WHAT IS DEFORESTATION?

Why is it important?

How does it affect me and my family?

AMAHAWE UGANDA

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Teacher's Notes:

Deforestation is the deliberate cutting down or burning of trees to use for building & firewood or to clear land for farming and raising cattle.

30% is produced by African forests and woodland.
Without oxygen our planet will die.

Tress are the **lungs of the earth.**

They produce oxygen for us to breathe, provide shelter for animals and attract clouds that bring us the essential rain we need to live and farm.

If we cut them all,
we are damaging our health

2

Teacher's Notes:

Where are the forests around here?

How old are our forests?

Have **you** seen our trees disappearing?

African countries are cutting timber 200 times faster than it can regrow.

Europe, USA & Japan use 60% of **all** the timber cut in the world.

We **cannot** grow trees fast enough to protect us and our world.

If we don't start to protect our trees and the environment, what will happen to our country?

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Teacher's Notes:

How long does it take a tree to grow?

How long does it take to cut a tree and how long will the firewood we get from one tree last us?

There are countries in the world that have almost no trees left. Countries like Nepal, Namibia, Saudi Arabia, Egypt, Libya.

In these countries people have no firewood (sometimes they have to dry the dung from their cattle and burn that to cook with). In these countries there is no wood for building shelters or houses.

Effects of DEFORESTATION

Forests are complex ecosystems that affect almost every species on the planet. Deforestation starts a devastating chain of destruction and extinction.

Loss of Species

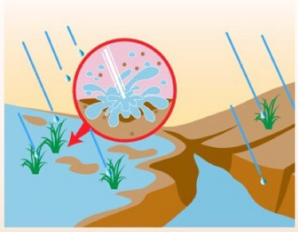
70% of the world's plants and animals live in forests and being destroyed by deforestation. Extinction of species affects many people who rely upon animals and nature for hunting and medicine.

Water Cycle

Trees absorb rainfall, Store the water and produce water vapour that is released into the atmosphere. In Africa almost **50%** of the water is held within plants. Deforestation produces droughts and climate change.

Soil Erosion

Tree roots hold the soil together and prevent flooding. Over **35%** of our forests have been cut in the last 50 years. Millions of people have been affected by floods.



We all need land to grow crops and to live on.

We need timber to build with.

And we need fuel to cook with.

BUT..

If we don't protect our land, soon we will have nothing left.

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Teacher's Notes:

If we cut all the trees we damage the system that gives us our rain. Rain is essential to us. Countries that have no rain, have no farming and no gardens.

When forests are cut the soil is exposed to the sun. This makes the soil dry and all the goodness is lost.

Forests soak up and store water when it rains. When trees are cut the water is not stored and runs straight off the land. This causes flooding or drought.

Trees store water then release it into the atmosphere as water vapour. Without this vapour there will be less rain, less water for us to drink and less water for our farms.

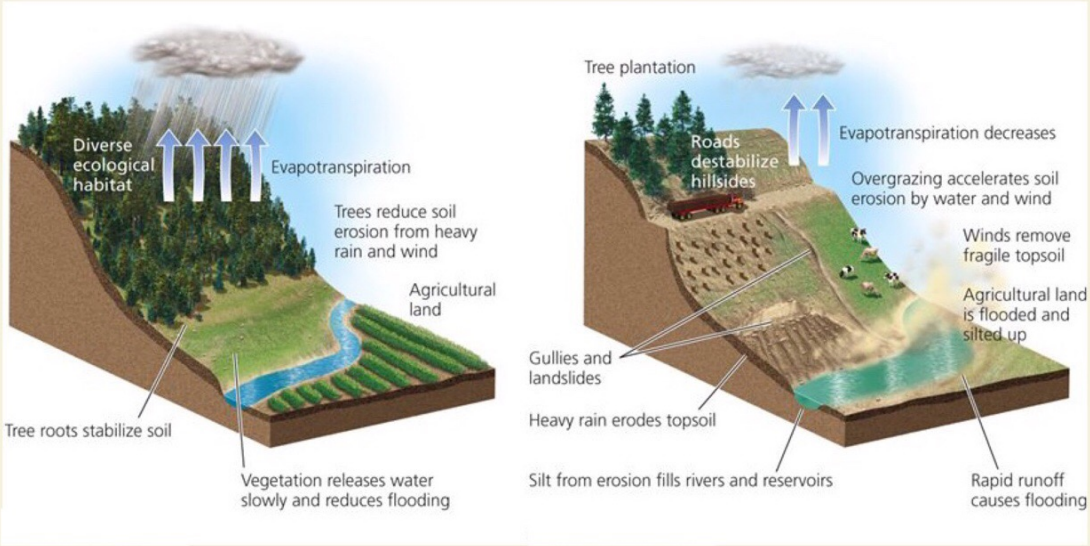
100 years sounds like a long time. But, if there are no rainforests left in 100 years our children's children (our grandchildren) will live in a very different world to us.

How will they survive without trees? What will their land look like?

What happens to our land when we cut down the trees?

Before Deforestation:

After Deforestation:



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Teacher's Notes:

The picture on the left shows a natural forest area.

