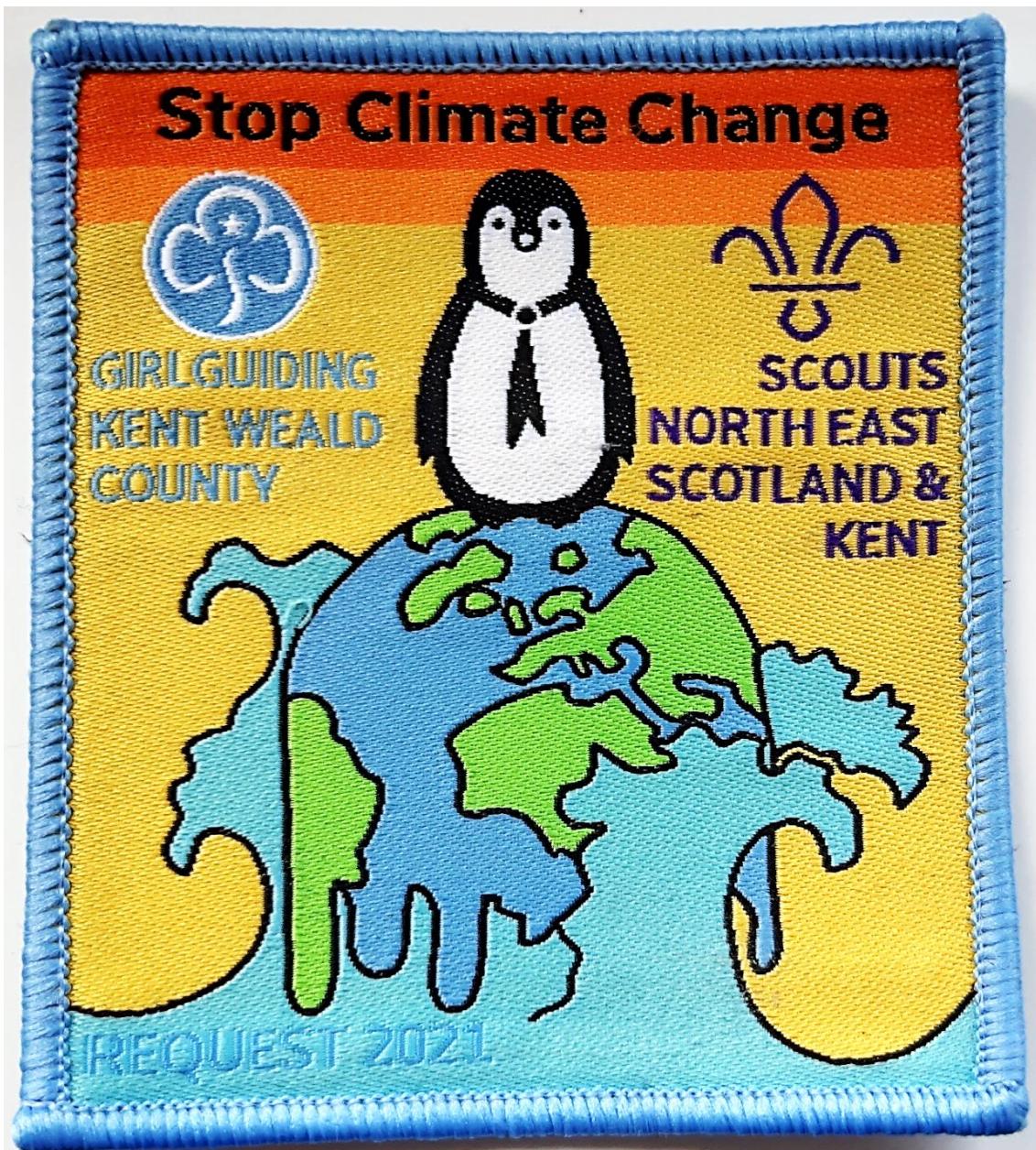


STOP CLIMATE CHANGE CHALLENGE



“Try and leave this world a little better than you found it, and when your turn comes to die you can die happy in feeling that at any rate you have not wasted your time but have done your best.”

