Field Studies Council

For the Field Studies Council, climate change, environmental issues and sustainability are driving forces in our teaching and conversations with students. This resource aims to showcase environmental activities and resources that will help to make links to wider sustainability issues at KS2.

How do you currently talk about environmental issues with your pupils?

Be honest, is it largely recycling based?

These big topics can be quite scary….

Of course, we need to introduce the facts and the possible threats, but in a way that is not all doom and gloom.

We need to allow pupils to feel there are solutions and realistic ways of combating environmental issues.

Talking about climate change.

How do we introduce the science without overwhelming? Start simple and make it personal to them and their lives to increase engagement.

Activity: use a card sort to rank or sort how impactful certain activities are on the world.

Which of these everyday activities makes climate change worse?

Going on holiday to Spain and travelling by aeroplane

Drying clothes in a tumble dryer

Buying fruit from a local farm

Putting the kettle on

Eating meat everyday

Walking to school

Drying clothes on the washing line

Driving a car to the shops

Leaving the lights on

Cutting down trees

Buying fruit grown in South Africa

Using a mobile phone

Turning on the central heating

Riding your bike to the shops

Talking about climate change.

Activity: What causes climate change?

Write down on post it notes possible causes of climate change – then sort into natural and human causes. Younger children might need more support to think of things.

Talking about climate change.

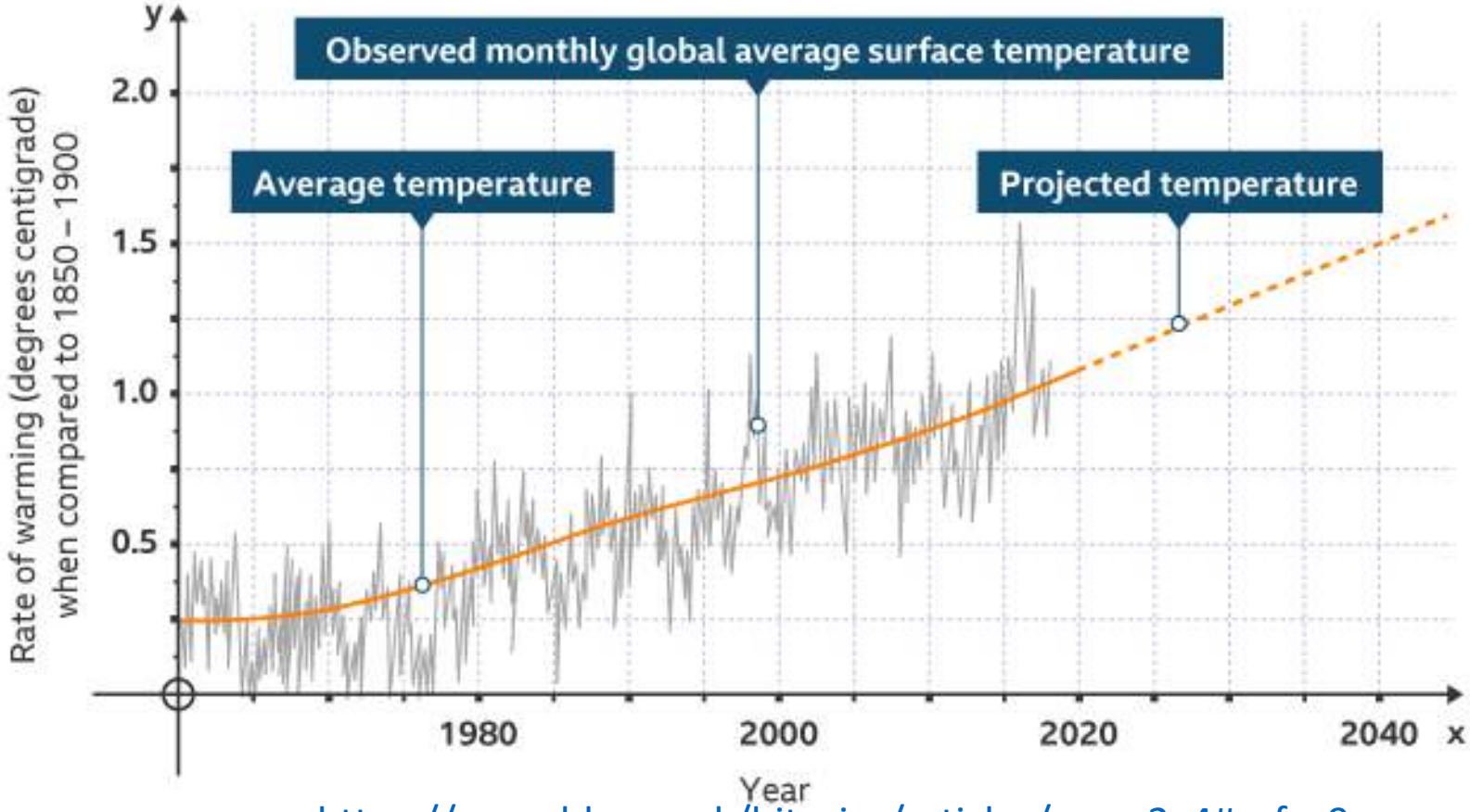
Activity: Data to show climate change.

