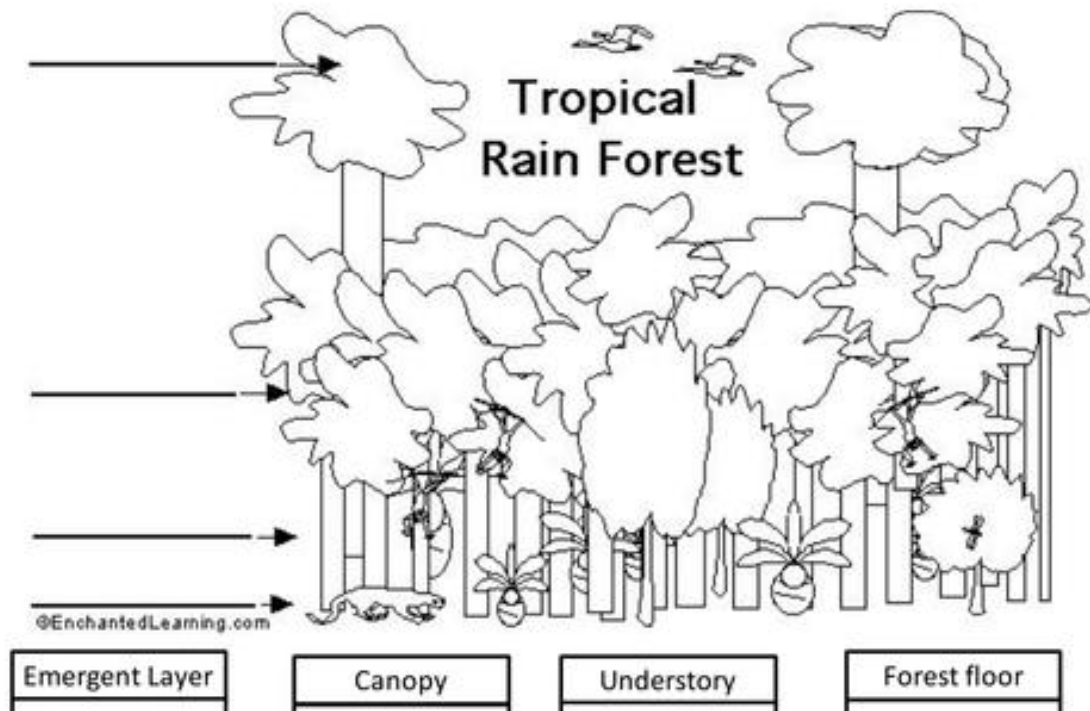
This is the main layer of the forest and forms a roof over the two remaining layers. Most canopy trees have smooth, oval leaves that come to a point. Many animals live in this area since food is abundant.

UNDERSTORY LAYER

Little sunshine reaches this area so the plants have to grow larger leaves to reach the sunlight. The plants in this area seldom grow to 4 metres (12 feet). Many animals live here

FOREST FLOOR

It's very dark down here. Almost no plants grow in this area. Since hardly any sun reaches the forest floor things begin to decay quickly. A leaf can decompose in just 6 weeks.



1. Draw and label the layers of the rainforest.
2. What makes up the outside wall of a rainforest?
3. What might you find inside this wall?
4. Why do you think it is dark inside the rainforest?

Rainforests 2

Plants of the rainforest

Draw a picture showing these plants:

- **Trees** grow tall as they push their way up to get the light.

The tallest trees in the rainforest grow up to 60 metres (200 feet) high. The tall trees that poke through are called the "*emergents*". They make an umbrella that can cover an entire acre.

The soil on the rain forest floor is rich in nutrients, but only 100 cm (4 inches) deep with red clay beneath it. This causes the trees to have very shallow roots. That's why many tall trees have buttresses or extra trunks supporting the first one around the bottom. These *buttresses* help stabilize and hold the tree up, like a set of crutches.

- **Stranglers** are plants that grow on a tree as a parasite plant.

The stranger plant grows up the tree and the tree dies. The strangler plant tree now keeps growing around the dead tree.

- **Vines** grow around and around other trees. They use little hooks called tendrils to hold on to trees.