~Baden Powell's Final Letter

Alternately, earn your badge at-home by completing Climate Quest
Visit: <https://climatequest.sevenoaksscouts.org.uk/> or search 'Climate Quest Sevenoaks Scouts'

Introduction to the Antarctica Project

Hello! My name is Lucy and I have created this challenge pack. I am both a Scout and Guide and have a keen interest in climate change. The sale of these climate badges will contribute towards our team's Antarctic expedition fundraising.

ReQuest2021

The ReQuest2021 project is run by Kent Scouts and commemorates 100 years since Sir Ernest Shackleton took two Scouts on his 1921 'Quest' expedition to Antarctica. In the winter of 2021 ten Scouts (including 1 Guide) will be sailing the Bark Europa tall ship from South America to Port Lockroy in Antarctica.

Our project objectives include: unveiling an expedition plaque dedicated to the two Scouts at Gilwell Park and Port Lockroy; inspiring and educating younger sections and undertaking personal research projects.

Our patrons include: Alexandra Shackleton (Ernest's grand daughter) and famous adventurers James Ketchell and Felicity Aston.

To find out more: visit <http://www.request2021.org.uk/> or search 'Kent Scouts ReQuest2021' on Facebook.

The Climate Change Project

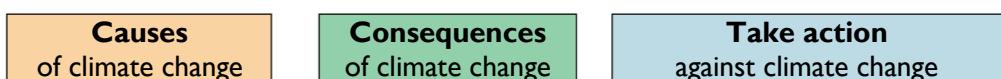
Each participant is also undertaking a personal project. Mine aims to counter the carbon footprint from our journey by educating about climate change. Antarctica is a unique and delicate environment, warming at a faster rate than other locations on our planet. Through this badge I aim to teach and inspire young people to help counter climate change and protect the Frozen South.

Challenge Badge Structure

Teaching young people how they can help tackle climate change

- **How many activities should I complete?**

Aim to **complete 2 activities from each of the 3 sections (6 in total)** if you can



Some sections are also subdivided into themes to help structure a meeting (eg. 'melting ice', 'mining & drilling'). You do not have to complete all activities in a theme or even stick to a single theme but can pick and choose any two activities you wish.

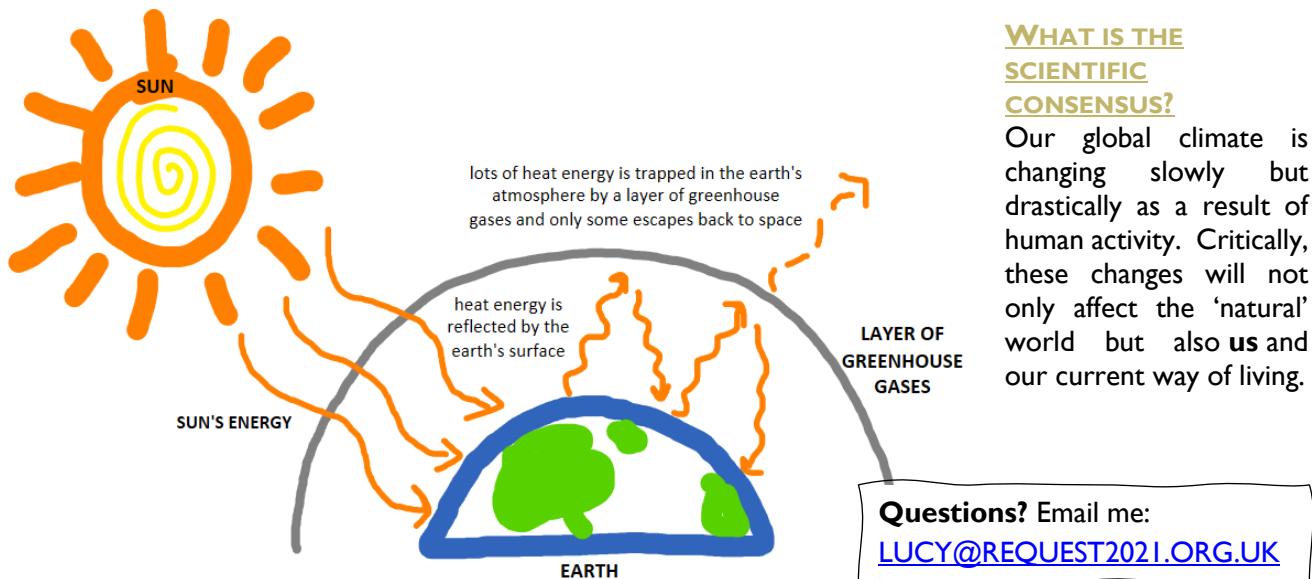
- **Which ages groups can participate?**

Each activity is labelled for guidance, but you are free to pick any activity you wish...

