Forests
Today’s lesson:

• Quiz
• Reading
• Speaking
• Writing
Discuss:

How much do you know about forests?

Now do the quiz on the next slide and check your answers on the infographic.
QUIZ - FORESTS

1) Which 5 countries have most forest?:
   a) US, Argentina, Brazil, Malaysia and Indonesia   b) Canada, Russia, Brazil, US and China   c) Brazil, Indonesia, Nigeria, Mexico and Canada

2) What % of the forest in the world has been cut down already?
   a) 40%   b) 60%   c) 80%

3) Which area has lost most forest?:
   a) South America   b) Africa   c) South and South-east Asia

4) How much forest is destroyed every year by illegal cutting of trees?
   a) 2 million hectares   b) 5 million hectares   c) 10 million hectares

5) What % of greenhouse gas emissions are from deforestation?
   a) about 8%   b) about 15%   c) about 20%

6) In 10km2 of rainforest, there can be:
   a) 750 types of tree, 400 types of bird and 150 types of butterfly
   b) 75 types of tree, 40 types of bird and 15 types of butterfly
   c) 7 types of tree, 4 types of bird and 2 types of butterfly

7) What % of medications come from rainforest plants?
   a) 10%   b) 25%   c) 50%
FOREST FACTS

Trees R Us

Trees are vital to our planet's ecosystem and to human culture. They pump out oxygen, store carbon, filter the air and purify our water. Forests provide refuge for thousands of species. Plants found there are a source of both food and medicine. And trees give us wood for heating, cooking and building.

Forests and trees

Are the world's forests declining or decreasing? Turns out it depends on who you ask and what you mean by 'forest'.
- The Food and Agricultural Organization (FAO) says 50 million hectares of forests were planted from 2000-10 so 'net' forest loss was near zero. But these new 'forests' were mostly large-scale industrial tree plantations.
- The five countries with the greatest forest cover (Russia, Brazil, Canada, US and China) account for more than half of the total forest area.
- More than 50 countries have forests on less than 10% of their total land area.

Cut and run

The clearing of millions of hectares of natural forest continues unabated, driven by resource extraction (mining, oil and gas), logging, cattle grazing, urbanization and the expansion of plantation crops like soy and palm oil.
- Of the 100 million hectares of land converted to farming in the tropics from 1980-2000 more than 83% came from clearing rainforests.
- 80% of the world's original forests have already been logged. Around 13 million hectares of forest per year were destroyed in the last decade. By region, the biggest losses were in South America (40 million ha), Africa (34 million ha) and South/Southeast Asia (6.8 million ha).
- 35-60% of the world's old-growth forests are still being logged to make consumer items like toilet paper and cardboard.
- The five countries with the largest loss of primary forest (undisturbed native species) in the past 20 years are Brazil, Gabon, Mexico, Papua New Guinea and Indonesia.

Woodwork

According to the FAO there are 13.2 million workers in the formal forest sector with a combined income of 560 billion, about 0.9% of the global economy.
- Countries with the highest contribution of the forest sector to gross domestic product: Solomon Islands, Bhutan, Papua New Guinea, Finland, Sweden, New Zealand, Malaysia.

Heat and shelter

Burning wood is often the only energy source, especially in remote areas.
- 2.4 billion people burn wood to cook while 764 million use wood to boil water for drinking.
- Forest products are used for basic shelter by 1.3 billion people – 18% of the world population.

Biodiversity

Forests are rich in biodiversity. When forests are degraded and fragmented, species become isolated from one another and can no longer share genes. This affects their ability to adapt to change and maintain overall species health.
- A typical 10-square-kilometre patch of rainforest contains as many as 1,500 flowering plants, 750 species of trees, 400 species of birds and 150 species of butterflies.
- The IUCN says forests are home to 80% of the world's terrestrial biodiversity.
- Canada's boreal forest supports 85 mammal species (including bears, wolves, ibex and woodland caribou), 130 species of fish, 32,000 species of insects and over 300 bird species.

Felons

Corruption and greed drive the trade in illegal timber.
- More than 100 million cubic metres (m³) of timber are cut illegally every year, destroying 5 million hectares of forest.
- It's estimated the illegal logging business is worth $10-$15 billion a year.
- Illegal timber imports from 10 key processing and consumer countries rose from 50 million m³ to 60 million m³ between 2000-13 – a rise in value of nearly 58 billion.
- The volume of illegal wood imports to China almost doubled over this period from 17 to 33 million m³.

Carbon control

Trees absorb and store CO₂ from the atmosphere so forests act as 'carbon sinks', potentially slowing down the rate of climate change. The more trees, the greater the Earth's ability to remove carbon from the atmosphere. Conversely, trees become carbon sources when they are logged or burned.
- Deforestation accounts for around 20% of all human-made greenhouse gas emissions.
- An estimated 300 billion tons of carbon are stored in forests around the world. Woodlands also regulate rainfall and halt desertification.
- North America's boreal forest is one of the world's largest storehouses of carbon. Canada's boreal forest alone holds an estimated 208 billion tonnes.