- **Tree ferns** grow out from trunks of trees to catch light and water. They have broad leaves, which grow into the shape of baskets. They can catch water in the baskets.

- **Lichens, mosses and fungi** grow on other plants. They grow on trees to get sunlight.

Rainforests 3

People of the rainforest

Some very interesting people live in the rain forest of Papua New Guinea. They are called the *Huli Wigmen* tribe. The men of this tribe wear large wigs of matted human hair, that they grow themselves. They must stay in a special "school" in the forest for up to three years while their hair grows. This school is a group of huts in the rain forest surrounded by tall wooden fences. Every day the men sprinkle special water on their hair and use twigs and rope to shape the wig. Once it has grown bushy enough, they shave their heads. Then they use natural dyes found in the rain forest to colour their wigs red or black. They decorate them with flowers, leaves, shells, bones, feathers, and fur that they also collect from the rain forest.

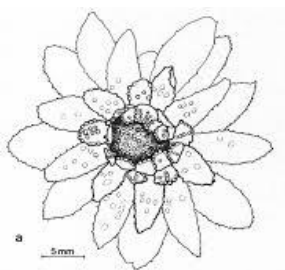
Many of them have two wigs, one for wearing every day and one for ceremonies. When they dress up, they paint their faces with juice from berries and rub pig fat over their bodies. Then they put big bushy leaves in woven belts to make a skirt and dance in a big circle. They'll usually invite other tribes from the area to join them. The wigmen can be very fierce, so these dances are a good way to build friendships with other tribes.

1. Where do the wigmen live?
2. What do the wigmen do at their school?
3. What are the two wigs used for?

Rainforests 4

Rare plants of the Fijian rainforest

In Fijian rainforests you can find a species of tree called Degeneraceae. This is a flowering tree related to magnolias, and only grows in Fiji. Look at the pictures below and draw a picture of this tree.



The Fijian rainforest is also a home for different kinds of orchids. They come in pinks, purples and yellows. Draw some of these.



Rainforests 5

Where are rainforests found?

South America, Central Africa, India, South East Asia, Papua New Guinea and the South Pacific Islands.

Rainforests of the South Pacific

South Pacific Islands with rainforests are:

American Samoa, Cook Islands, Fiji, French Polynesia, Niue, Samoa, Tonga, Wallis and Futuna Islands

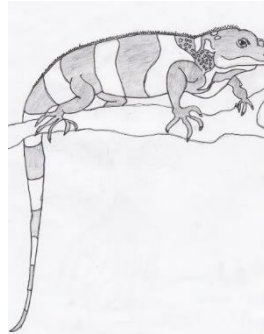
Draw a map of the South Pacific and name the islands with rainforests.



Rainforests 6

Animals of the South Pacific rainforests

- Iguanas, including the Crested Iguana (now endangered)
- Orange dove
- Red shining parrot
- Fruit bats including the Fijian monkey-faced flying fox
- Snakes
- Geckos
- Frogs



Draw and name five animals of the Fijian rainforest.

Crested Iguana (blue or green)

Banded Iguana (green and blue)

Rainforests 7

Our vanishing rainforests

The world's rainforests are currently disappearing at a rate of 6000 acres every hour (this is about 4000 football fields per hour). When these forests are cut down, the plants and animals that live in the forests are destroyed, and some species are at risk of being made extinct. As forest trees are cut down on a large scale, the balance of the earth's eco-system is disrupted.

We need the rain forests to produce oxygen and clean the atmosphere to help us breathe. We also know that the earth's climate can be affected, as well as the water cycle. Rainforests also provide us with many valuable medicinal plants, and may be a source of a cure from some deadly diseases.

As a world community, we must be careful not to destroy the resources that people will need in the future.

Many animals are illegally taken from rainforests and sold in other countries. Parrots and iguanas, for example, are often imported illegally. We should not buy these animals, since that encourages other people to bring in more animals.

Many products, such as rubber, coffee and timber come from rainforests. Rainforests are cut down to harvest the timber and also to make room for farms to grow coffee and spices. Each of us needs to be thoughtful about the way we consume these products. Recycle and re-use whenever possible, and help keep the earth green and healthy.

Why are rainforests so important?

How can the world's rainforests be protected?