Beavers Rainbows Cubs Brownies Scouts Guides Explorers Rangers

Introduction to Climate Change for Leaders

Don't make the science behind climate change the primary focus of your activities. Although science is important, we have argued far too long about whether climate change exists and now that there is overwhelming scientific consensus, we need to focus instead on how to overcome the issue. Having said this, some basic science is needed to get you started.



CAUSE: GREENHOUSE EFFECT

Warm radiation (aka heat energy) from the sun enters our atmosphere, reflects off Earth's surface and back out into space. Some of that outgoing radiation/energy however, gets trapped within the atmosphere by the invisible, natural layer of greenhouse gases surrounding Earth. This causes the planet to warm, just as the glass in a greenhouse traps the sun's heat to prevent it escaping.

Although natural climatic changes have occurred in the past and a natural layer of greenhouse gases do exist in the atmosphere, modern-day climate change has been primarily caused by human actions. Burning fossil fuels (coal, oil & gas) during activities such as driving cars, eating meat, heating our homes or

making cement, have emitted significantly more greenhouse gases than would otherwise exist. Activities such as deforestation also reduce the amount of gases which are naturally absorbed back out of the atmosphere.

These additional greenhouse gasses enhance the natural layer, making it thicker and causing more outgoing solar radiation to remain trapped within the atmosphere.

Planting trees can help reduce climate change because, as part of photosynthesis, they intake carbon dioxide from the atmosphere and convert it into oxygen. Cutting down trees (aka deforestation) stops this natural process from occurring!

EFFECTS

The change will be drastic and will effect people, animals, societies, finance, politics etc. for example...

- Changes to animal habitats leading to extinctions e.g. polar bears, bees, whales, elephants, giraffes etc.
- More frequent natural disasters (e.g. wildfires) and extreme weather patterns e.g. drought
- Increased likelihood of war & conflict e.g. because of mass migration or restricted resource availability
- Loss of coral reefs (some of the most unique, biodiverse areas on Earth)
- Sea-level rise and coastal flooding (as ice melts into the sea)
- More people holidaying in the UK (with warming weather)
- Risks to human health e.g. malaria may spread with warmer climates
- Increased crop failure and consequent famine
- Ocean acidification (which is harmful to many creatures)

AND MUCH MORE (including a few positive outcomes e.g. more holidaying in a warmer UK!)

More Useful Websites:

- Children 4 Climate Change
<http://c4cc.org.uk/>
- NASA Climate Kids
<https://climatekids.nasa.gov/>

Explaining Climate Change to Young People

TOP TIPS

- Simplify according to age
- Often kids switch off if you dwell on science (we're not at school after all)! So, focus more on the 'take action' activities.
- For young people, link everything back to them e.g. focus on how climate change will affect THEM (such as causing more storms in the UK or sea-level rise on their beaches).
- Focus on positivity- what you *can* do, otherwise people just give up on resolving the issue.
- Don't be scared about not knowing everything. Even if they don't understand all of it yourself, the participants will still learn something and that is better than nothing.

Rainbows, Beavers, Cubs, Brownies

Keep it simple and relate to them.

Example explanation- “Humans are damaging the planet. Lots of human activities (like driving cars) release invisible gases which are causing our planet to heat up every year.

Imagine you are the Earth: if you have been out in the sun too long your body begins to change and might feel dizzy or ill. The Earth feels the same way when it gets too hot and things it controls like weather get confused ('dizzy') and begin to change. When you're hot you also sweat and feel like you're melting. The Earth does the same as icy parts of it begin to melt.

This may sound worrying as lots of bad things will happen as a result, but the good news is that there are things we can do to help the planet feel less ill!”

