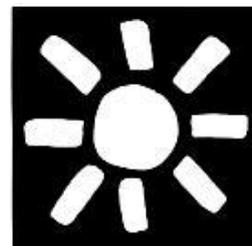


Science and Social Studies

Year 4 Term 2

Student Book

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God is our Saviour – Countries of the World

China

God loved the world so much that He sent His Son Jn 3:16

Hudson Taylor

Biography

Hudson Taylor was born in England in 1832. His parents knew and loved God, and at the age of 12 Hudson decided that he would one day become a missionary in China. However in his teenage years he turned away from the Christian life. One day he picked up a Christian story. He decided to read it, and was suddenly overcome by the need to ask Jesus for forgiveness, and once again became His follower.

When he was 17 years old, Hudson heard a clear voice from God, saying, "Go to China." He went to see a minister about it. The minister told him that going to China would be a very foolish thing to do.

"There are so few missionary societies working there, and the climate is unbearable!" he said.

However Hudson did not give up. He read all the books he could find about China, and even tried to teach himself the Chinese language. After writing to several missionary societies, he finally received an answer from one. It was the Chinese Evangelization Society. They arranged to pay for his training as a doctor at a London hospital.

At the age of 21, he boarded a sailing ship bound for China. It was a dangerous journey, around the Cape and through the East Indies. At one point they were almost shipwrecked. After 23 weeks the ship finally arrived in Shanghai. In those days Hudson was the only missionary in Shanghai and he was often homesick. He missed his family and friends in England. He also missed the food that he was so used to. The Lord sent to him a Chinese Christian to help him in his medical work. His helper had a long pigtail, almost reaching the ground.

Hudson travelled as much as he could, not only to give medical help, but also to preach the Gospel. Hudson had no trouble in attracting a crowd. People were very curious. In fact the listeners did not take their eyes off him. Then one day he was asked, "What can be the meaning of those buttons in the middle of the honourable back?"

Hudson realized how amusing his 19th century English costume was to the Chinese. In fact they probably paid more attention to his clothes than the words he preached! Hudson realized that before the Chinese could really understand the Good News, he must become like them. He must show them that he was not someone so unusual, but an ordinary person, just like themselves. Hudson threw away his English clothes and chose Chinese dress. He even grew a pigtail.

In 1858, Hudson married Maria. Together they worked to bring the Good News to the Chinese people. Life was difficult as they battled against hardship and disease. The summers were extremely hot and their health suffered. Two of their children died from disease, and then one day, Maria died also. Hudson did not stop trusting in God. He continued to serve God through difficult circumstances knowing one thing... that God had called him to preach the Good News to those who had never heard. Through his work, Hudson opened the way for other missionaries to come to China. Hudson Taylor started one of the most successful missions to China. It was known as the China Inland Mission.

Hudson Taylor Questions

1. Put these in the right order:
 - a) Hudson turned away from God
 - b) Hudson came back to God after reading a book
 - c) At the age of 12 Hudson decided to become a missionary.
2. Why did the minister think that going to China was foolish?
3. How did Hudson train and prepare for being a missionary?
4. Use an atlas and trace with your finger, the route that Hudson took to China.
5. What were some of the things Hudson missed about home?
6. Who did the Lord send to help Hudson?
7. Why did Hudson change his way of dressing?
8. What sad events did Hudson experience?
9. How do you think Hudson kept on going, even when sad things happened?
10. Hudson's work was only the beginning of a much larger work. What was it?
11. Find out about a missionary who has gone to another part of the world to preach the Gospel.

Gladys Aylward

Biography

Gladys Aylward was born at Edmonton in London in the year 1901. At school and at Sunday School she learnt to know and to love her Bible and to trust in God. She loved hymn-singing best of all. When the war planes flew over London to drop bombs in the First World War, Gladys collected her young friends at her house. They sang hymns to drown the noise and to forget their fear.

When Gladys left school she worked as a house cleaner for rich people. One day she read in a magazine about the China Inland Mission which had been set up by Hudson Taylor. 200 missionaries were needed in China.

“That is what God wants me to do,” Gladys decided: At once she offered herself to the Mission and she went to train at its College. But after three months the head of the college asked to see her. “Learning is too hard for you,” he said kindly “Besides, by the time you finished the course here you would be thirty years old. You would find it very hard to learn a new language at that age. There are many other ways to serve God.” Gladys Aylward went back sadly to her old work but she could not give, up the idea of becoming a missionary.

She remembered how Abraham obeyed God and gone out into a strange land. And Moses who took up God’s call and lead his people out into the wilderness. “They trusted in God. I will too” she vowed.

Since the Mission would not accept Gladys, she knew she would have to find the money herself to get to China. She went to a new job in the household of a famous explorer in London. When she got there Gladys had two and a half pennies and her Bible. “O God,” she prayed, “here’s my Bible and my money and here’s me. Please use us!” It cost 90 pound to go to China by sea. But Gladys found that going by railway right across Europe would cost 47 pounds. “But Russia and China are at war and you might never get to China,” she was told. Nothing could put her off and she began to save hard, working even in her free time to earn extra money. One day she heard of Mrs. Lawson, a missionary in China, who was very old and wanted a helper. Gladys wrote to her at once and soon carne an exciting letter from China. “If you can get to Tientsin I will send a guide to meet you,” Mrs. Lawson wrote. Gladys saved harder than ever.

In October 1930, Gladys Aylward left London by train for China. She had 9 pennies in her pocket, a traveler’s cheque for 2 pounds, her passport and her train tickets, her Bible, one suitcase for her clothes and another full of food. A saucepan and a kettle were tied to a suitcase with string. For ten days the train rattled and jolted

across Europe and Siberia. Then, near the borders of Manchuria, there came the sound of guns and the train could go no further. Gladys Aylward had to walk back many miles along the railway track to the last station, camping at night on the line in the bitter wind and blinding snow of Siberia. She got another train to Vladivostok and from there went by boat to Japan where the missionaries helped her to find a ship sailing to China. At last, after traveling for a month, Gladys Aylward reached Tientsin in China. Then by train and bus and mule she went far inland to Yangcheng where she found Mrs. Lawson living in a tumble-down house.

Gladys Aylward soon found how difficult her work would be. Chinese peasants threw mud at her.

“You must not mind,” Mrs. Lawson said. “We are ‘Lao-yang-kwei’ (‘foreign devils’) to them. We must get to know them. Let’s turn this house into an inn for the Muleteers. (An inn is a place for travelers to stay.) Yang, my old cook, will give them good food. We will tell them Bible stories. Then they will carry the Good News of Jesus wherever they go.”

Soon the inn was repaired and opened. It was named ‘The Inn of Eight Happinesses’. People in this area traveled on mules. At first none of the travelers would come. Then one day Gladys met the train and dragged the first mule of a train into the inn. The other mules followed and the men who looked after the mules had to come too.

Before long good food and fine stories filled the inn every night. Yang taught Gladys the Chinese language and so she too could tell stories of Jesus. When Mrs. Lawson died, Gladys Aylward was left alone.

In those days there was a custom in China to bind the feet of young girls so that their feet could not grow. The toes were bent downwards and tight bandages applied. It was thought that tiny feet were very beautiful, but of course it was very painful for the girls and they could not walk properly. One day the Mandarin (governor) of Yangcheng came to the inn with all his servants. “The Government has made a new law” he said. ‘Women must not bind their feet any more. We need a woman to see that this law is carried out. You can have wages, a mule and two soldiers. Will you do it?’ “Yes,” said Gladys, “so long as you realize that I shall teach my Christian religion wherever I go.” “That is your own affair,” replied the Mandarin. Gladys went round the villages, seeing the new law was obeyed and making friends with the women and children. Eagerly they listened to stories of Jesus, who came from God and died to win their love.

Gladys Aylward lived a busy life. One day she was summoned urgently to the prison where thieves and murderers were rioting. Boldly she went in, while frightened soldiers stayed safely outside, and she stopped the killing. They called her 'Zhi-weh-deh,' 'The Virtuous One', and she became well-known for her bravery. Another day she met a dirty child-dealer (someone who sold the children of poor families to wealthy people who wanted slaves). She bought the poor little girl that was being sold, out of pity. Before long Gladys Aylward had adopted four other orphan children.

In 1938 a war had broken out between China and Japan. It took some time for the fighting to reach the inland, but finally the bomber planes encircled the city where Gladys lived. They came again, and this time dropped bombs on the city. Gladys was beaten unconscious by soldiers with rifle butts and kicks. Later, the Japanese offered \$100 reward for her capture so she knew that she must flee from the city with the children to a village far away. There she knew of some Christians who could help her look after the children. By this time Gladys was looking after nearly one hundred children.

It was soon obvious that even the village would not be safe. She knew of a centre for homeless children far away beyond the mountains in Siam. She must take them there. They would have to go on foot. The Mandarin, who had now become a Christian, gave Gladys some sacks of rice and two men to carry them.

It normally took four days to cross the mountains, but because of the Japanese soldiers, they had to avoid the main road. They would have to pass through difficult terrain.

