



Topic based resource
Biodiversity
Terrific Trees



cadwch keep
gymru'n wales
daclus tidy

Background information

Biodiversity is the amazing variety of life on our planet earth. From plankton to baboons, from oak trees to fungi, from bacteria to people – the range of life on earth is incredible! It also applies to habitats or ecosystems – oceans, woodlands, ice caps and even cities. We all rely on biodiversity to survive. All species are interconnected in a big web like natural system providing clean air, oxygen, water, food and shelter. A natural world full of biodiversity is vital.

We often talk of species richness as a measure of biodiversity. A healthy ecosystem is one rich in biodiversity. The Amazon rainforest is very species rich and is home to 10 million species! Humans are putting pressure on the Amazon and the planet in general more than ever before, using and consuming more and more resources. WWF's 'Living Planet' Report of 2018 has found an average 60% decline in global populations of mammal, fish, reptiles, amphibians and birds since 1970.

But what of the Welsh context? Conservationists and researchers from 70 organisations produced the 2019 State of Nature Report and although there are great news stories such as



Woodland cover has increased 4-fold since the early 1990's



The time devoted by volunteers to nature conservation has increased 46% since 2000



The Red Kite has made an impressive return from being almost extinct

The underlying issue is that wildlife in Wales continues to decline and 17% of species are at risk of extinction. To highlight one, the butterfly numbers have reduced by over a half since 1976!

Climate Perspective

Climate change causes a shift in climate patterns. Extreme weather and flooding impacts negatively on biodiversity so preserving planet Earth's biodiversity is absolutely essential.

Exploring endangered species or creating habitats however small within school

grounds can have a positive impact on local biodiversity. Creating a meadow, pond, planting trees and leaving long areas of vegetation will encourage endangered Welsh wildlife.

So, let's get to it!

- No-one really knows just what other benefits may be lost when species become extinct or what impacts this will have on other species or habitats.
- Healthy natural ecosystems help control flooding, drought and soil erosion.
- The quality of our lives is greatly enriched by the natural environment.
- All species have as much moral right to exist as a human.

Activity

Biodiversity Activity

Background Information

Trees are crucial for our existence. Through photosynthesis they provide oxygen for us to breathe and remove CO₂ from the air, storing it as carbon, the essential building block of life. The session focusses on some of the projects that are taking place to reforest our planet in an effort to increase the amount of CO₂ that trees can take out of the atmosphere.

There is a theory that if we planted 1.2 trillion trees worldwide then it would counter the last 10 years of CO₂ emissions. That would work out as over 150 trees per person on the planet though! It is also important to note that there is a time gap as mature trees absorb much more than saplings.





Key Aimed at KS2

Global Goals:

- 13 – Climate Change
- 15 – Life on Land

Aims:

- To create something that will encourage others to plant trees, either directly or indirectly.

Objectives:

- To understand the value of trees for our climate and environment
- To have a basic understanding of photosynthesis
- To learn about some of the positive projects that are taking place around the World

Resources:

- Access to laptops/chromebooks/computer
- Paper and pens

100 Million Trees!



Activity

- On average, each tree provides enough oxygen for 3 people to breathe. How many trees do we need for the people in this class to breathe?
- Crucially, trees also take carbon dioxide out of the air through their leaves and use it, and sunlight, to Photosynthesise, which enables them to grow. If you are not sure how photosynthesis works, [have a look at this video](#)

Focus on Ecosia

- Searching on the internet generates money as the companies who want you to view their page will pay money to make sure that their advert is at the top of the page. For some search engines, this money makes the people who own the company very rich. With Ecosia, the profits are used to plant trees in countries all over the world. To date they have planted around 100 million trees which are estimated to be removing 5 million tonnes of CO₂ from our atmosphere.
- [Watch the video showing some of the impacts of tree planting projects.](#)
- Is Ecosia a good idea? Would you recommend using it instead of Google? Spend some time investigating

Activity:

Design a leaflet telling people about how important trees are for our World and wildlife. Make sure your leaflet finishes with something you want people to do – it could be using Ecosia instead of a different search engine, it could be planting trees in their garden or donating money to Size of Wales.

Pupils may want to investigate other benefits of trees, for example in flood prevention to mitigate the impacts of climate change.



Extension Ideas:

- If you have space in your school grounds, apply for free trees to plant from the Woodland Trust and plant one per class member.
- Switch your school search engine to Ecosia and see how long it takes to reach 10 trees planted.
- Further investigate some of the tree planting projects that have taken place and discuss the impact on people living in the local communities. Ecosia projects have taken place in Spain, Morocco, Senegal, Burkino Faso, Ghana, Tanzania, Uganda, Madagasca, Indonesia, Kenya, Ethiopia, Brazil, Peru, Columbia, Nicuragua, Haiti. <https://blog.ecosia.org/tag/projects/>
- What are tree organisations doing in Wales to increase our tree coverage? (currently about 15%).

Curriculum links

Purposes:

- Ethical, informed citizens of Wales and the world.

AOLE's:

- Humanities

What matters statements:

- Informed, self-aware citizens engage with the challenges and opportunities that face humanity and are able to take considered and ethical action.
- Our natural world is diverse and dynamic, influenced by processes and human action.

AOLE's

- Science and Technology

What matters statements:

- The world around us is full of living things which depend on each other for survival.

Resources from other organisations:

- [Size of Wales](#)
- [Natural Resources Wales Carbon Calculator](#)
- [Woodland Trust](#)
- [World Wildlife Fund](#)
- [Llais Y Coedwig](#)

Eco-Schools



Eco-Sgolion



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