Look at the graph and describe the trends, children can recreate the graphs patterns using natural materials. They can then try to describe the trend using data and numbers.

Activity: Lollipop graph

Another excellent resource to help learners with this concept can be found here: https://www.metlink.org/resource/climate-change-graph/

What are the benefits of doing any of these activities outdoors?



https://www.bbc.co.uk/bitesize/articles/zvnm2v4#zgfsn9q

Climate change investigation – How Science Works

Activity: Effects of greenhouse gases investigation

This is a simple hands-on demonstration of the physical process that keeps our world warm enough to sustain life i.e. the greenhouse effect.

The gases in the earth's atmosphere work similarly to the glass in a greenhouse in that they trap the warming IR radiation from the sun whilst any unabsorbed or reflected UV radiation can pass back out. In the jar the air is trapped and unable to mix with cooler surrounding air, so the temperature rises inside.

The problem on earth is the accumulation of additional greenhouse gases like CO2 due to human activities. This upsets the natural balance and the planet's temperature rises leading to long-term climate change.

Equipment

- A jar
- 2 thermometers
- Paper and pencil to record results
- Timer
- Sunshine

What useful thinking points can be raised here to promote HSW?

- Predictions
- Control conditions
- Presentation of data

Talking about sustainability

What is sustainability for KS2?

Sustainability is **the idea that humans must interact with the environment in a way that ensures there will be enough resources left for future generations**. There are now more than eight billion people on Earth. We all use the planet's resources every day.

https://footprint.wwf.org.uk/#/ is a good resource for looking at calculating carbon footprints. It could be a starting point for planning an outdoor activity.

Sustainability – simple examples

Activity: Outdoor question trail to get pupils to calculate a rough carbon footprint.

Put out markers, with clues or directions for the pupils to work around in a trail.

At each marker have a printed question from the list for them to answer and keep a running total.

If possible, try to theme questions, transport near the car park, water wastage near a pond, food waste near lunch area etc

Example questions:

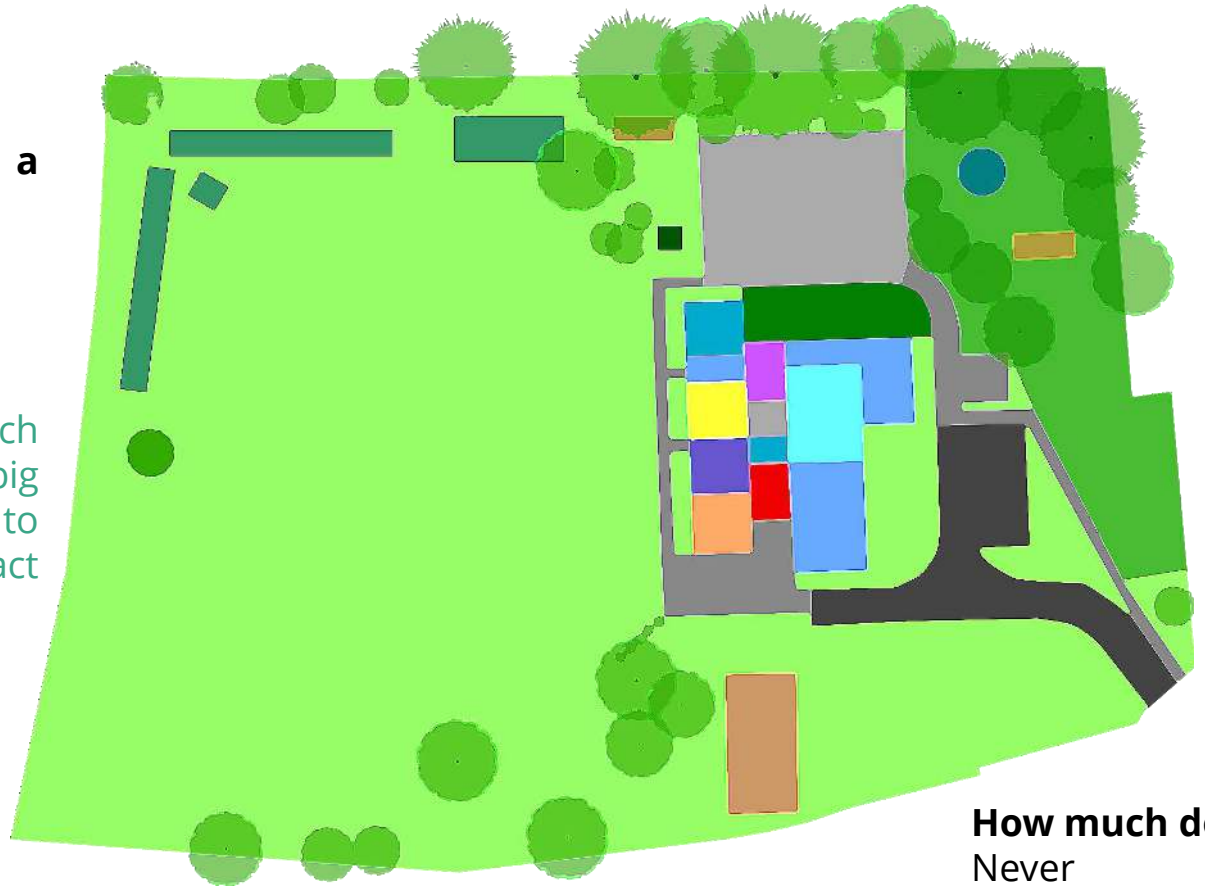
How often do you eat meat or dairy?