"It will take you at least twelve days," said the Mandarin.

The children walked and walked, without complaining for the first few days, but then they became tired. The sacks of rice started to get low. Every day Gladys read to the children from the Bible, and they asked God to help them. As the last of their food was used, Gladys knew that God would provide.

"We're hungry!" said the little ones.

"Look, some soldiers!" said Gladys. No, not Japanese soldiers. They were Chinese soldiers who gave the children some food. Soon this food was gone, and they were hungry again. God provided again as they came upon a mountain village.

"Please give us some food," begged Gladys. "The children are hungry."

The villagers gladly supplied them with food.

At last they reached the Great Yellow River. This was the final obstacle before reaching safety. When they reached the river bank they realized that there was no ferry to take them across. The Japanese soldiers had stopped all boats. If they waited here too long they would be discovered. They waited and prayed. Then a Chinese soldier came along.

"What are you doing here with all these children?" he asked.
Gladys explained.

The soldier knew about a secret boat, hidden amongst the reeds on the other bank. The soldier gave a whistle. Quickly and quietly the boat made its way across the river. It collected the children and ferried them to the other side. Once again the Lord had provided for them, and protected them.

By the time they reached the town where the children would be cared for, Gladys was very ill. In this town there was a Christian mission hospital where Gladys stayed until she had recovered.

She then went home to England after 20 years in China. In 1957, with her health completely restored, she went back to the East, to the island of Formosa, (now called Taiwan), and continued her great work for God, spreading the Gospel of Jesus among the Chinese people until her death in 1970.

Questions

1. In which country was Gladys Aylward born? (Ans: England).
2. On a map, trace Gladys's Journey from London, across the Channel to France, then through Europe to Siberia, to Manchuria, then to Vladivostok, then to Japan, to Tientsin, and then to Yangcheng.
3. Find the Yellow River and Sian (renamed Mynamar), where Gladys took 100 children on foot over the mountains.
4. How did God provide for Gladys and the children?
5. Find the island of Formosa where Gladys Aylward died.

Map of China

Worksheet 1



1. Draw a map and mark on it: Beijing (the capital), Shanghai and Hong Kong.
2. Make a list of countries that surround China.

The Great Wall of China

The wall was built to protect the northern border in times of war. It was a wall, but also had watchtowers, beacon towers to send signals, and blockhouses to house soldiers. There were soldiers guarding the walls and towers. There were also towns built along the wall where the soldiers lived, so they could quickly get to the wall in case of a large attack. It is estimated that over 1 million soldiers guarded the great wall between the 12th and 15th centuries.

Facts about the Great Wall of China

- There are over 7,000 lookout towers that are part of the Great Wall.
- Today the walls continue to erode, however historians are trying to protect what sections they can.
- The wall averages around 10 metres high and 4.5 metres wide.
- It is the longest man-made structure in the world.
- Wide moats were often dug outside the wall in flat areas to make an enemy's approach more difficult.
- Smoke signals were used to indicate an attack. The more enemies that were attacking, the more smoke signals they would make.
- The wheelbarrow, which the Chinese invented, no doubt was a great help in building much of the wall.
- The wall is built through mountains and valleys. Its highest point is over 5,000 feet above sea level.

A great tourist attraction

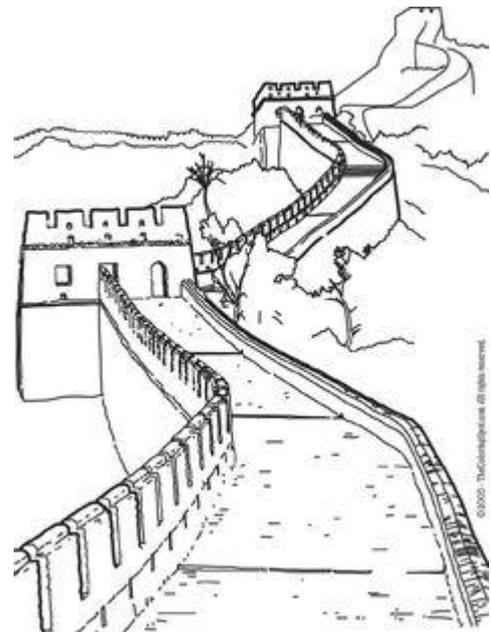
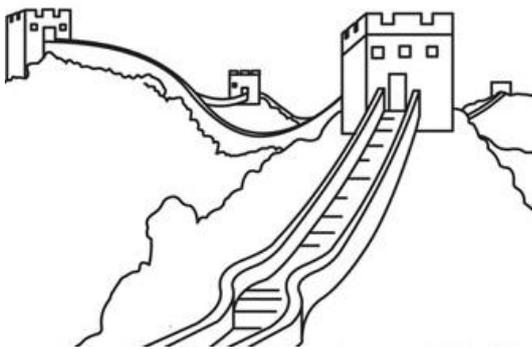
Design a tourist brochure to encourage people to visit the Great Wall. Use the following information. Draw pictures.

If you visit China you must visit the great Wall of China. It is one of the most important tourist attractions in China, and in 1987. it was listed as a UNESCO world heritage site.

It is also a wonderful experience to walk along the wall and feel the history and wonderful atmosphere of the wall.

The wall is over 8500 km long, and goes from the east to the west of China. The first parts were built over two thousand years ago by the Ming Emperors, in order to protect the central regions of the country from being attacked. All along the wall special buildings called 'beacon towers' were built. When some parts of China were attacked by enemies, fires were lit in the beacon towers so that people on other towers could see them and send warnings to the army.

Nowadays some of the sections are in ruins, but other sections have been repaired. The most famous section is called Badaling. It is near Beijing, and there is a cable car to transport tourists. If you are visiting you should take strong shoes and walk carefully. The best time to visit is in spring or autumn, so that you can enjoy mild weather and fantastic views

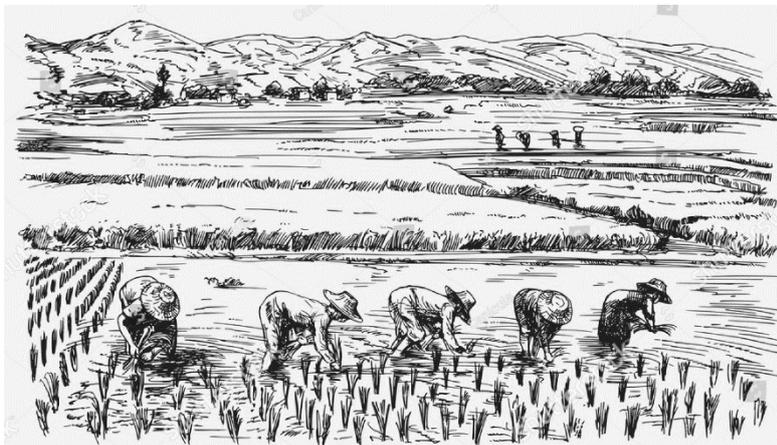


Farming in China

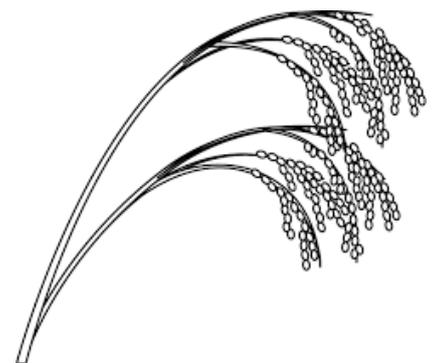
Rice and millet were the two main crops grown in Ancient China, and is still grown today. Rice needs a lot of water, so the Chinese worked out how to flood the fields from rivers to make rice paddies (fields for growing rice). Each field has a bank built around it, and then the field is flooded with water, to a depth of about 50 cm. The farmers plant the rice in the mud under the water.

Most rice production is in the Yangtze River Valley where there is plenty of water available from the river.

Millet was another main crop grown by the ancient Chinese. Millet is a grain that was boiled to make a porridge.



1. What is a paddy field?
2. How is the rice planted?
3. Where is most of the rice grown in China?
4. Why is it grown here?
5. Planting rice is hard work. Why?
6. Rice planters do not wear shoes. Why?
7. Draw a picture of farmers working in a paddy field.
8. When the rice crop is ready, with full grains of rice on the stalks it is harvested. What has to happen next, to give us the rice we buy in bags?



Chinese food

Worksheet 4

Traditional Chinese food:

- rice, wheat and millet
- a variety of meat such as pork, chicken, duck, goose, pheasant and dog
- many vegetables yams, soya beans, turnip, spring onions and garlic
- fish
- soup which consisted of shark fins, birds' nests, bear paws and sea slugs

Chinese food that has become international food of today:

- Dim sims (vegetables in pastry)
- Chinese take-away
- Rice noodles



1. Which Chinese foods have you eaten?
2. Look at the picture of the bowl of rice. What do the Chinese use to eat it?
Draw and label the bowl of rice.
3. Look at the picture of the cooking pot. This is called a wok. Find out and explain how the Chinese cook their food in a wok.
4. Some foods are steamed in bamboo baskets. Find the drawing that shows this.
Draw it and label it.
5. Find the drawing that shows eggs and rice noodles. Draw it and label this dish.
6. How is the spoon different to the spoon you use?
7. Tea is a special part of the meal. Draw the tea pot and cup with no handle.