Clean air, pure water and medicine

- Through photosynthesis trees absorb the sun's energy, sequester carbon dioxide and pump oxygen into the atmosphere – 40% of the world's oxygen is produced by rainforests.
- A mature tree can release 1,000 litres of water vapour a day, both cooling the Earth and feeding the rainfall cycle – 30% of rain in the Amazon region has been recycled from the forest itself.
- Forests are an untapped storehouse of beneficial drugs – 25% of all our medications are derived from rainforest plants.

Discuss:

Decide on:

a) 5 reasons why forests are disappearing, and

b) 5 reasons why forests are so important

c) 2 things we could do to help
Why are forests disappearing?

At the time of the Roman Empire, thick forests covered 80 per cent of Europe. In the middle ages forests covered 40 per cent of Europe. By 500 BCE half of England had no forests. Today, the oldest forests in Europe are nearly all gone. In Ireland, for example, there are forests on only one per cent of the land. The same is true in North America. They cleared forests fast in the 18th and 19th centuries. By the end of the 20th century, there were farms and houses in place of many of America’s forests. Fifty years ago, there was thick tropical rainforest in Rondônia. Today, it is one of the most deforested parts of the Brazilian Amazon. 100,000 square kilometres of forest have gone from the state since 1978. Many poor people from the crowded coastal areas came here in the 1970s when roads were built. They came for land and opportunity. First came loggers, who cut the trees. Then settlers came and cleared the remaining trees to plant maize and soy. Finally landowners came and kept cattle. Two-thirds of Brazil’s deforested land is used for cattle.
Find some more reasons:

• In Australia, coalmining affects more than a million hectares of forest. In Canada 20 per cent of the forest is given to logging companies, oil and gas, hydro dams and mines.

• There is so much illegal logging by loggers working with corrupt politicians and greedy businesses. In Burma, according to the Environmental Investigation Agency, Chinese businesses pay in gold to cut forests on whole mountains and take timber out of Burma’s state of Kachin.

• Papua New Guinea has sold 30 per cent of the country to foreign timber companies. More than 80 per cent of its forests may be gone by 2021.

• In Uganda, tea planters plan to have 250 hectares of the Kafuga Pocket Forest Reserve in the Bwindi National Park. The forest is one of the last homes of the mountain gorilla.

• The need for green fuels is another reason for deforestation. Across Europe, power plants are now burning wood for electricity. They are using trees in Slovakia and Romania. This also endangers forests in the US south from Georgia to the Carolinas.
Why do we need forests?

Deforestation is very bad for plants and animals, and for people who need forests to live. Forests make it possible for us to live comfortably on Earth. They store carbon, filter air and water and stop floods. They are home to 80 per cent of the world’s biodiversity. Trees give food and homes and medicines. We think a quarter of modern medicines come from forest plants.
What’s the solution?

An NGO study of 24 projects in a number of countries – including Mozambique, Peru, Nigeria and Kenya – found that local groups cannot use forests to support their ways of life. This supports the idea that a “good” forest is a forest without people. And that is a mistake. Our idea of forests without people is wrong. People have always been in forests. Millions of people today need forests to live. And they are the people who can look after the forests best. Recent research supports this idea.

Deforestation rates in community-managed forests are always lower – up to six times lower in forests where local people have legal rights. In the Maya Biosphere Reserve in Guatemala, where local people look after a quarter of the two-million hectares, deforestation is only 0.02 per cent. In Peru it’s the opposite. There, the government has allowed companies to ignore the rights of local people. They are cutting trees in 75 per cent of the jungle.

Kenya is another country where local people are making a difference. Trees were burned to make charcoal and rainfall went down and there was drought. The local people now look after the forests and today there is more forest and more rain.

People and animals and the earth need forests. That’s why it’s so important now that we protect them.
Writing

In groups, write a letter to someone from another planet where there are no forests.

Explain:

• What forests are
• Why they are important
• What is happening with deforestation
• What we can, or should do
Homework:

1) Read more about forests in Easier English:
   http://eewiki.newint.org/index.php/Will_we_lose_our_forests%3F
   http://eewiki.newint.org/index.php/The_palm_oil_problem
   http://eewiki.newint.org/index.php/Forests:_green_machines

2) Research some of these organisations:
   • World Rainforest Movement, wrm.org.uy
   • Fern, fern.org
   • International Tree Foundation, internationaltreefoundation.org
   • Redd Monitor, redd-monitor.org
   • Environmental Investigation Agency, eia-international.org
   • Center for International Forestry Research, blog.cifor.org
   • Forest Peoples Programme, forestpeoples.org
   • Rainforest Action Network, ran.org
   • Forests Monitor, forestsmonitor.org
   • Greenpeace, greenpeace.org/international/en/campaigns/forests/