Guides, Scouts, Explorers, Rangers

Focus a little more on the science.

Example explanation- “Lots of human activities, such as driving cars, making plastic and concrete, heating and lighting your home and farming animals release greenhouse gases such as carbon dioxide. These gases sit in the atmosphere like an invisible bubble or blanket or greenhouse around the Earth. The more gases that are released, the more of the heat is trapped inside this greenhouse bubble (rather than escaping into space like it normally would). This is causing the earth to heat up year on year.

Even though temperature change may appear slow to us, it is changing the balance of the earth. with huge consequences for the future.”

Links to other Badges & Themes

Below are central Scout/Guide badges and themes that link to the Stop Climate Change Challenge

All Guides: take action theme award, link to future girl activities

All Scouts: world challenge awards, community impact staged activity badge

Rainbows: helper badge, recycling badge, look/learn/laugh/love theme

Beavers: creative activity badge, experiments badge

Brownies: charities badge, speaking out badge, zero waste badge

Cubs: global issues badge, naturalist badge, environmental conservation badge, our world challenge badge, animal carer badge

Guides: campaigning badge, consumer conscious badge, craftivism badge, upcycling badge, make change skills builder

Scouts: world challenge award, environmental conservation badge, fundraising badge

Rangers: volunteering, protest badge, morals & values badge

Explorers: global issues badge, naturalist badge, fundraising badge

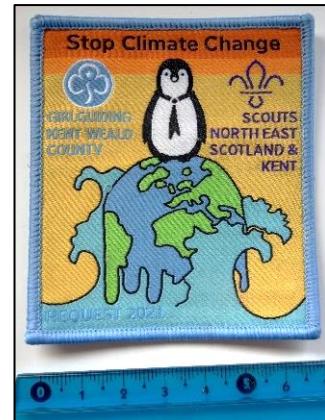
Orders

Fill in the order form (or copy it out in an email) and pass it on to... LUCY@REQUEST2021.ORG.UK
 Please send me your order form before making payment just to make sure that badges remain in stock!

Group Name:	Your Name:
	Email address:
Postal address:	
Postcode:	
Number of badges to order:	Cost of badges (£2 each)
Cost of postage:	Total cost: →
Proposed method of payment:	

Cost of postage to UK inland		
No. of badges	Cost	Postage type
1-5	80p	2 nd class letter unsigned
6-9	£1	2 nd class large letter unsigned
10-29	£3	2 nd class large letter signed
30-59	£3.50	2 nd class large letter signed
60-99	£5	2 nd class small parcel signed
100-149	£7.50	small parcel special delivery
150-300	£9.80	small parcel special delivery
300+ or international	Contact me! LUCY.MORGAN@SEVENOAKSSCOUTS.ORG.UK	

Cost of badges: £2



Payment Methods

- Payment can occur via cheque, BACs, paypal or donation to my fundraising page (<https://uk.virginmoneygiving.com/LucyMorgan21>). Please contact me to discuss your chosen method.

I would love to hear your feedback, including photos if you have them. I look forward to seeing your work!

All funds contribute towards our team's fundraising for the ReQuest2021 project.

Contact: Lucy Morgan at LUCY@REQUEST2021.ORG.UK

ACTIVITIES

Begin the badge by ascertaining how much you or your unit/troop already understand about climate change. Briefly outline the science behind the greenhouse gas effect and the variety of consequences that climate change is having all over the world. Finish off with a positive message, that there is still time to take action to reduce these negative outcomes.

CAUSES OF CLIMATE CHANGE

1. SUN SMORES EDIBLE CRAFT

Construct a marshmallow solar oven to demonstrate how heat from the sun reflects off the surface of the Earth (foil) and is trapped within the atmosphere (box) by a layer of invisible greenhouse gases (cling film).

*see appendix for instructions

Credit to: Sick Science!