Chinese inventions

The Ancient Chinese were famous for their inventions and technology.

Gunpowder, paper, printing, and the compass are sometimes called the Four Great Inventions of Ancient China. Kites were first used as a way for the army to signal warnings. Umbrellas were invented for protection from the sun as well as the rain. Other inventions include the wheelbarrow, iron casting, hot air balloons, kites, seismographs to measure earthquakes, matches and stirrups for riding horses.

Here are some details of some inventions and discoveries made by the engineers and scientists of Ancient China:

Gunpowder

Gunpowder was invented in the 9th century by chemists trying to find the Elixir of Immortality. Not long after, engineers figured out how to use gunpowder for military uses such as bombs, guns, mines, and even rockets. They also invented fireworks and made great beautiful displays of fireworks for celebrations.

Chinese Rocket

After inventing gun powder, the Chinese began experimenting with the gunpowder-filled tubes. At some point, they attached bamboo tubes to arrows and launched them with bows. Soon they discovered that these gunpowder tubes could launch themselves just by the power produced from the escaping gas. This was the first rocket. The Chinese used rockets as weapons in their wars against the Mongols.

Silk

Silk was a soft and light material much desired by rich people throughout the world. It became such a valuable export that the trade route running from Europe to China became known as the Silk Road. The Chinese learned how to make silk from the cocoons of silkworms. They managed to keep the process for making silk a secret for hundreds of years.

Paper

Paper was invented by the Chinese as well as many interesting uses for paper like paper money and playing cards. The first paper was invented in the 2nd century BC and the manufacturing process was later improved around 105 A.D.

Printing

Wood block printing was invented in A.D. 868. This was actually hundreds of years before the invention of the printing press by Gutenberg in Europe.

The Compass

The Chinese invented the magnetic compass to help determine the correct direction. They used this in city planning at first, but it became very important to map makers and for the navigation of ships.

Boat Rudder

The rudder was invented as a way to steer large ships. This helped the Chinese to build huge ships as early as 200 A.D., well before they were ever built in Europe.

Project

Choose 4 Chinese inventions.

Write a sentence about it in your own words.

Explain why this invention helps us today.

Draw a picture for each.

Pandas

The giant panda has a white head with black eye patches, ears and shoulders. Unlike other bear species, giant pandas are **herbivorous** spending up to 12 hours a day chewing bamboo shoots and roots. Because of poaching and habitat loss, they are extremely **rare**, living in small groups in the bamboo forests of China. Although there have been many international conservation efforts, it may not be enough to save this species.



Panda's Territory: Where do pandas come from?

Giant pandas have lived in the bamboo forests of China for thousands of years and have been honored by the Chinese for a very long time. In fact, giant pandas have appeared in Chinese art for thousands of years. Because the giant panda is considered a national treasure in China, it is **protected** by law so that it does not become extinct.

Although giant pandas have long been known to the Chinese, they have only been known to people living outside of China for just over 100 years. The first European to see a live giant panda in the wild *was* a German **zoologist** named Hugo Weigold. In 1916, he bought a cub while he was on **expedition**.

Where do pandas live?

There is only one place where giant pandas live in the wild: high in the mountains of central China. There, they are living in cold and rainy bamboo forests that are often misty and covered in heavy clouds. Years ago, giant pandas lived in lowland areas. However, as people built more and more farms and cities on that land, the giant pandas were forced up into the high mountains.

Panda's Lunch: What do pandas eat?

In the wild, a giant panda's diet is nearly **entirely** bamboo. Bamboo is a giant grass that grows in the mountains of China. Because bamboo is so low in **nutrients**, an adult giant panda needs to eat about 15 kilograms of bamboo each day. It eats the stems, shoots, leaves and all.

There are about 25 different types of bamboo that wild pandas will eat. Pandas not only eat bamboo, but also other grasses, insects and occasionally, small **rodents**.

In zoos, giant pandas eat bamboo too, but they also eat sugar cane, rice gruel, carrots, apples and sweet potatoes.

Panda Cubs: How are baby pandas born?

When a giant panda is first born, it is tiny. It weighs about as much as a hen's egg. At birth, it is pink, blind, helpless and hairless. During this time, the mother cares for it closely, often holding it in her paw and keeping it close to her chest. The cub doesn't open its eyes until it is six weeks old and it doesn't walk until it is three months.



Cubs drink milk from their mothers for about nine months but they stay with their mothers for a long time after that. In fact, it can be up to three years before a giant panda cub leaves its mother.

How does a panda spend the day?

In the wild, giant pandas spend most of their time resting, eating or looking for food. Unlike other bear species, giant pandas do not **hibernate** during the winter months. They also do not build **permanent** dens. Instead, they shelter in caves and trees.

Pandas are good climbers. They can also swim, though they spend most of their time on land. Although they might seem pretty quiet, giant pandas do make a lot of growling and honking sounds.

Why are pandas endangered?

Today, giant pandas are at risk of becoming extinct. Only about 1,000 giant pandas are left in the wild. All of these live a small area in the bamboo forests of China. There are about 150 live in **captivity**. This is why the giant panda is one of the most severely **endangered** species in the world.

How big are pandas?

Giant pandas are about the size of a black bear. When they are standing on all four legs, giant pandas are about 1 metre tall at the shoulder.

Males are usually larger than females. Males can weigh 115 kg or more in the wild.

The 6th Finger: The giant panda has five fingers plus a "thumb," which isn't a real thumb but a kind of bone that allows the panda to grasp bamboo.

Is the panda dangerous?

The panda is thought of as quiet, gentle and harmless, but the giant panda can be as dangerous as any other bear when *provoked*. It has been known to attack humans on occasion.

Fast Facts

Type: Mammal

Diet: Bamboo shoots and roots

Average life span in the wild: 20 years

Size: 1.2 to 1.5 m

Weight: 136 kg

Protection status: Endangered

Major Threats: Habitat loss, poaching and human encroachment

Habitat: Mountainous regions where bamboo is present

Location: Central China

<https://en.islcollective.com>



Silk

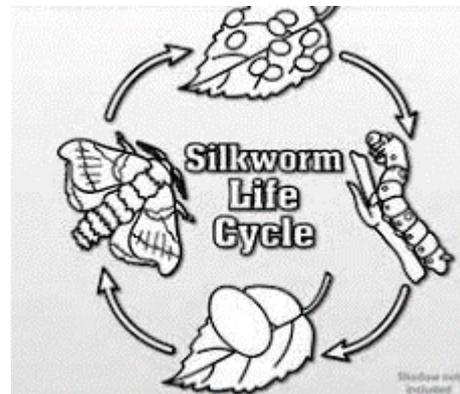
What is silk?

Silk is a thin, but strong fiber that silkworms produce when they are making their cocoons. It can be woven into a very soft and smooth fabric. Silk fabric was invented in Ancient China and played an important role in their culture and economy for thousands of years.

Making Silk

The ancient Chinese bred special moths to produce the quality silk they wanted. Here are the steps in the process for making silk:

- A moth lays 500 or so eggs and then dies
- Baby worms hatch from the eggs are fed mulberry leaves for one month until they are fat
- The worms spin cocoons
- The cocoons are steamed to kill the growing moth inside
- The cocoons are rinsed in hot water to loosen the threads
- Women would unwind the cocoons and then combine six or so fibers into silk threads
- The threads are woven into cloth
- The cloth is then pounded to make it softer



Silk in Chinese Culture

Silk cloth was extremely valuable in Ancient China. Wearing silk was a sign of being important. At first, only members of the royal family were allowed to wear silk. Later, silk clothing could be worn by other rich people, but ordinary people were not allowed to wear silk. Silk was even used as money in Ancient China.

Keeping silk a secret

Silk became an important export for the Chinese. Kings of foreign lands desired silk and would pay high prices for the cloth. The emperors of China wanted to keep the process for making silk a secret. Anyone caught telling the secret or taking silkworms out of China was put to death.

Smuggling Silk

The Chinese managed to keep silk a secret for over 1000 years. However, in 550 AD the secret of silk became known to other countries when two monks from Europe managed to smuggle some silkworm eggs out of the country. They hid the eggs inside of their bamboo walking sticks.

Interesting Facts about Silk

- Silk was used for other purposes than clothing such as paper, fishing lines, bowstrings, and canvas for painting.
- Around the thirteenth century, Italy became one of the major producers of silk. Some of the finest silk in the world is made in Italy today.
- Silk clothing was often embroidered with designs. The most popular designs were of flowers and birds.
- Silk was such an important product from China that the trade route from Europe to China became known as the Silk Road.



SILK-WORM MOTH (Male).



1. Draw the life cycle of the silk worm.
2. Write the steps of how silk is made, starting from when the moth lays the eggs.
3. Why is silk such a special cloth?
4. Who wore silk in China in the early days?
5. Why do you think the poorer people were not allowed to wear it?