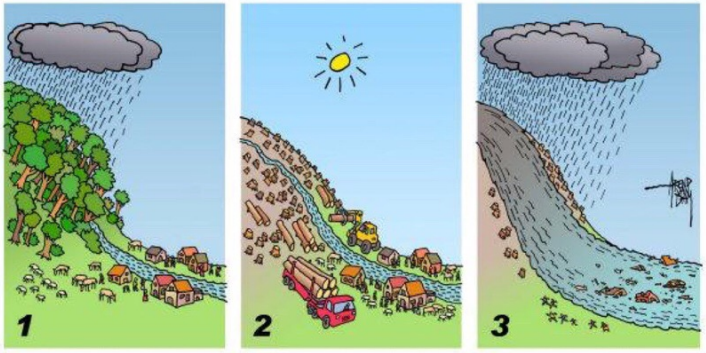
The picture on the right shows what happens to the land after we cut the trees.

Is there anywhere around us here that is starting to look like the picture after deforestation?

Without tree roots to support the land, the best soil washes away when it rains.

Crops will **fail** without good soil.

Gulleys are formed by the flood water and the gulleys produce dangerous landslides, and even more flooding.



Thousands of people die every year from flooding or from failure of their crops.

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Teacher's Notes:

Are there gulleys around our community and our villages?

What happens to those gulleys when the rain comes?

When floods come our crops are damaged and all the good soil washes away. When the rains have passed, the good soil has been taken away and wasted.

Floods also destroy people's houses, damage our roads and destroy our bridges.

If bridges and roads are damaged, how can we pay to repair them? How can sick people get to hospitals? How can the supplies that come to us by truck get to our villages?

In Africa **575 million people** (75% of the population) use trees for firewoood & charcoal making.

Cooking on open fires is **very** inefficient: 80%-90% of the heat is wasted.

All over the world, millions of women spend many hours walking great distances to collect firewood.

This is dangerous, wastes time and causes injury.

If we can find a **better way** of cooking we can reduce the terrible damage caused by this loss of trees.

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Teacher's Notes:

How long does your family take to collect firewood?

If you didn't have to spend so much time collecting it, what else could you do with the time you save?

If we could make our cooking more efficient, we would need to use less wood or charcoal on our fires. This would mean we would need less wood to cook our beans and nsima or the beans and nsima would cook quicker.

Better ways of cooking will save us time, save us money and mean we do not have to cut so many trees.

It is estimated that each tonne of charcoal requires the cutting of **88** medium size trees. If so, the total amount of deforestation saved by a district such as Kasese Town (around 3,000 people in the AWU programme) can be estimated at **17,600** trees per year.

Perhaps the biggest problem when cooking with firewood is the damage to your health.

More than **2 million** women & children in Africa die every year from diseases caused by breathing woodsmoke.

That's 5,500 **per day!**

That's 228 **per hour!**

Breathing woodsmoke from cooking fires causes cancer.

A cleaner and more efficient way of cooking **must** be found if we want to save the lives of our families & stop the damage we are doing to our district, our country and the continent of Africa.

If burning wood for cooking is wasting more than 80% of the heat and is killing people with the dangerous smoke it produces, **how** can we improve the efficiency of the fuel we burn?

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Teacher's Notes:

228 people dying every hour is equal to 4 people per minute!

Count together for one minute. It's not long.

Breathing woodsmoke every day causes problems with people's lungs, their hearts and their blood circulation. Many diseases can develop from the bad particles wrapped up in the smoke we breathe.

These diseases don't kill us immediately but the damage is done slowly to us. Every day we become a little more sick until it is too late for the doctors to be able to help.

The answer is surprisingly simple.

Use Fuel Briquettes

Fuel Briquettes can be made in your own community.

They are:
cheaper,
safer,
healthier,
more efficient
than using firewood for cooking.

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Teacher's Notes:

Do you know anyone who uses Fuel Briquettes?

Fuel Briquettes are now being used by hundreds of families in many communities in Uganda. They are also being made in more than 12 countries in Africa and more than 30 countries around the world.

In many communities, cooking with Fuel Briquettes is the only way they can cook. They do not have the trees left to collect firewood so making Briquettes is the only way they can cook or boil water.

They are simple to make, will save time, cook very well and do not give off all the dangerous smoke that we get with firewood.

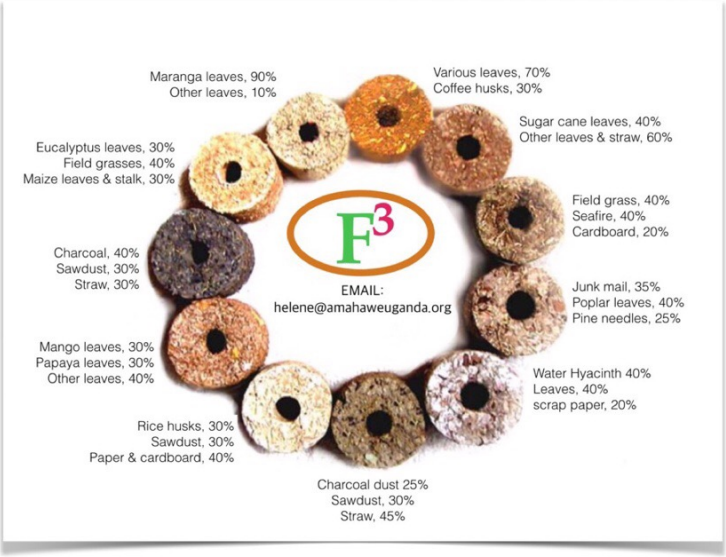
There are people in our own community who make and use Fuel Briquettes all the time.

