

# Science and Social Studies

## Year 5 Term 1

### Student Book

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# God is Love – Communication

**We show love to others through communication.**

## **Communication 1: How do we communicate?**

Answer the following questions in your book.

1. Not long after you were born you began communicating with others. How did you do this?
2. How do you communicate with your friends now?
3. Write down all the different ways we can communicate in our world today. Draw some.
4. When God created people, He created them different to the animals. He created them with the ability to communicate with Him. (Genesis 1:26)  
How does God communicate with us?

## **Communication 2: Communication breakdown**

What happens to communication when two people argue?

Often people decide not to speak to the person they have had the argument with. This is called a breakdown in communication. How could this breakdown be fixed?

At one time the whole world spoke the same language, but God decided to change people's languages when they were trying to build the largest tower in the world. It was called the Tower of Babel, (Genesis 11). Instead of one language there were now many different languages. People who spoke the same language joined together and traveled to different parts of the earth. They settled in different places and became different people groups.

Speech or language is a very special and important gift from God. We need to make sure that the things we say, and where possible, the things we listen to, bring honour and glory to God.

### **Questions:**

1. How do communication breakdowns start?
2. How could we avoid having communication breakdowns?
3. Name five different languages and the countries where you would hear these languages spoken.

### **Bible verses to look up:**

Colossians 4:6 What does it mean to have your conversation full of grace?

James 3:9-10 How can we use our tongue for good and for bad?

### **Communication 3: Learning to speak a language**

1. When you were very young you learned to speak very easily.  
How did you learn to speak?
2. Learning a second language  
For some people, understanding a language might be very difficult.  
Who do you know who cannot speak these languages?  
Fijian, English, Hindi
3. Imagine that you could speak both Fijian and English. There is a student in the school who can only speak Fijian. How could you help that person?
4. **Find out:** How many different languages are spoken in your community?

### **Communication 4: Using good manners in communication**

1. Your best friend has asked you to come and play at their house after school. You have said, "yes". But when you get home you find out that Mum has asked you to help her with the supermarket shopping.
  - a) Why should we communicate?
  - b) How could we communicate?
2. You have been invited to a birthday party on Saturday but your family is going away for the weekend and you have to go with them.
  - a) Why should we communicate?
  - b) How could we communicate?
3. You are in a sports team that is playing on Saturday, but you have fallen over and broken your arm.
  - a) Why should we communicate?
  - b) How could we communicate?

## **Communication 5: The history of the telephone**

On a sheet of paper draw a timeline showing these dates and what happened.

### **1876 – first phone Alexander Bell**

The first telephone was invented by Alexander Graham Bell. The first telephone communication was made when Bell spoke to his assistant Thomas Watson by wire on the 10th of March in 1876.

### **1888- first pay phone**

William Gray created the first pay telephone, which people would use by putting coins into slots.

### **1947- idea of a mobile phone**

A person called Dr. Ring thought of the idea of cell phones, but the technology did not yet exist to be able to make one.

### **1962- push-button phones**

Push button, or touch-tone telephones were first seen and sold.

### **1973- first mobile phone**

This was the year of the first mobile phone, (called a cell phone in the USA).

### **1983- Mobile phones for the public**

The first commercial mobile telephone system was opened.

### **1992 – first smartphone**

Cost \$1000 in the USA

**Draw these phones from oldest to newest.**

1. How do you use the first phone?
2. What would the winder be used for on the second phone?
3. Why is the cord coiled in the fourth phone?
4. Why do phones 1 to 5 have cords but the mobile phone (no.6) has no cord?
5. How has the mobile phone changed since it was first invented? (What can Smart phones do?)



## Communication 6: Comparing mobile phones and land-line phones

### Land lines

- carry calls along electrical cables
- The words you speak travel down a wire connected between two handsets.

### Mobile phones (cell phones)

- can send and receive calls without wire connections of any kind.
- use radio waves in the air

1. Write down some good points about a mobile phone.
2. Write down some bad points about a mobile phone.
3. Write down some good points about a landline phone.
4. Write down some bad points about a landline phone.

### Laptops and tablets

We can use these to communicate on platforms such as:  
Social media, Messenger, Zoom, Skype and WhatsApp

## Communication 8

### Communication through writing

People in early times used to communicate through pictures. Chinese writing is made of pictures and is still used today.