God is Pure and Holy – Cleaning up

God wants us to be clean on the inside as well as on the outside.

Thinking Skills	
<p>Cleaning up 1</p> <p>List 3 different ways to clean the floor of your house.</p>	<p>Cleaning up 2</p> <p>Help Mum out. Make a cleaning list for members of your family to take turns in doing jobs around the house. List the days of the week, jobs and names next to jobs.</p>
<p>Cleaning up 3</p> <p>Write words or phrases next to each letter, to do with cleaning:</p> <p>S C R U B</p>	<p>Cleaning up 4</p> <p>Make an improvement to a broom, so that it can dust things At the same time.</p> <p>Draw your improvement.</p>
<p>Cleaning up 5</p> <p>Work out two different ways to stop animals from getting into the household rubbish bins on the roadside.</p>	<p>Cleaning up 6</p> <p>Work out 3 ways to stop people littering.</p>

Daniel Bula of Vella Lavella

Biography



In 1907 Reginald Nicholson left Australia to be a missionary in the Solomon Islands. Reginald studied the local language so that he could teach the people about our loving of God who wants us to live in peace, not war.

Reginald was also able to use his medical knowledge to help the people of the Solomons. This is how Reginald was able to help 12-year old Bula, on the island of Vella Lavella.

Bula was sitting in the dark in his leaf-thatched house. He covered his eyes with his hands. Reginald entered the house and took a close look at Bula. His eyes were very swollen and he was in great pain. Bula tried to look at Reginald but the light hurt Bula's eyes, so he covered them again with his hands.

Reginald went straight back to his thatched hut which was close by and mixed up some soothing medicine for the eyes. He brought it back in a bowl to the boy and began bathing his eyes with it. The missionary continued this for over an hour, after which the eyes felt much better.

Reginald returned to his hut again, and opened up his suitcase. He finally found what he was looking for - a dark green eye-shade. He brought it back to the boy and put it on his head, pulling it well down to shelter his eyes from bright light. Then he left him.

The next morning Reginald returned to see Bula. Reginald could not speak the local language, so used sign language to ask Bula to come to his thatched house so that he could treat his eyes there. But Bula did not understand what Reginald was saying. Finally, Reginald took him gently by the arm and led him across to his hut where he again bathed his eyes.

After that, Bula came to Reginald's hut every morning and evening for treatment, and by the end of a fortnight his eyes were completely better.

During this time, Bula and Reginald became strong friends. As a twelve-year-old, Bula had been trained in evil practices of his people. His father was a well-known head-hunter. Bula wanted to become a head-hunter like his father. Bula's mother had a great influence over the local women. She practiced witchcraft.

By the age of ten Bula could look after himself very well. The men of the villages were often away, fighting other tribes and head-hunting, so the boys very quickly grew up. They learned the fighting skills of their fathers.

Kindness and care, love and respect for people were not often shown in Bula's village, and Bula responded to the love and care shown towards him by Reginald. Bula became Reginald's cook-boy, although to begin with his main duty was to light the fire in the morning.

Bula also learned to prepare Reginald's food and did it well.

"If you break a plate or cup, or anything, you must report it to me. So long as you tell me that you broke it. I won't be angry," said Reginald.

Bula called Reginald Nicholson "Nicolo".

One day Bula came along with a broken saucer. "I'm sorry, I broke your saucer, Nicolo" he confessed."

"That's alright, Bula," replied the missionary, "I'm pleased that you told me. That's more important to me than a broken saucer."

Some time later Reginald discovered that it was someone else, not Bula, who broke the saucer. "Why did you say you broke it, Bula?" Reginald asked.

"You told me that whenever anything was broken, I must say I did it," he replied. Reginald realised that Bula had not understood, so explained.

One day Reginald found Bula very carefully rolling two eggs in an old pair of his trousers. "What have you got there, Bula?" he asked.

“I found a nest of crocodile eggs in the bush. There were many eggs so I took two of them and I’m going to keep them warm till they hatch.” replied Bula. “It will only be two more days before they come out.”

“I’m not too sure I want baby crocodiles around the place, Bula,” said Reginald, “but let me know when they hatch and we’ll see what happens.”

Sure enough, on the second day both eggs opened up and out crawled two baby crocodiles. They kept them for five or six weeks, but finally Reginald made his decision: “Those creatures are growing quickly, Bula. I don’t like them around the house. One day they might do some harm to someone. You’ll have to put them back where they belong, in the river.”

Reginald and Bula became dependent on each other. Bula helped Reginald to learn the local language and helped with cooking and cleaning up. Bula was learning about the wider world beyond his island. Most important of all he was beginning to know the Creator God and Jesus, His Son. As Reginald learned the language he was able to teach the Christian message to Bula along with others who came to hear.

But it wasn’t easy for Bula. “You’re foolish to put your trust in a white man, Bula,” the village people told him. “Think of all the terrible things the slave traders did to our men in the past when they came in big ships and took our young men away. They played nasty tricks on our people. Don’t trust a white man.”

This piece of history was true. The ‘blackbirders’ did come during the 1870s and took men unwillingly to be sold as slaves to the sugar cane planters of Fiji and Queensland, Australia. But somehow Bula knew that this white man was different; he could be trusted. He had done nothing but good since he arrived on Vella Lavella. Although Bula was quite small for his age, he stood firm and remained loyal to his friend Reginald.

The chief, and men who practiced witchcraft made threats against Bula. “We’ll call down sickness on you. You know our word can bring you death. You should leave that missionary and come back to stay with your own people.”

Bula remained unmoved by the threats, and showed no signs of the sickness or death the enemy had spoken over him, even though loyalty to his the missionary meant that his own people rejected him.

For the first year that Reginald was at Vella Lavella he lived in a thatched hut down near the shore. Bula came to live with him when he became cook-boy. Later on, Reginald got permission from the men in the villages nearby to build a house on a hill.

“The place where we will build our house is through the jungle a little way, Bula,” Reginald said one day. “We’ll have to clear a path first to get all the building materials to the building site.”

“I’ll help you, Nikolo. We can work together to get the house built,” promised Bula. It was a year of hard work but at last the house was completed. But the village people still kept trying to make Bula leave the missionary.

“You know there is a specially evil spirit living on that hill,” the people jeered. “If you go and live with Nikolo, that spirit will kill you. You know you shouldn’t go near the spirit’s place.”

“I know Nikolo is a good man,” replied Bula. “I know his God protects him and He will protect me too. I’m not afraid of the evil spirits because Nikolo’s God is greater.”

Bula remained strong and trusted in God.

Late one night Bula woke Reginald.

“Nikolo! Nikolo! Wake up! I can hear people coming up the hill. I think they might be coming to take me away, like they said they would.”

Together Reginald and Bula went out on to the verandah and were surprised to find some men carrying a small canoe, Inside the canoe was a badly wounded man. “This is the result of the fight they had this morning,” thought Nikolo.

Two tribes had been in a fight that morning and Reginald had gone down to the village to try and stop them. It took some very loud yelling to get them to stop and listen to him but eventually the fighting stopped. When he saw the wounded man in the canoe he knew they had started again.

“Bring him up on the verandah,” Reginald told the men carrying the injured man. “Let me have a look at his injuries.”

The man had a badly shattered knee.

“I can’t help the man now because it is night,” said Reginald. “There isn’t enough light to see by. This kerosene lantern flickers too much. I’ll make him as comfortable as I can and work on the knee in the morning.”

He placed some ointment and a bandage over the sore knee and left him to rest until morning. By daylight he was able to remove several fragments of bone from the shattered knee, then he made nine stitches in the muscle and eleven in the skin. He had just completed the task when a messenger arrived with the news that fighting had broken out again. Reginald left Bula in charge of the wounded man and went down to

the village yet again. This time he had to yell until he nearly lost his voice. Finally, the fighters stopped to listen to him.

This was the first time Bula had seen this kind of medical work, and it made a him want to learn more from Reginald. Bula was given greater responsibility for the house and everything in it, and he grew in Christian character as he took that task seriously.

Reginald was learning more and more of the language, filling notebook after notebook. As the missionary learned the words he was able to translate parts of the scripture and hymns. And Bula was learning more and more about the Creator God and Jesus His Son.

One day, soon after they had moved in to the new house Reginald heard Bula call urgently, "Nikolo, come quickly! There is a messenger here from your friend the trader who lives near the lagoon around the coast."

The missionary came out on to the verandah to speak to the messenger who looked and sounded very upset.

"What's the trouble?" he asked.

"Please come quickly, Nikolo," gasped the young man, "your friend the trader, who lives near the lagoon wants you to come straight away to help him. Something terrible has happened to his neighbour, the other trader."

"What has happened?" asked Reginald.

"The trader went off early this morning on a trading trip and left his wife and children in their house. That chief, Sito, who is wanted by the government authorities, brought his men and killed the trader's wife and children. Sito and his men also killed all the people who worked for him. The other trader, your friend, came to help but he was too late. He wants you to come, Nikolo and help him. He's afraid the raiding party will come back and rob the village houses and trade store," the messenger explained, very disturbed and fearful of what might happen next.