Fuel Briquettes can be used by homes, by schools, by restaurants & by Governments.

What are Fuel Briquettes?

Fuel Briquettes are made from recycled litter, garden waste or farm waste.

All around the world people use whatever materials they can get most easily: such as maize cobs, banana leaves, coffee husks, sawdust, sugar cane waste, straw, etc.



Even charcoal dust from the bottom of the bag or from the ground around the charcoal sellers & charcoal makers can be used.

The raw waste materials are turned into charcoal dust in the same simple way that wood is made into charcoal.

This can be done easily at home.

Making cooking fuel from waste means we really are making **Fuel From The Fields!**

Teacher's Notes:

The different recipes shown in the picture come from over 20 countries around the world where they make a Fuel Briquettes to save their trees, save money, cook better and improve their health.

Every time we make a Fuel Briquette we are saving a tree from being cut down.

The AmahaWe Uganda Community Groups can show you how to make charcoal from farm waste so that we do not have to make charcoal from trees.

The AmahaWe Uganda Women's Groups can also show you how to make Fuel Briquettes from the charcoal you make or collect.

The maize cobs or other materials are turned to charcoal, either using a charcoal barrel or by traditional charcoal methods. Then it is crushed into dust.

The dust is then mixed with something to glue it together (like thin cassava porridge), then it is squeezed & shaped in a mould.

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Teacher's Notes:

The different shapes of Fuel Briquettes are made by the different shapes of the moulds or presses used. Round balls are just made by shaping in your hand.

Once the Briquettes are dry they are very strong & can be stored easily in bags or piles.

Tests carried out by Oxford University in England and M.I.T in America have proved that Fuel Briquettes have 22% thermal efficiency. Charcoal is only 18% efficient and firewood is only 11% efficient.

Fuel Briquettes are at least twice as efficient as firewood (when they are made properly).

The same universities proved that Fuel Briquettes are cheaper. It took them only 99 grammes of Fuel Briquettes to boil water but it took 105 grammes of charcoal and **305 grammes** of firewood to boil the same water.

Fuel Briquettes are therefore **at least** 2 - 3 times better than firewood.

Finally the Fuel Briquettes are very carefully removed from their moulds and left somewhere safe to dry for 3-4 days. This is truly **efficient** Fuel From The Fields

These Fuel Briquettes will burn for **longer** than firewood.
They are also **cheaper** than charcoal and produce much **less smoke** than firewood.

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Teacher's Notes:

Show some examples of Fuel Briquettes.

Briquettes can be made by 1 person working alone or by a group working as a team.

A team of 3-4 people could make 500 Briquettes (or even more) in one day.

Depending on the size, only 4-6 Briquettes are needed to cook typical food like beans or nsima.

A study by **The European Union** concluded that: "*Briquettes alone will not solve the major sustainability problems of wood fuel use in Uganda. However, it is noted that* ***16%*** *of the country's total wood consumption and up to* ***50%*** *of the charcoal trade could be replaced by Fuel Briquettes made from farm waste.*"

Fuel Briquettes are cheaper, healthier, safer, faster than charcoal or firewood.

But... they can be made **even better** if they are burnt in a Rocket Stove rather than on an open fire.

Rocket stoves work by making sure that all the heat goes to the pot and is not wasted around the fire.

Only a small amount of fuel is needed in a Rocket Stove.

Fuel Briquettes are 2x more efficient and cheaper than firewood. Rocket stoves will make Fuel Briquettes up to **4x better**.

Save the trees,
save money, save your health.

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Teacher's Notes:

Rocket Stoves work by keeping the heat **inside** the stove. The heat is concentrated directly below the pot.

A 3-stone fire allows most of the heat to be wasted around the sides.

Rocket Stoves can be made of clay, baked mud, bricks or even metal.

Rocket stoves are simple, but these improved cook stoves rely upon 2 main principles:

1 - drawing the air through a small hole to create an accelerated airflow

2 - containing the heat of the fire within the stove

There are many types and styles of stoves available to be bought or made simply and cheaply. They can be made as lightweight portable stoves or as fixed, multi-burner stoves that use a single source of timber, charcoal or briquettes.

Deforestation

Summary.

Deforestation is killing the planet and harming our country.

We cannot stop using trees, but we can change the way we use them so that we are not wasting them.

Fuel Briquettes & Rocket Stoves will save time, save money, save your health and help to save the trees.

Saving the trees will protect the land, reduce flooding, improve the farmland and make sure our country is protected for our children.

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Teacher's Notes: