



Girlguiding Clwyd Environment Challenge

This challenge is for everyone from Rainbows up to Trefoil members.

There are four zones Air, Earth, Fire & Water

- Rainbows should choose one challenge from each zone
- Brownies should choose one challenge from each zone and one other chosen from a zone of their choice
- Guides should choose two challenges from each zone
- Senior Section and Adult members should choose two challenges from each zone and one challenge from a zone of their choice.

Air

1) **Measure your carbon footprint**

We've all got a carbon footprint. Big or small, it's our own personal measure of how much greenhouse gas we create – the smaller it is, the lesser the impact our lifestyles are having on climate change.

You can calculate your carbon footprint online at www.wales.gov.uk/climatechange. Simply answer some straight forward questions and it will create a personal action plan for you with hints and tips on how you can create your own carbon footprint.

Many white goods have to carry an energy efficiency rating from A* to G. an A* rated fridge for instance could save you around £34 every year. Go and investigate what the most efficient items are available to you.

2) **Insulation**

If everyone had proper insulation, together we'd save enough energy to heat around 96,000 homes for a year.

Investigate what material is the most efficient, paper, cotton, foil or fleece. Heat up some water, pour an equal amount into 4 cups, wrap a different piece of material around each cup and secure with an elastic band. Leave for 10 minutes. Which one is the warmest?

Bivvy out one night, and put layers of newspaper between you and your clothes. It should keep you warm. Did it work?

3) **Food Chain**

Find out about the food chain, draw a diagram and find out how a change in one level will affect the levels above and below it.

Use the following bird species Blackbird, Bluetit and Buzzard.

When should you not feed the birds?

4) **Noise**

What is a decibel?

What is noise pollution?

List 10 types of noise pollution

Discuss what level of noise is acceptable to the individuals of your unit.

Find out what the official classification of noise pollution is.

5) **Wind Power**

What is the beaufort scale?

What is wind power?

How does a wind turbine work?

Research the best design for a wind turbine

How long have we used wind power for in the UK?

Where is your nearest wind power farm located?

Earth

1) Grow a Sunflower

Plant by the end of May; use potting compost and a two litre pot

Keep the pot on a sunny windowsill and do not allow to dry out

When it has four leaves it is ready to plant outside

Plant into weed free soil or a larger pot and place near to a wall or fence

Make sure it is in a sunny spot

Water seedlings daily but do not drown them

By early September, the sunflowers may have grown to a height of 3 metres

2) Bees

Find out how many varieties of Bees live in the UK?

Why are they important?

What would happen if our bees became extinct?

3) Trees

How many uses for timber can you list?

What is the difference between hardwood and softwood?

Find out what the differences between a broadleaf and coniferous forest ecosystem are.

4) Rainforest

Why are we losing the Rainforest?

What can we do to prevent it?

Why is it so important to keep?

5) Reduce, Reuse, Recycle

Have a go at making your own compost bin.

Composting your kitchen and garden waste at home creates less carbon dioxide than if it was sent to landfill and your plants and flowers will like it too.

Find out what you can put on a compost heap

Find out what you can NOT put on a compost heap

Separate and recycle your waste wherever you can.

Shoppers in the UK use around 10 billion carrier bags every year. How many different ways can you think of to reuse and recycle them?

Make a cup of tea, making sure you only boil as much water as you need. How would you do this? What is the best way?

Make something useful out of recycled items

Find out how to make recycled paper

Fire

1) Solar power

Make a solar cooker

Why is it important to “SLIP, SLAP, SLOP”?

2) Fire safety

Find out about fire safety at camp

3) Using Fire

Learn how to set a fire and start it safely

Make a buddy burner and use it to cook a pancake

Cook a cake in an orange on an open fire

Find out what a chocolate banana is and cook one on a camp fire

4) Forest fires

Find out the causes of forest fires and what precautions can be put in place to prevent them.

5) Country Code

Find out about the Country Code and invent a game to teach others about the Country Code.

Water

1) Water in the home

A dripping tap could waste more than 15 litres of water a day. Learn how to fix a dripping tap.

A running tap can use 6 litres of water in one minute – just ten minutes could be enough to fill a small bath. Do your bit and try not to use any more than a cup of water for the whole time when you clean your teeth.

Fit a water saving device in your toilet at home or in your meeting place.

How does your water get to your tap from the reservoir?

2) Water Power

Find out about Hydro Power and visit a hydro electric power station.

OR

Investigate how wave power works. Find out where the best locations around the globe are to situate this type of power generation unit.

3) Pond creatures

Go pond dipping, how many different species can you find?

Identify them and find out about 3 of them in more depth.

4) Ice

Find out what caused the last ice age.

What will happen if our ice sheets continue to melt?

How can we stop the retreat of the world's ice?

5) Water cycle

Learn about the water cycle and draw a diagram to help you explain it to others.

We hope you have enjoyed this challenge and it has motivated you to find out more about our environment and ways to look after the planet we live on so that future generations can enjoy what we have – this planet is on loan to us for the generations who will follow us....

Take nothing but pictures

Leave nothing but footprints

Kill nothing but time

When you have completed this challenge please send details of the challenges undertaken on a A5 page (photographs are welcome) with your Unit name, the number of badges required and an A5 stamped and addressed envelope to:

Miss M A Jones
Park Farm
Fenns Bank
Whitchurch
Shropshire
SY13 3PE

Badges cost £1 each.

Please make cheques payable to Girlguiding Clwyd.