Reginald called for some men to prepare their large canoe, gave Bula instructions to look after the mission, and set off along the coast. The twenty-mile trip in the large canoe on a rough sea took four hours. They finally arrived in the calm waters of the lagoon, and what they saw horrified them. But it was just the beginning of two weeks of horror.

The government authorities were called in. Without knowing the full facts, and being unwilling at first to listen to Reginald, they blamed the massacre on the whole population of Vella Lavella. Government police were told to kill anyone they found. The police urged the missionary to leave the island as Sito had vowed to have his head.

Reginald pleaded with the government authorities to allow the local people to conduct the search for Sito and his gang because they knew the land best. For two weeks they refused the missionary's request, claiming all the islanders were responsible, but eventually, Commissioner agreed to let the local men join the search for the guilty parties.

While all the violence continued the people of Vella Lavella began to move to the land around the mission house. They felt safe in the presence of the missionary who trusted his God to protect him. The missionary had no gun, had no locks on his doors, in fact he had no doors, just open doorways, yet he lay down to sleep every night without fear. For the first time, the people, who for three years had not listened to the missionary, now began to show some faith and trust in him. For three years the missionary had stitched up ugly gashes on arms and legs, set broken bones and treated deep-seated ulcers without any thanks from the people. But now, suddenly, in the midst of terrifying events on their island, the people were responding to his care and protection.

"I'm very pleased that the people have turned to you in their trouble, Nikolo. They can see that your God is protecting you."

For the first time in three years Reginald Nicholson could see a response to the Christian message. The numbers of people attending Sunday worship and day school started increasing. Many people built permanent homes for themselves near the mission station. The missionary rejoiced as he watched the word of God begin to take hold in the hearts of the Vella Lavellans.

Bula grew rapidly and deeply in knowing God his Father and Jesus His Son. The time came for him to be baptised.

"When you are baptised, what Christian name would you like to have, Bula?" the missionary asked.

"I'd like to be Daniel, please Nikolo," he responded instantly.

"Is there any reason why you choose Daniel?"

"Yes," came the reply, "when I first came to you and my people were all against me, I felt lonely and afraid. Then I heard the story of Daniel in the Bible, and how he stood alone. God looked after him in the hard times and I knew He would look after me in just the same way."

So he became Daniel Bula.

But Reginald had known him as Bula for so long that he found it difficult to change to Daniel and continued to call him Bula. One day Daniel came to him looking very troubled.

“Nikolo, why do you still call me Bula? God has given me a new heart. I know this. So why don’t you call me by my new name? I want to be called Daniel. This is my Christ name. You tell me that when Saul of Tarsus became a Christian his name was changed to Paul. So now that I am a Christian, let my name be Daniel.”

From that time, he became Daniel. He continued to learn about the Christian way, always choosing to please God.

There were new Christians from nearby villages now living at the mission station. Daniel took encouraged them to walk in the way of Jesus, taking every opportunity to help them know God the Father.

Daniel also enjoyed accompanying the Reginald on trips around the island, visiting villages along the coast, helping with any medical needs they found. He understood that the purpose of these trips was to gain the confidence of the people by healing their sick and relieving their pain.

Daniel took a great interest also in the treatment of the injured and sick. Ever since the first time he saw the surgery on that damaged knee he was most enthusiastic about learning how to treat such injuries himself. He was a fast learner. Once, when Reginald was away from the mission a man was brought in from a nearby village.

“What happened to him?” asked Daniel.

“He was getting coconuts from a very tall tree when he fell,” they explained. “His leg is damaged.”

Daniel examined the leg, found where the bone was broken, and proceeded to set it back in place. The man fully recovered.

On another occasion a man who had been in a fight was brought in with a severe gash across the side of the head, the ear and cheek bone. Reginald was there, but Daniel begged to be allowed to deal with the patient. The gash was cleaned up thoroughly and then Daniel proceeded to put in the stitches, which he did very well. The man was placed entirely in Daniel’s care and he recovered completely. Daniel was learning very quickly and managed these cases very well.

A boy of twelve was brought in one day in a serious condition. He had been playing in the water with his friends when a shark attacked him, tearing a huge lump of flesh from his thigh. His friends dragged him from the water, bound the torn flesh roughly back in place, and brought him to the mission station. Daniel at once took charge, cleaned up the wound, and stitched the lump of torn flesh back in place. The boy made a full recovery, eventually getting back the full use of his leg.

The most outstanding work Daniel achieved was seen in his orphanage. He had, over the years, collected orphans and unwanted children from all around Vella Lavella and

adjacent islands. They were brought to the home that had been specially built for him. It was larger than the usual village house. Two-thirds of it was sectioned off for the boys and Daniel lived in the other part. There were times when he had as many as sixteen boys with him. The boys learned from Daniel's example what living as a Christian really meant. As a result, they learned quickly and many of them became Christians because of Daniel's influence.

The missionary watched Daniel develop into manhood, ever growing in Christian grace. "One day, Lord," he prayed, "would you have Daniel preach to his own people? They are still living in so much darkness. They come to worship you with spears and axes in their hands, still afraid of each other. They would understand you and your ways more quickly if one of their own people taught them."

Reginald began to prepare Daniel for preaching. He was very enthusiastic about this, for he realized the importance of presenting the Christian message to his fellow islanders so they would clearly understand and believe it. It wasn't long before he was taking part in the Sunday worship services, presenting the gospel with illustrations that related to their every-day life.

Speaking one Sunday on the verse, '*Be still and know that I am God*' he said, "You all know I was out in my small canoe the other day when that big storm came over us. It took us quite by surprise; it hit so suddenly and so hard. I was a long way from land so the first thing I thought was, "I must get back to the shore." But I soon found how useless and dangerous it was to try and battle against the wind and waves. So what did I do? I waited. It was best to be still. That was the safest thing to do. If I had continued struggling, the canoe would have been swamped and I would have been lost. In fact, the storm soon passed and I was able to paddle home safely."

"In our lives we get caught by storms. Waves of fear, anger and jealousy come over us and threaten to swamp us. If we struggle in our own strength, we make more trouble for ourselves. The safest thing to do is to *be still and know that God is in control*. If we obey, all is well. So I urge you to listen to God's voice, obey Him, and all will be well for you. Just be still.

For ten years Daniel preached in the worship services with wonderful results. Another of Daniel's great gifts was his ability with languages. He was fluent in five Solomon Islands languages, and learned quickly to speak simple but correct English. There was no written form of the Vella Lavellan language so an alphabet had to be developed before any translation could be attempted. Daniel worked with Reginald in the task of translation of scriptures and hymns.

In 1916 Reginald brought Daniel and his friend Alex on a speaking trip around Australia and New Zealand. Alex was one of the first people on Vella Lavella to be baptised.

In 1921 Daniel was married to Rini Vailoduri. People from all over the island gathered for this great event. The church was decorated with palm leaves and feathery ferns, brilliant flowers including beautiful native orchids. After the happy ceremony some hundreds of people sat down to a feast of pigs, fish, taro, chickens, tapioca, and a variety of delicious fruits.

After the feast many men spoke to the gathering. There was one thought above all others that they expressed. "Before the missionaries came we only met together like this if we wanted to make war on someone. Now we can meet as friends with love and friendship in our hearts towards each other."

So Daniel Bula grew in grace and in the knowledge of Jesus Christ, leading and teaching his people, knowing that God had laid His hand on him and called him to this special task of leading his people into the Kingdom of God.

Daniel and Rini had been married only ten months when Daniel complained one day of a pain in his side. He wasn't feeling well but he continued work as usual. After two days he was running a high temperature that the nursing sister was unable to control. The next night he became worse, and a little after midnight he died.

It was all so sudden and unexpected. Rini, who had only been married to Daniel for ten months, was heart-broken. In a letter to Reginald, who had returned to Australia Rini wrote:

"Today Dani is not here. I listen for the sound of his voice and long to see his face, but all in vain. I cannot understand why God took him. I am amazed. But I know He has gone to be with God, because his face at the time of his going was lit with a wonderful light."

The nursing sister on the mission station wrote:

"Daniel was both our right and left hand in the work here. He was always ready. He fixed up the squabbles and straightened out the difficulties of both non-Christian and Christian. Yet he always stressed that only God could solve their greatest need."