#### Example of Chinese writing:

Here is the Chinese word for a large boat. Notice that it is made of 3 pictures: a vessel (boat), eight and people. This means that the Chinese people knew the story of Noah. In the ark there were eight people: Noah and his three sons and their wives.

船  
boat

舟 八 口  
vessel eight people

Egyptian writing was made up of symbols for objects and simple sounds. It was called hieroglyphics, (hi-ro-glif-ics). The Egyptians invented a type of paper that they made from plants. It was called papyrus. It was a bit like the Fijian tapa which is made from cloth.

The first books were written by hand. Bibles were written by hand. Then in 1440, in Germany, the printing press was invented so that more and more books could be printed. One of the first books printed was the Bible.

1. How did people in early times communicate?
2. How were the first Bibles written?
3. How do we use writing to communicate today?

## **Communication 8: Communication through music and art**

### **Music**

1. Name a song that communicates a message. What message does it communicate?
2. Can drums communicate a message? What message can a Lali communicate?
3. What messages do war cries of sport teams communicate?

### **Art**

1. Think about signs and symbols. What do they communicate?
2. We see art work when we go to the supermarket. What does the packaging tell us about the product?

### **Project**

Design a page of symbols that represent you: family, interests, and pets.

## **Communication 9: Communication by computer**

Computers can perform many helpful functions but do not have the intelligence of a human being. Everything that a computer does has to be programmed into it. The 'cleverest' computer that a man can make is really nothing compared with human beings. We are God's special and most wonderful creation.

Use these dot points to write a piece of information explaining how we use computers to communicate.

- Ask questions and get answers
- Type text and print it out
- Find pictures to use in our projects
- Send emails
- Social media, Messenger

## **Communication 10: Communication for the disabled: blind and deaf**

Some people in our community experience real communication problems because they are blind or deaf.

How would you describe a colour to someone who had been blind from birth?

What would it be like to be blind? How would you find out what things are like? What are some of the things you could not enjoy?

Braille – a language for the blind

In 1824 a Frenchman, Louis Braille developed a reading system for blind people. Each letter is made of dots in patterns punched into thick paper. These dots can be felt. If blind people learn what the Braille letters mean, then they can read books.

How could you help a blind person enjoy a story from a book?

### **Sign language for the deaf**

Many deaf people communicate using a language of facial expressions and hand symbols.

What is another way that many deaf people use to understand what is being said?  
(clue: lips)

# Thinking about biographies

Use the Thinking Hats to write a summary of the biographies on the next pages.

## 1. The White Hat (The facts)

- What is the name of the person? (Write this as a heading)
- When was the person born and when did they die?
- Where were they born?
- Where did they work?
- What was the main type of work they did?



white

## 2. The Yellow Hat (The good points)

- How did this person help other people?
- Write about one good point that stands out to you in the biography.
- What were the strengths of this person's character?



yellow

## 3. The Black Hat (The bad points)

- What difficulties (hardships) did this person experience?
- Write about any sad events that happened in the person's life.
- What difficulties were the people of the country experiencing? What needs did they have?
- Were there any times in this person's life when they acted wrongly or made a wrong decision?



black

## 4. The Red Hat (Emotions)

- Write about one amazing event in the biography and explain how you felt when you read or heard it.
- Describe some of the emotions of the person and why they felt happy, sad, angry, worried or otherwise.



red

## 5. The Green Hat (The creative hat)

- What creative ideas did this person think of to solve problems?
- If this person did not choose to carry out the work they were called to do, what might have happened? (How would it have been different for people of that country.)



green

## 6. The Blue Hat (What we can learn from the biography)

- What did you learn from the life of this person?
- What does it challenge you to do?



blue

# John Flynn

## Biography

John Flynn believed that God wanted him to become a minister and go the centre of Australia. It was a time when much of the outback was being opened up for sheep and cattle stations. People had to travel hundreds of miles for medical help. There were also hundreds of people in the outback who had not heard the Gospel, because there was no one to tell it.

John began working in the outback of South Australia in 1911. He travelled over the hot, sandy country in a horse and buggy. He often had to act as doctor, dentist, school teacher as well as preacher.

John knew that people in remote places must have better access to medical centres, or many would die. In his time, there were 15 inland hospitals set up, where station people could receive medical help more quickly.

However, this was not the complete answer. One day, John was visiting Adelaide and saw an aeroplane.

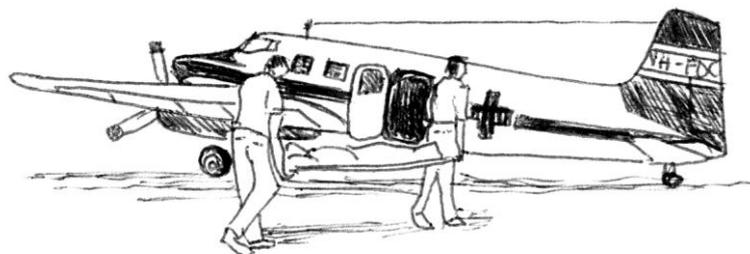
"That's what we need," he said.

John Flynn now ran a mission, and with the help of others worked towards establishing a Flying Doctor service, so that doctors could fly to visit patients, and patients could be flown to hospital. One of the problems in the outback was the sending of messages. With the help of his friend Alfred Traegar, John managed to develop a pedal wireless, which could send and receive messages, if the people worked the pedals as they used it.

The radio receiver was not just used by people in an emergency, but enabled lonely, isolated people talk with others every day.

God has given us all gifts that we can use to help others. We cannot measure God's gifts to people in 'amounts', but we can say that God gives people different KINDS of gifts.

To some He gives a gift of music. To others He gives the gift of caring for people. There are many different ways in which we can serve Him. John Flynn used his gifts to help many people.



# The Flying Doctor today

People in Outback Australia use the flying doctor for quick medical help when they live a long way from a doctor or a hospital.

The plane goes to clinics every week for checkups and attends to emergencies as well. Everyone comes for checkups and most of the patients are Australian Aboriginal people. The doctor and people who use the flying doctor use the radio to communicate to each other. They don't often have a phone. Sometimes the doctor tells people what to do over the radio without even seeing them.

Out stations need special first aid boxes. The boxes have maps of the body so people can say exactly where it hurts and the doctor can help without seeing them. Sometimes they are just too far away and it's not a real emergency.

John Flynn started the flying doctor service in 1928. He had one plane. Today they have many planes. The flying doctors see about 65,000 patients a year. There is also a flying dentist available.

## Activities

1. Why did John want to go to the outback?
2. How did he travel in the early days?
3. How did he *want* to travel?
4. How could an aeroplane help his work?
5. What is the name of the special service he began?
6. How did the people of the outback get messages to John?
7. What were some of the gifts and talents John may have had as a young boy?
8. Why do you think John was so successful?
9. What gifts did John have and how did he use them?
  - a) Write a list of the different gifts that God gives to people. Don't just think of people who are very clever. Think about people who are kind, friendly or patient. They are gifts too!
  - b) Choose one of these things and explain how it could be used for God:  
*music; helping; art; building; speaking; computers*

## Copy and fill in the missing words:

### How can I be a faithful servant?

I can \_\_\_\_\_ out what my gifts and talents are.

I can work hard at becoming \_\_\_\_\_ at using these gifts.

I can say, "Yes, I will help," when God asks me to \_\_\_\_\_ my gifts for Him.

**Missing words:** use better find

# Louis Braille

## Biography

Louis Braille was born on January 4, 1809, in France. An injury to his eye at age three resulted in total loss of vision. When he was ten, he entered the Royal Institute for Blind Youth in Paris, the world's first school for blind children.

When Louis was fifteen, he invented a system of reading and writing by means of raised dots.

Louis Braille began experimenting with cut shapes from leather as well as nails and tacks hammered into boards. He finally decided that the best way to go was to create fingertip-size dots based on the twenty-six letters of the alphabet, which could be recognized with a single contact of one finger. By changing the number and placement of dots, he made a code for letters.

With their right hand the blind reader touched raised dots, and with the left hand the person moved on toward the next line. Using this system, blind people were able to read text as smoothly and quickly as sighted readers.

Mr. Braille accepted a full-time teaching position at the Institute when he was nineteen. He was a kind, compassionate teacher and also a good musician. He gave his life in selfless service to his pupils, to his friends, and to continuing to improve his raised dot method, which is known today as Braille.