Vegan	1 point
Vegetarian	2 points
Meat once or twice a week	3 points
Meat every day	4 points
Meat every meal	5 points

How many flights do you take a year?

0 0 points
1 10 points
2 25 points
3+ 50 points

Young children don't have much agency; parents tend to decide big things like holidays so be sure to include things they can have impact on.



How much do you recycle?

Never	10 points
Some items, not often	5 points
Some items, every day	4 points
Everything that can be	0 points

You could include learners in the categorisation and points system discussion.

Sustainability scenarios

Local park, green space or even school playing field scenario

Activity: Share a “newspaper article” for learners to consider, you can make your own at the link below.

The task is to get pupils to consider the impact of a scheme such as this example and how they might measure the impact.

This could inspire a plan for the school to increase nature / biodiversity.

The School

Monday 9th January, 2023

School field plans

In an unusual and very controversial decision, St Joes School have made a plan to turn the school field and nature area into a multi-story car park. What affect this will have on the wildlife of the area, only time will tell.

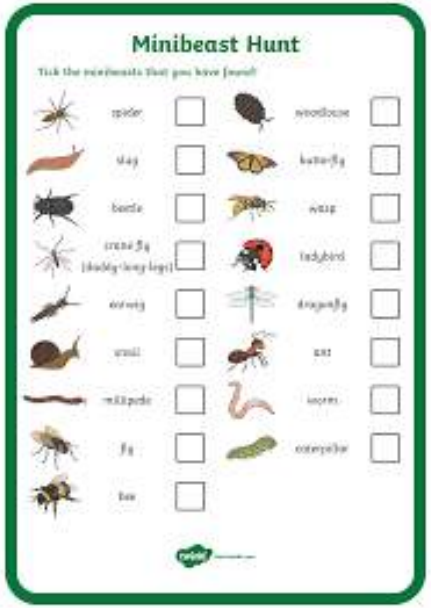
Some ideas of how they might do this can be found on the next few slides.

https://www.fodey.com/generators/newspaper/snippet.asp

Sustainability scenario – activities

Younger years –

- Mini-beast hunt – which animals might lose their habitats? How might this affect food chains?



Activity: investigate and record what animals can be found in the area, try searching in different habitats such as long grass, hedges and bushes and under logs. Use the Field Studies Council ID guides to help www.field-studies-council.org/shop

- Pollinator survey https://ukpoms.org.uk/ and link to thinking about bees and biodiversity loss. Could link to plant parts, seed dispersal as well as pollination.

Sustainability scenario – activities

Lower KS2 years –

- Invertebrate survey https://www.imperial.ac.uk/opal/surveys/bugscountsurvey/ and creation of natural or human graphs to compare school field with concrete playground.

B Timed challenges

Challenge 1: Search for bugs on soft ground surfaces

15 minutes

What to do

Start the clock! Search for 15 minutes on soil and short grass, among fallen leaves and compost for as many invertebrates as you can find.

Short grass means shorter than 12cm

Where to look

Soil & short grass	Fallen leaves	Under things
Try disturbing the top layer of soil. Look among short grass.	Put a few handfuls of fallen leaves in a tray then watch to see what moves.	Look underneath stones, pots or logs standing on soil or grass.

Identify the bugs using the Invertebrate Identification Guide within the 15 minutes. Look out for the Species Quest bugs.

Record the number of each type of bug that you find on the opposite page. If you can't identify it, record it as 'Other invertebrates'.