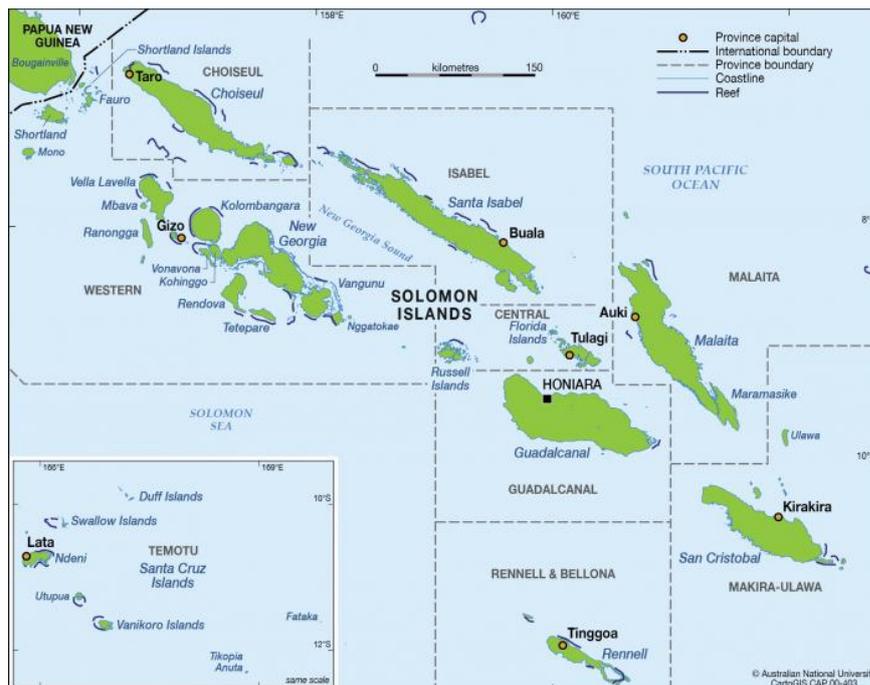
Friends in New Zealand wrote:

"Daniel Bula was only twenty-eight years of age when he died, yet he lived to see his people become Christian in character. In his life-time he saw head-hunting and murder disappear. He saw love-feasts take the place of tribal fights. He saw head-hunters take their sons in their canoes to hear the Gospel preached. God had brought about dramatic change in Vella Lavella in just one generation, and much of it was through the devotion of one man, Daniel Bula."

Rini had a baby son whom she named Daniel Bula, with the prayer that he would grow up to follow in his father's footsteps.

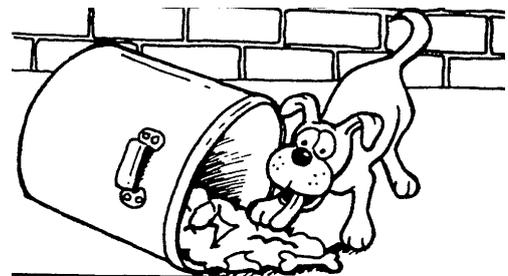
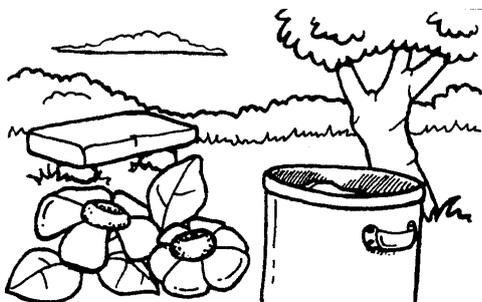
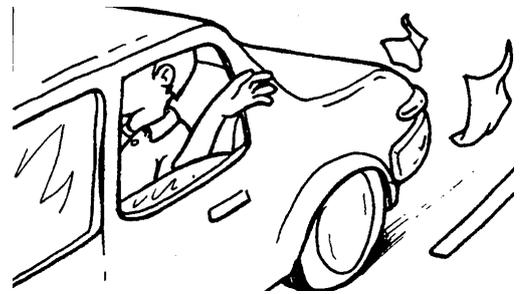
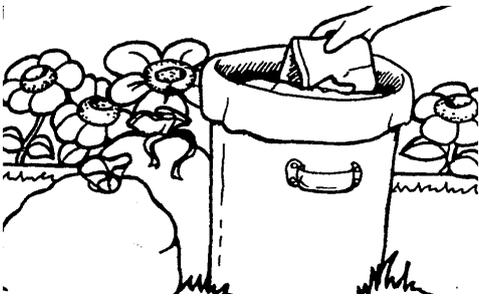
"Through his faith he is still speaking." Hebrews 11: 4

Vella Lavella is an island in the Western Province of Solomon Islands. It lies to the west of New Georgia, but is considered one of the New Georgia Group. It is north west of Gizo.



Be Clean and Tidy

There's just one thing we'd like to say,
Keep our environment clean every day.
Don't throw your mess and muck around,
It looks so awful on the ground.
But worse than that, it brings the flies.
They get into your food and eyes,
And spread disease in ways so quick,
You're sure to end up feeling sick.
So use your brains and use a bin.
It's made to keep your rubbish in.
And if there's no bin around,
Take it home. Don't leave it on the ground.



Yes!

No!

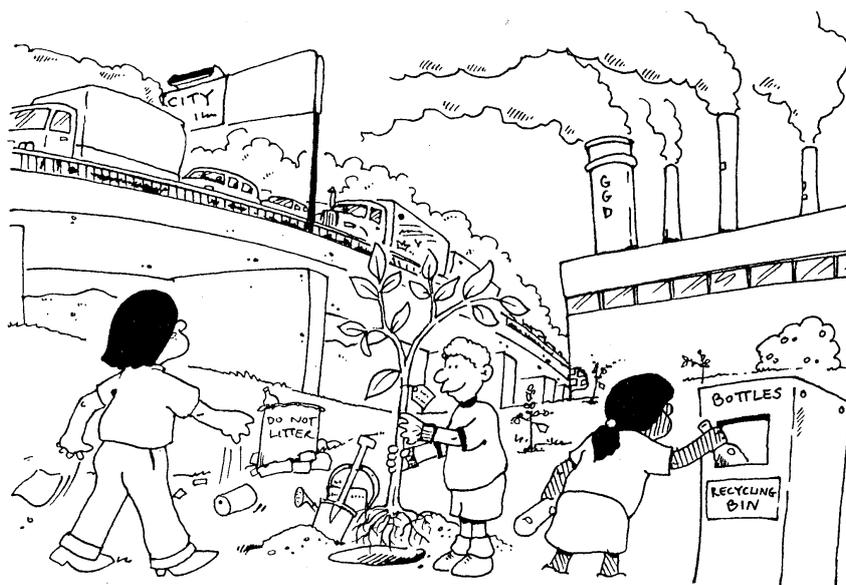
Caring for the environment

Look carefully at the two pictures. Find all the things that are harmful to the environment. List them in your book.

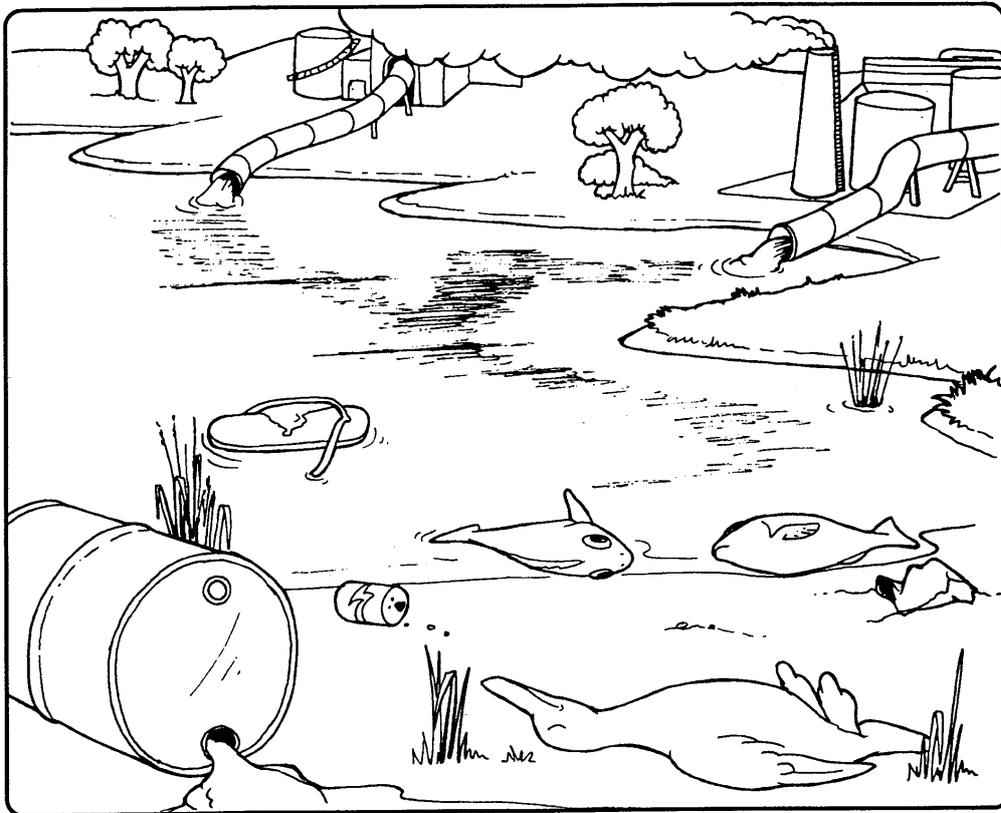
Picture 1



Picture 2



Pollution in lakes and rivers



1. List the causes of pollution in this picture.
2. List the results of the pollution.
3. Much of the rubbish that people throw away gets washed into the drains when it rains, and finds its way to the rivers and lakes, and even the sea. What problems will this cause for our planet?
4. List the most common junk food packaging we find as rubbish. (Don't forget about plastic straws.) What could you do to stop this?