Louis Braille died at age forty-three, from a contagious disease called tuberculosis. When he died confident that his mission on earth was completed.

Use the "Thinking about biographies" sheet to write a report on Louis Braille

# God is Provider – Trees and Forests

## Trees 1: 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:

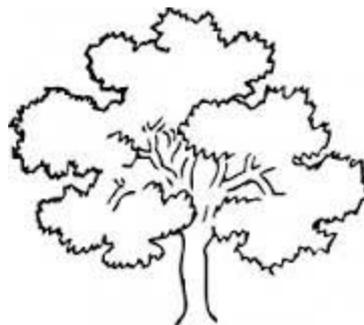
- Sunlight
- Nutrients from the soil
- Air
- Water

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: roots, trunk and branches**

### **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.

### Activities:

1. Draw a pine tree. Draw a tree that has lost its leaves for the winter. In which country might you find this tree?
2. Name and draw some of the trees in your country.



## **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**

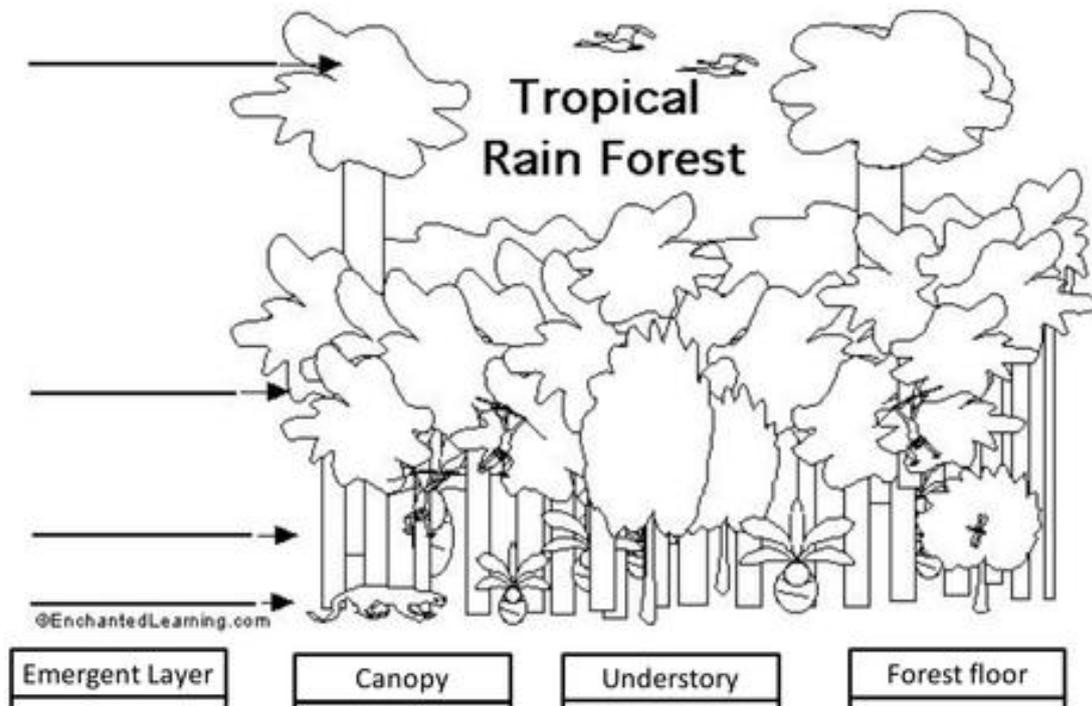
This is the main layer of the forest and forms a roof over the two remaining layers. Most canopy trees have smooth, oval leaves that come to a point. Many animals live in this area since food is abundant.

#### **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: 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:

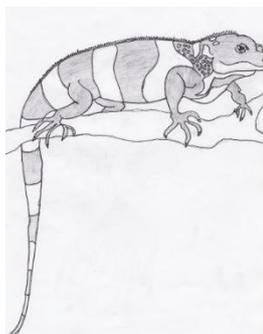
American Samoa, Cook Islands, Fiji, French Polynesia, Niue, Samoa, Tonga, Wallis and Futuna Islands

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



## Rainforests 5: 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 6: 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?*