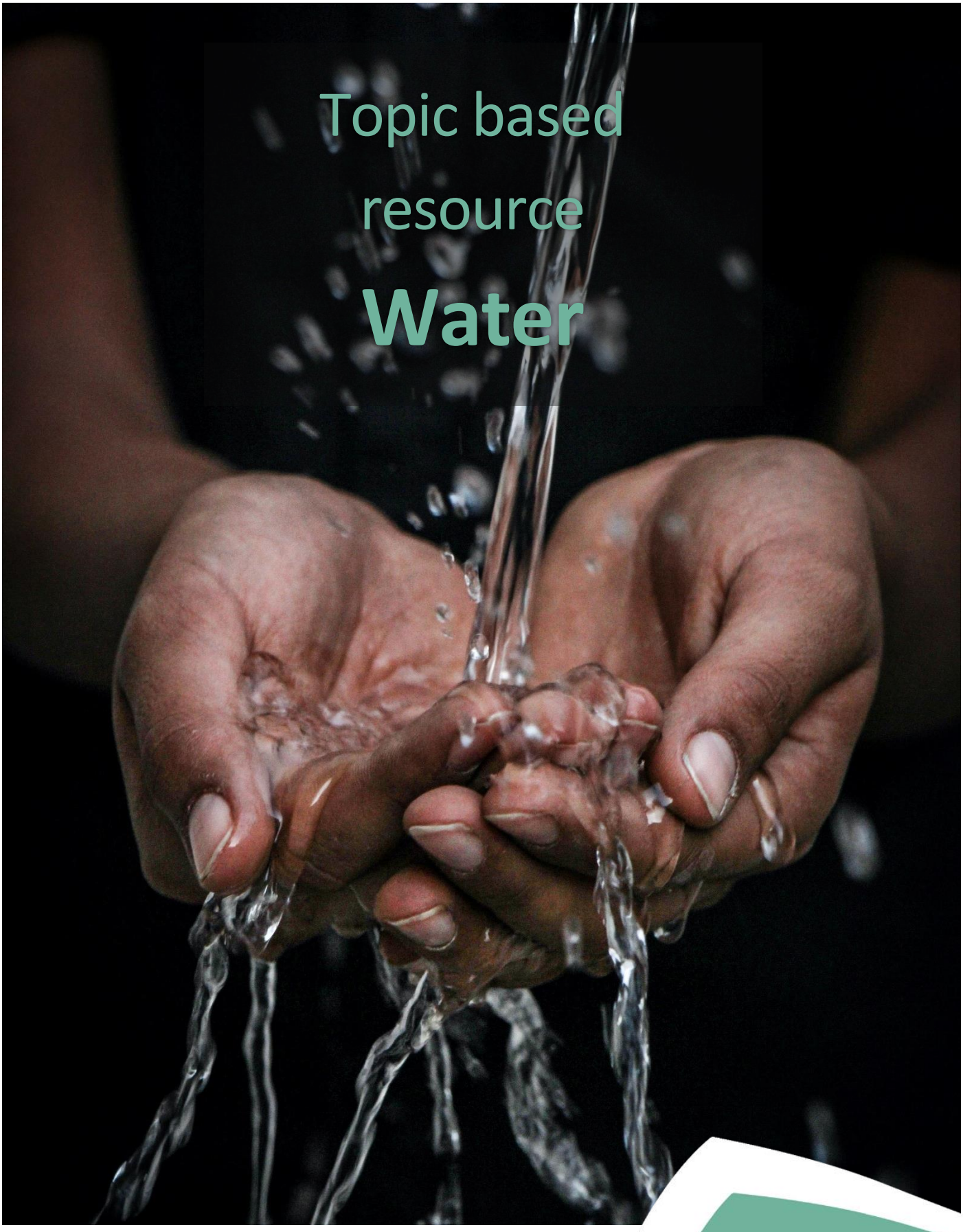


Topic based resource

Water

Eco-Schools
Eco-Sgolion

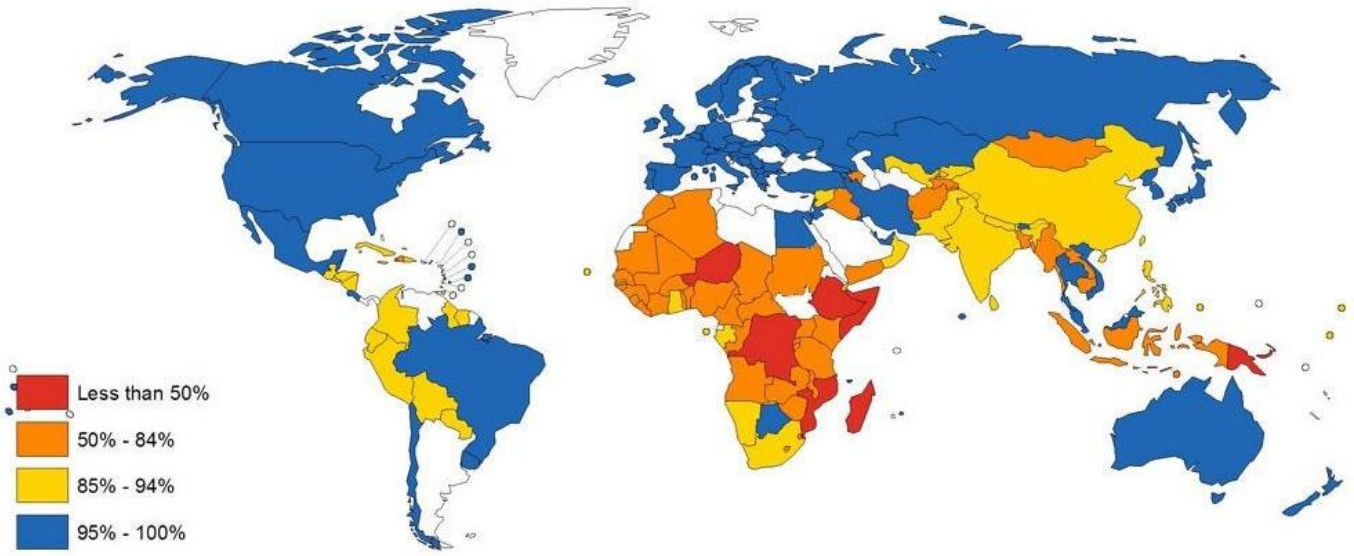
Ariennir gan
Lywodraeth Cymru
Funded by
Welsh Government

14 LIFE BELOW WATER

cadwch keep
gymru'n wales
daclus tidy

Background information

Water is one of the most important natural resources on Earth and we must learn to protect it. Water is vital to us and we take it for granted that water will come out of our taps. Around 95% of our water we use in Wales comes from reservoirs or rivers. Before that water reaches us, it undergoes an intensive filtration process to clean it – this requires energy which ultimately produces carbon dioxide and other greenhouse gases. The more water we waste, the bigger our impact on the environment. Globally 29% of people still do have access to safe drinking water.



What proportion of the population has access to safe drinking water?

Climate perspective

Although water flows in a cycle there is a delicate balance, and it is important that humans do not misuse water as this can upset the cycle. By using too much water from one area it can cause drought in that area. When water flows through our sewer systems it takes energy to convert it back into clean water so that it can be reintroduced to the cycle. We know that overuse of energy is one of the main causes of climate change which in turn is having an effect on the water cycle by raising the sea level and is one of the factors in causing extreme weather events including flooding. It is important that children understand the water cycle and their role in conserving water.

Water Filtering

Upper KS2

In some places in the world there is no access to clean water so they must do their best to make what they have available safe to use. This activity will ask the children to take some really dirty water and attempt to filter it so that it is clear again. They can only use natural materials they find in the school grounds to do this e.g. leaves, moss, bark, stones. You could also give them sand if you desire.

Materials needed:

- Plastic bottles with the bottoms cut off.
- Natural materials – if your school grounds have green spaces allow the children to collect their own materials but if there are limited resources available you will need to provide them.
- Water mixed with soil and other debris.
- Containers for collecting 'clean' water.

Step 1

Demonstrate to the children putting materials into the bottle one layer at a time. Show pouring the water through and then looking at the finished water. Does the water look any cleaner?

Step 2

Ask the children to work in groups and give each group a bottle and a container for collecting the water after it has been filtered.

Step 3

Let the children collect a selection of natural materials from around the grounds and then arrange them into the bottle. They may like to put them in layers or mix them all up. The first challenge will be making sure everything does not just fall out of the neck of the bottle! It may take them a few attempts to achieve any success so they should be allowed to keep experimenting with different natural materials and until they are satisfied.

Step 4

When everyone is ready you can pour the dirty water through each bottle and compare the results of the different groups.

Curriculum Links

Area of Learning and Expertise - Humanities

Statement of What Matters:

Our natural world is diverse and dynamic, influenced by processes and human actions.

Area of Learning and Expertise: Science and Technology **–**

Statement of What Matters:

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

Next steps and other ideas

- Discuss what practical uses there might be for this experiment e.g. Developing countries where there is poor access to clean water, emergency situations when clean water supplies are disrupted.
- Research how water treatment works operate. https://corporate.dwrcymru.com/en/community/education

33-35 Heol yr Eglwys Gadeiriol, Caerdydd, CF11 9HB | 33-35 Cathedral Rd, Cardiff, CF11 9HB
029 2025 6767 keepwalestidy.cymru info@keepwalestidy.cymru