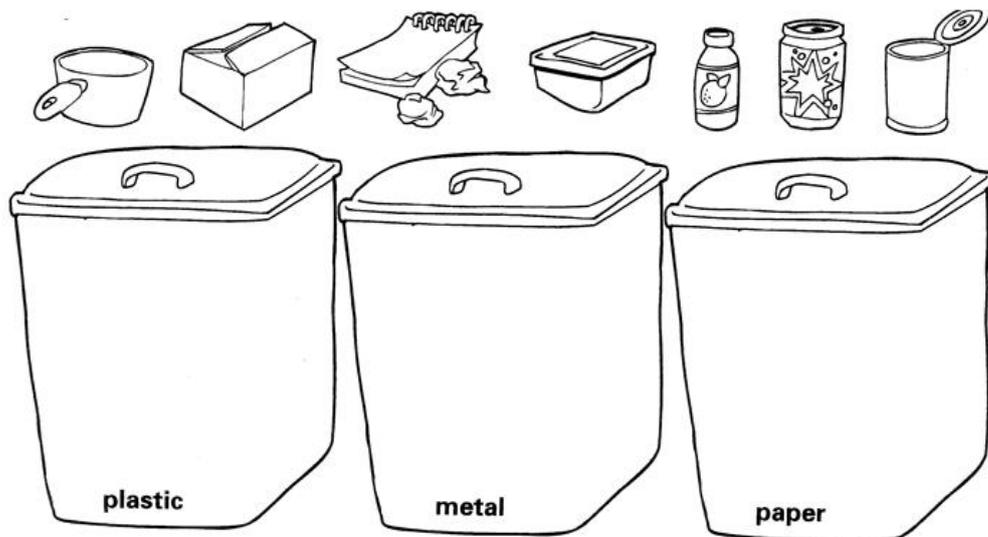
Recycling

Recycling is making something new out of something old.

Much of our rubbish can be taken to a factory where it is processed and made into new things.

Draw three large bins.

Write and draw the things that should go in each.



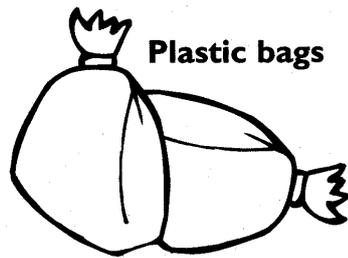
old saucepan, box, note pad, plastic container, plastic bottle, glass jar, tin can

What else could go in these bins?

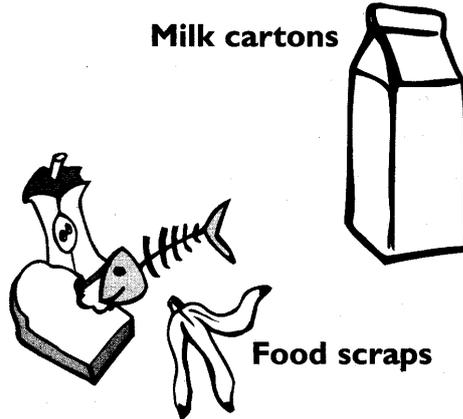
Recycling

Most of what we throw away can be recycled. Write the names of the things below that can be recycled.

What could they be made into? How could some of them be used again?



Plastic bags

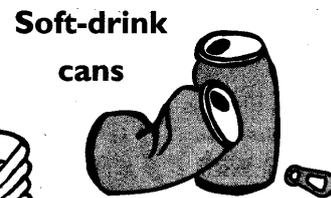


Milk cartons

Food scraps



Old clothes



Soft-drink cans



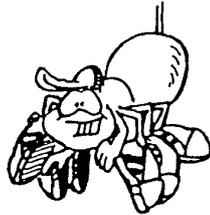
Aluminium foil



Newspapers

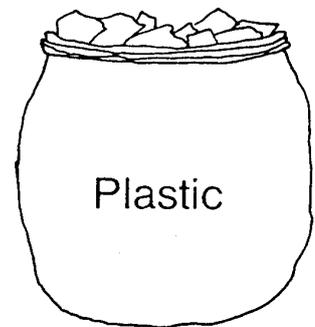
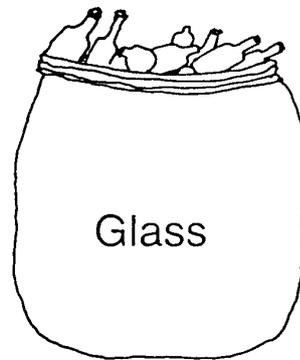
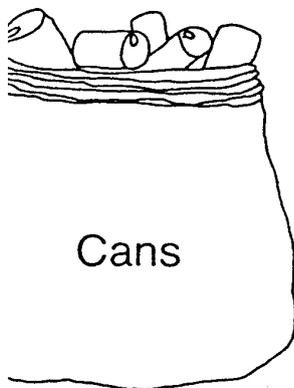
Jungle cleanup

Frog, Spider, Alligator, and Zebra decided to pitch in and help clean up the jungle. Each animal was in charge of a different kind of trash: cans, paper, glass, or plastic. Match the animals with their trash bags.



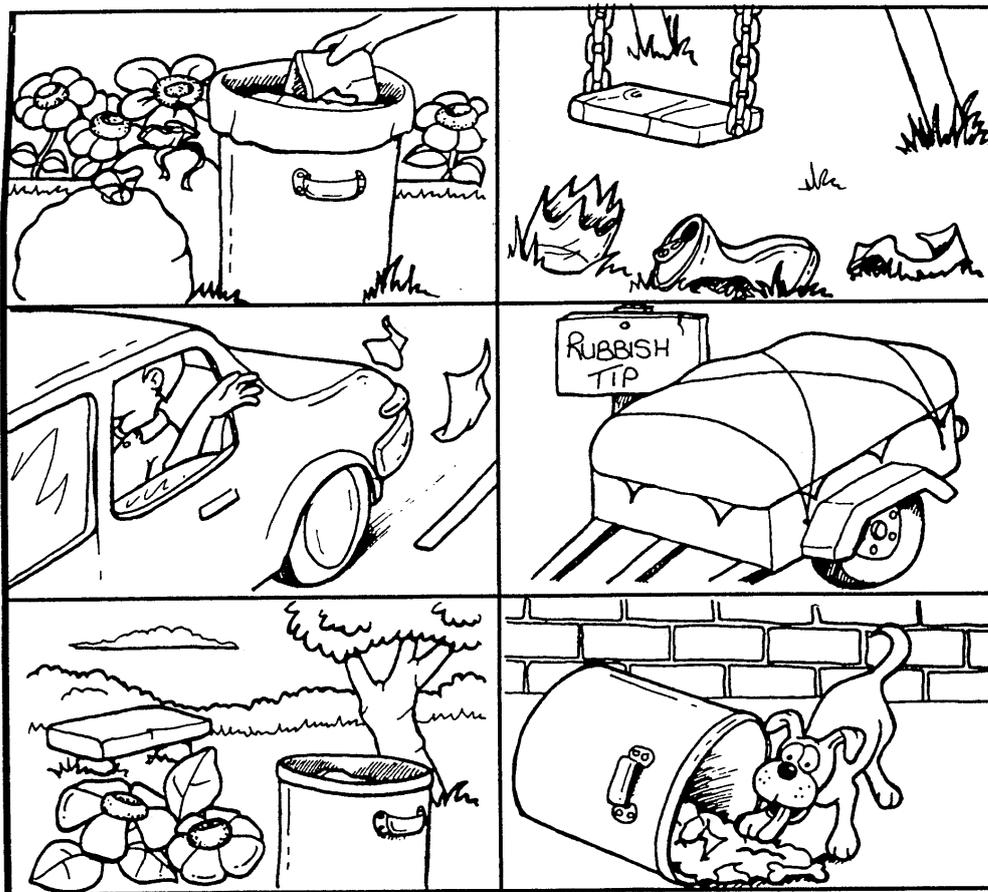
Clues

1. Spider said, "Boy, oh boy! You are going to be tired when you are finished, Alligator. Your bag must be the heaviest one."
2. Alligator said, "Yes! I have to be careful too, because my bag is full of very sharp broken pieces."
3. "Even though my bag is full of metal, it is not very heavy," said Zebra.
4. Frog said, "I think your bag of plastic is lighter than my bag. Can I trade with you, Spider?"



Copy the picture from below that shows:

1. The lid was not put on the rubbish bin.
2. Some one threw rubbish out of a car window.
3. The rubbish is going to the rubbish tip.
4. Someone left glass bottles and cans in the playground.
5. When we are outdoors, the rubbish bin is where we put our rubbish.



Now put a tick or cross under your picture: a tick if this is a good thing to do; a cross if it is a bad thing to do.