Take a photo if you see any of the Species Quest bugs and record how many you saw.

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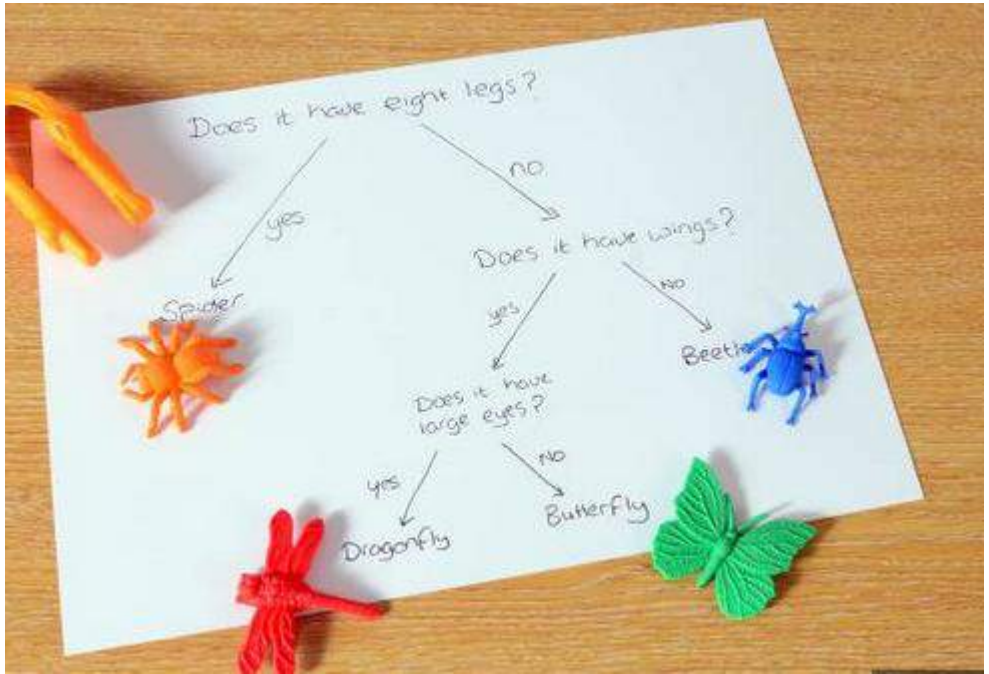
This could link to classification and making keys for grouping and identification.



Sustainability scenario – activities

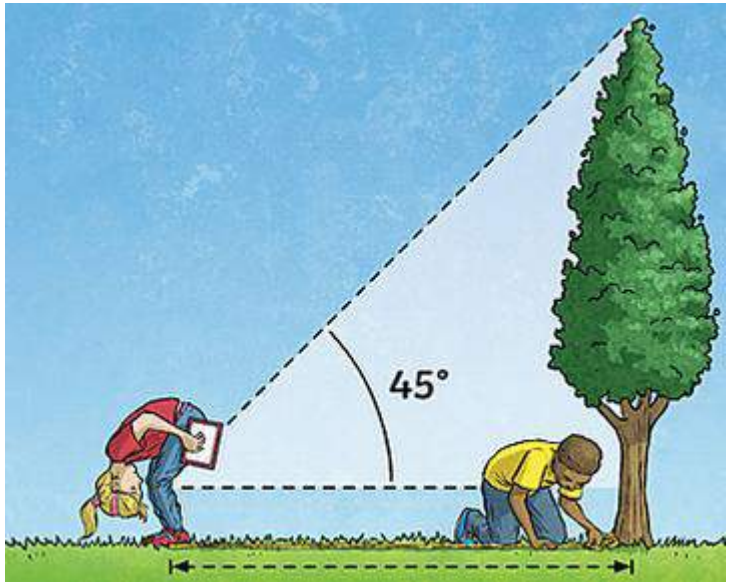
Upper KS2 years –

- Plant survey – using quadrats to count species richness (number of different plants) in an area https://www.field-studies-council.org/shop/publications/playing-field-plants-guide/

Sustainability scenario – activities

Upper KS2 years –

- Measuring carbon in trees – quite an advanced concept, but we can make the outdoor learning activity simple and fun – allowing the seeds to be sown of how carbon is effectively stored in trees and their removal can release it back into the atmosphere.



https://cdn.cyfoethnaturiol.cymru/media/687190/eng-worksheet-carbon-storage-calculator.pdf

Summary – Outdoor learning is full of prime opportunities to engage your pupils with sustainability and climate change learning!

The key take aways are:

- Keep it simple.
- Make sure it is solution driven, not all “doom and gloom”
- Get them to take action. Start a biodiversity club or get them to pledge action at school and at home.
- Inspire them to be creative! They are the future solution makers.