

# Why Are Rainforests so Important?

Around 30% of the world is covered by trees. Rainforests cover only 6% of the Earth but they are home to 50% of all plant and animal species. In just four square miles you might find:

**1,500 flowering  
plants**



**400 species of  
birds**



**750 species of  
trees**



**150 species of  
butterflies**



# What Is Deforestation?

Deforestation occurs when trees are cut down across a wide area which is then permanently cleared for another use.



## Did You Know...?

Every 20 minutes, an area of rainforest the size of 20 football pitches is cut down. If this rate continues, there will be no rainforests in 100 years.





There are over 7 billion people on the planet.  
This number keeps growing.  
By 2100, there could be 11.2 billion people!



All of these people need food so land is  
cleared for farming.

# What Are the Effects of Deforestation?



**Lack of biodiversity:** The number of different species becomes smaller.

**Soil erosion:** Tree roots help hold the soil and prevent it being washed away. Without trees, the soil is washed into rivers and streams, blocking them, causing flooding and contaminated drinking water.

**Climate change:** Scientists believe deforestation has a worldwide effect on climate. Trees store carbon dioxide. When they are cut down, carbon dioxide builds up in the atmosphere and is known as a greenhouse gas which causes global warming.

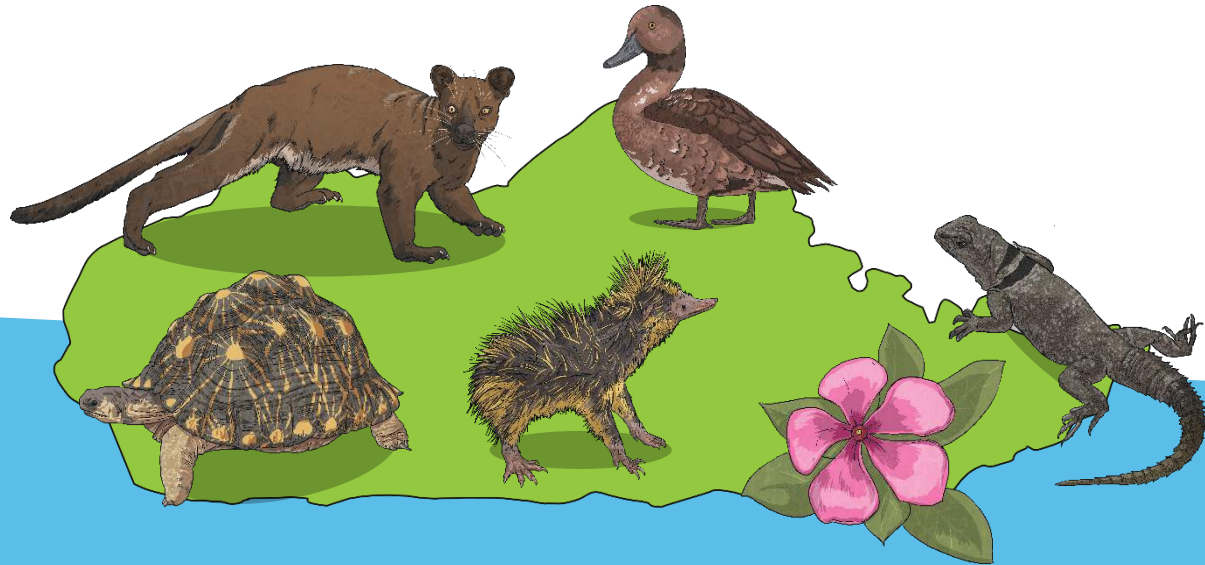
**Droughts:** Trees are an important part of the water cycle. Without them, there will be a lack of rain.

**Habitat loss:** Animals and plants lose their home so some may become endangered or extinct.

# Madagascar

Madagascar has been an island for many millions of years. The plants and animals found in the forests of Madagascar have evolved and changed differently from living things on other land masses such as Africa or India.

This means that Madagascar is home to many plants and animals that are found nowhere else on Earth. As many as 90% of the living things on Madagascar are thought to be endemic - this means that they are unique to Madagascar.





# Deforestation

Many people who live in Madagascar rely on farming for their food and their livelihood.

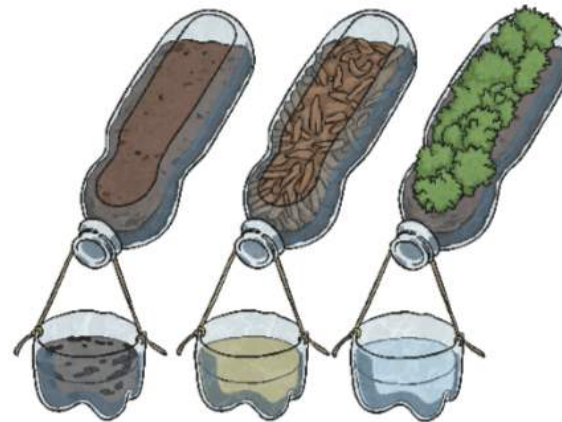
In order to make space for fields, people cut down the trees in the tropical forests. This is known as deforestation.

The people use a technique called 'slash and burn'. First, trees are cut down for wood use. Small trees are planted in their place. A few years later, these trees are cut down to make charcoal. The next year, the plot of land is burned, and a crop of grass is planted.



### You will need:

- 3 plastic bottles with a rectangular hole cut in the side
- 3 bottom halves of plastic bottles with 2 small holes in opposite sides
- 3 25cm lengths of string
- Compost
- Seedlings or small plants
- Mulch such as bark, dried leaves or twigs



1. Place the three plastic bottles on their sides, with the rectangular holes facing upwards. Make sure that the bottle neck sticks out over the edge of the surface they are placed on.
2. Keeping the lids of the plastic bottles on for now, place the same amount of compost in each plastic bottle. Don't fill the bottles too high - the level of the compost should be just below the opening of the neck of the bottle. Pack the compost down well.
3. Leave one bottle like this. This will be bottle C.
4. Add a layer of mulch to the second bottle. This will be bottle B.
5. Plant the seedlings in the third bottle. Make sure they are very tightly packed together when you plant them, and that the compost is firmed down. This will be bottle A.
6. Take one of the bottom halves of the bottles. Thread a piece of string through the holes and knot it at each side so that it forms a handle like a bucket. Repeat for the other 2 bottom halves of bottles.
7. Unscrew the lids of bottles A, B and C. Hook one of the buckets you have made over each open bottle neck.

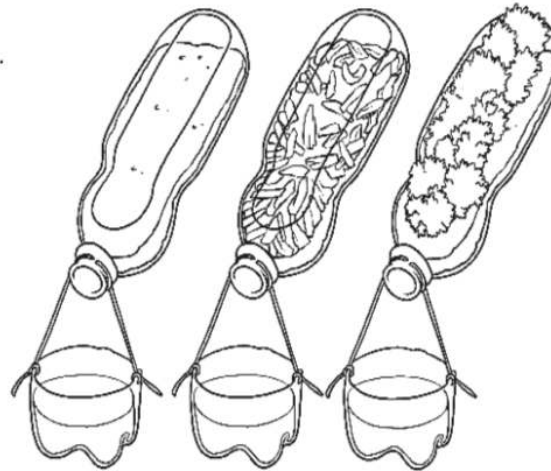
You are going to pour the same amount of water into bottle A, B and C. Bottle A is full of plants, just like the tropical rainforest. Bottle B has a layer of mulch, like the forest floor when the trees have just been cut down. Bottle C has no plants or mulch, and represents the area left when all the trees have been completely cut down and burnt.

What do you think you will see in each of the buckets when you pour water into the bottles?

<b>Bottle A</b>	
<b>Bottle B</b>	
<b>Bottle C</b>	

Try it! Pour the same amount of water into each bottle. Pour the water into the opposite end from the neck of the bottle.

Draw a picture of what you see in each bucket.



What do you notice about the differences between each bottle?

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Can you give a reason for this?

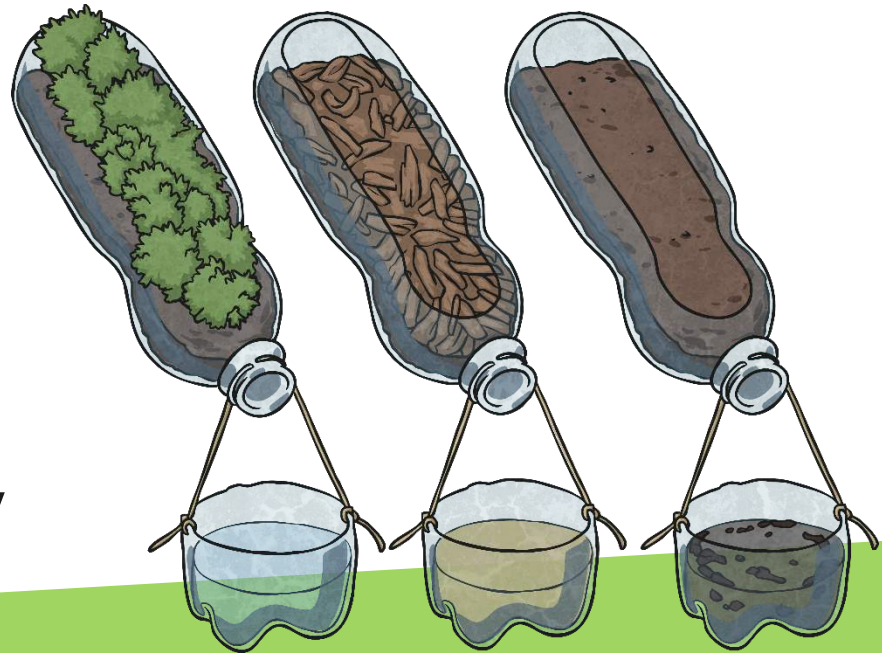
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# Explaining Dangers

- The water in the bucket from Bottle A is clear. The plants and their roots hold the soil in place so it does not drain away.
- The water in the bucket from Bottle B is slightly dirtier. The layer of twigs and leaves helps to keep most of the soil in place.
- The water in the bucket from Bottle C is very dirty and full of soil. There is nothing to hold it in place so it drains away easily.



# Explaining Dangers

When the trees of Madagascar's forests are cut down and burnt, this causes the soil to drain away into rivers and lakes when it rains. This is called soil erosion. Nutrients in the soil are washed away too, so any soil left behind is very poor and plants and trees will not grow back.

This is leading to something called desertification in Madagascar. This means that the areas of the rainforest that are deforested will not grow back, and are turning into deserts.

The animals and plants that live in the forests of Madagascar will have no habitat and no food to eat. They are in danger of dying out.

Around 20 species of animals in Madagascar, including lemurs, are critically endangered. This means that these species are in imminent danger of extinction.

I'm hungry.