God is Creator - Ecosystems

Student activities

Ecosystems 1 Food chains

Plants make their own food. They are called producers.
Animals that eat plants are called herbivores.
Animals that eat other animals are called carnivores

Here is a list of animals and the foods they eat:

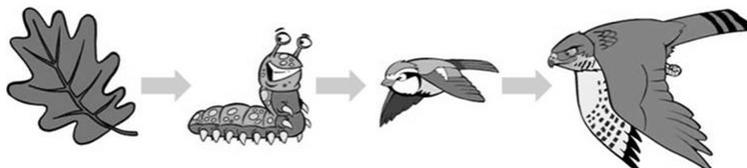
- Grass
- A leaf
- An eagle
- A small bird that eats insects
- A caterpillar
- A cat
- A mouse
- A vegetable
- A cow

Write the list and next to each write “P” for producer, “H” for herbivore and “C” for carnivore.

We can show what eats what by drawing a food chain.

For example:

A LEAF → (is eaten by) A CATERPILLAR → A BIRD



Now make up different food chains using the above list of animals and their foods.
Use drawings and arrows. Start all your food chains with a plant.

Ecosystems 2

Food chains and food webs

A food chain tells us what animal eats what.
All food chains begin with plants.

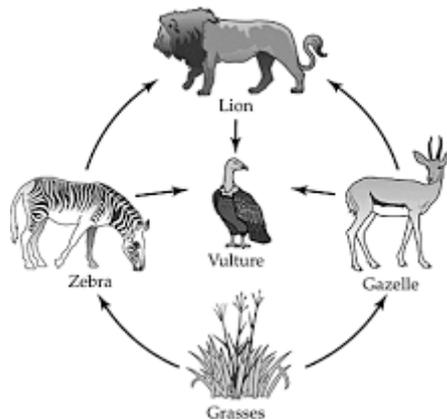
1. PLANTS get energy from the sun to make their own food. (They are the PRODUCERS)
2. HERBIVORE animals eat the plants.
3. CARNOVORE animals eat the herbivores.

But there are also OMNIVORES. They eat both plants and animals.

And last of all there are the DECOMPOSERS which are the bacteria which break down the dead plant and animal material so that it goes back to the soil.

When several animals eat the one type of food it gets complicated. This is called a food web. For example, zebra, giraffe and deer all eat grass. But lions and cheetahs both eat zebras, giraffe and deer.

Draw a diagram of a different food web.



Ecosystems 3

What is an ecosystem?

An ecosystem is a community of plants and animals living together in the same environment.

There are two parts to the community:

The non-living part:

Rain, sunlight, temperature, soil

The living part:

Plants, animals, bacteria

In the living part there are producers and consumers.
The plants produce food. The animals consume food.

The living part can only survive when the non-living part provides the right conditions for survival.

If one part of the food chain gets taken away, then it affects the whole ecosystem.

1. Why would rainforest animals die if their trees were taken away?
2. Why is the non-living part of an ecosystem important?



Ecosystems 4

Dependence

Dependence in an ecosystem means that the living things in that environment are dependent on one another. That means that they all need one another.

Living things are also dependent on the non-living part of the environment staying the same.

This is called the balance of nature.

Changes to ecosystems can be caused by:

- Humans
- Climatic changes

What would happen if:

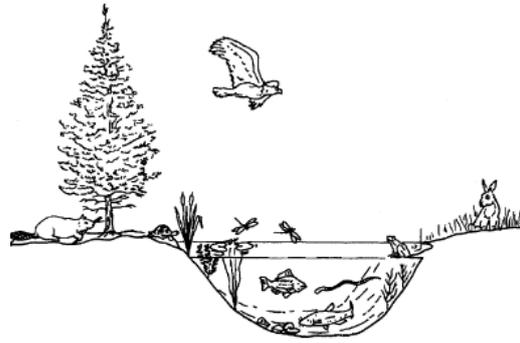
1. Hunters shot most of the herbivores?
2. There were too many frogs on one pond?
3. Floods, drought, oil spills, pollution, overgrazing, hunting and cutting down trees can upset the balance of nature. Chose two of these and explain how.



Ecosystems 5

Types of ecosystems

Deserts
Oceans
Savannah grasslands (e.g. Africa)
Rainforests
Lakes and ponds
Rivers



Choose one of the ecosystems above and write down all the living and non-living things that you will find in that ecosystem. Now explain:

- *What the animals eat*
- *Where the animals live*
- *Why they need the living and non-living things in their ecosystem*

Now draw your ecosystem.

Ecosystems 6

Climate

Climate is the usual pattern of weather for a particular place. In some places, it is hot all of the year. In some places, it is cold all of the year. In some places, it is hot in the summer and cold in the winter. Some places have lots of rain and some don't.

- Hot and wet places are called **tropical**.
- Places that are not too hot and not too cold are called **temperate**.
- Places that are very dry are called **deserts**.

The climate affects the type of ecosystem.

Where in the world would you find:

1. *A tropical rainforest?*
2. *A temperate climate?*
3. *A desert?*
4. *A place that is cold all year round?*



Ecosystems 7

Rainforest animals

Tropical rainforests grow around the equator where it is hot and rainy all year round. They are homes to millions of animals. Animals find plenty of food to eat and places of shelter among the trees.

Jungle hunters

The hunters are called predators. Jaguars stalk food such as deer and tapirs. Their spotted coats hide them among the trees. Then they pounce and kill their prey with a single bite. Their teeth are so sharp that they can even crack open hard turtle shells.

Other animals

The rainforest is also home to many insects, reptiles and birds. Large snakes such as boa constrictors kill their prey by wrapping around it and squeezing it to death. Colourful birds and monkeys feed on the fruit that grows on the forest trees.

1. *Name a country where you would find jungle hunters such as the jaguar.*
2. *What do jaguars eat?*
3. *What other animals live in a tropical rainforest?*



Ecosystems 8

The North and South Pole

It is freezing cold and windy at the poles. Ice covers large parts of the land and sea, and yet animals still live here. They have special ways of keeping warm, dry and safe.

Polar bears

Polar bears live in the Arctic. They hunt for seals on the sea ice. They also eat fish. To keep warm, they have thick fur and a layer of fat underneath their skin. Small bumps and long hairs on their feet help them to grip the slippery ice.

The Arctic fox

In summer, Arctic foxes grow a greyish-brown coat so they can hide from enemies among the rocks. In winter, they grow white coats so they can hide among the ice and snow. The Arctic fox hunts small animals like Arctic rabbits, which are also white.

Penguins

Penguins live in Antarctica. The females lay eggs, then go off to sea to feed on fish. The males look after the eggs, carrying the egg on their feet, covered by a flap of skin.

Seals

The Weddell seal lives in Antarctica. It dives underwater to feed on fish and squid.

Whales including Killer Whales also live in Antarctica.

1. *Draw a globe and show both the Arctic circle and Antarctica.*
2. *Name and draw the animals that live in the Arctic.*
3. *Name and draw the animals that live in Antarctica. (Don't forget about the animals living in the sea.)*

Ecosystems 9

Grasslands

Grasslands are huge plains where the climate is dry much of the year. Only tough grasses grow there and a few trees.

In Africa, huge herds of zebras, giraffes and antelopes graze on the grasslands. Elephants and giraffes eat from the trees. They have to keep a good look out for hungry predators who hunt them. These are the lions, leopards and cheetahs, (the big cats), and the wild dogs and hyenas.

Giraffes, zebra and antelope stay together and help each other look out for the hungry predators.

The adult male African elephant stands about three metres tall and weighs as much as eight cars. It is the largest land mammal. Giraffes are the tallest land mammal. They are more than five metres tall. They use their long necks to reach the leaves high up in the trees. Monkeys also eat food from the trees.

The rhinoceros is another large mammal that lives on the African plains. Hippopotamuses (hippos), live in and by the rivers and waterholes. Both of these large mammals are plant eaters.

Towards the end of the dry season the water holes start to dry up and animals are on the move looking for water. The big cats often catch animals drinking at waterholes. They also catch the slower, weaker animals running at the back of the herd.

Make two lists: the plants eaters and the meat eaters.

Ecosystems 10

The coral reef

Coral reefs are made by tiny sea creatures called coral polyps. They build hard cases around their bodies. When they die, the cases are left behind. Reefs provide plenty of food and shelter for thousands of amazing animals.

Thousands of fish live on the coral. Many, such as the butterfly fish, swim in large groups called shoals. This helps to keep them safe from enemies who find a group hard to attack. Fish of the coral reef are brightly coloured with strong patterns.

Small fish keep the reef clean. They pick dead skin and dirt off big fish like moray eels. The eels even let the small fish into their mouths to clean bits of food from their sharp teeth.

Parrot fish get their name from their sharp, beak-like teeth. During the day, they feed on the coral. During the night, they keep themselves safe by making bubbles of jelly around their body.

Giant clams are the biggest shells in the world. They can measure one metre wide. They live on the Pacific and Indian oceans.

1. *Why do fish swim together in groups?*
2. *Describe some of the fish of the coral reef.*
3. *How do they help one another?*
4. *How do you think the bubbles of jelly keep the parrot fish safe at night?*
5. *Draw an underwater scene from a coral reef.*