Cubs Brownies Scouts Guides Explorers Rangers



2. CLIMATE CHANGE IS COMING GAME

An adaptation of 'captain's coming'/'jungle village' which teaches about the effects of climate change all over the world

* see appendix for instructions

Beavers Rainbows Cubs Brownies Scouts Guides



3. PARTICLE DASH GAME

This tag game replicates how photosynthesis from trees converts (harmful) carbon dioxide particles into (harmless) oxygen particles, whilst humans do the opposite; converting oxygen to carbon dioxide when they breathe. Divide all players so that one begins as a 'tree', another as a 'human' and the remaining players are split between being 'oxygen' and 'carbon dioxide' particles. Find a way to distinguish oxygens and carbon dioxides (eg. oxygen wear scarves whilst carbon dioxides run holding their scarves). Mark out the playing area and when the game begins the tree must tag the carbon dioxides and human tag the oxygens. If tagged, the particles must swap to the other particle type eg. if the tree tagged a carbon dioxide particle, they would then become an oxygen particle and the human would then try to tag them. After a set length of time, pause the game and count how many of each particle type you have to see if the human or tree is winning. Add more humans to represent the growing human population or add more trees to represent the benefits of tree planting. These changes should effect the balance of particles.

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4. WATER BALLOON EXPERIMENT

Hold a lighter/candle below a balloon filled with air and another below a balloon filled with water. The first will burst much sooner. This is because water has a larger specific heat capacity, meaning that it can store a lot more heat than air can. Linking this to climate change, whilst the Earth's atmosphere can hold some heat, the oceans hold much more. Ocean currents also act to redistribute this heat energy around the whole world (so that its not just the sunny places which warm up, but the whole planet).

Cubs Brownies Scouts Guides Explorers Rangers

5. GIANTS HOUSE GAME

The leader shouts the name of an item or action which contributes to climate change. Patrols are given 10-20seconds to create a 'giant' version of that item/action using their bodies. The best replication wins a point. Examples of items/actions include: driving a car, flying a plane, turning on central heating, using a washing machine or dishwasher, deforestation, large-scale farming of cattle, making cement (cement mixer), leaving your lights on, decomposing rubbish at a landfill site, eating lots of meat, fast fashion etc.

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6. EARTH TOAST EDIBLE

Make Earth toast to understand how the planet changes when it heats up. Cut a circle from your slice of white bread using a cookie cutter and then paint this bread circle using milk dyed with green and blue food colouring. Be careful to use enough colouring and not to overload the bread with excess milk. Place the circle back inside the bread frame and pop it into the toaster! Alternately you could try Earth marshmallows (with food colouring) and toast them over a fire, or oven-cooked Earth pizza with toppings to map the world!

Credit to: *Left Brain Craft Brain for inspiration*

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MR EARTH BOOK CRAFT

Tell the story of 'Mr Earth' (or a similar character) as he/she finds out about the causes of climate change. You may choose to take inspiration from a famous children's book or comic, or to create your own from scratch. Either work alone or as a group (with each person designing one page/frame of the story).

Beavers Rainbows Cubs Brownies

7. PAPER TRANSPORT CRAFT

Aeroplanes contribute a huge quantity of carbon dioxide to our atmosphere. Make your own paper aeroplanes from scrap paper and see whose can fly the furthest. You could also make paper or origami boats, cars or trains and compare how much carbon dioxide these methods of transport emit.

*see appendix for more instructions

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8. FOOD MILES FRUIT COMPETITION

Lots of our food is flown into the UK from far away countries by aeroplane, but this method of transport releases lots of greenhouse gases. Usually (although not always) UK-based fruit and veg is better to eat because it has had to be transported a shorter distance. Display a selection of fruit/veg and guess which country they come from. Order the fruit in terms of distance from the UK. Examples of fruit/veg include: strawberries from Spain, mangoes from South-East Asia, lichees and cucumbers from China, pineapples from South America, watermelons from southern Africa, carrots from Russia, potatoes from the UK, avocados from Mexico, apples from Poland, grapes from Italy, oranges from Brazil etc.

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9. CLIMATE CHARADES GAME

Play a game of charades but rather than acting out films and books, act out different causes of climate change. These include: driving cars; flying planes; cutting down trees (deforestation); leaving lights on; charging phones all night; making cement; eating meat; boiling the kettle; wasting food; single use plastics (eg. straws, bags); fast fashion... etc.

Beavers Rainbows Cubs Brownies Scouts Guides

10. EARTH COOKIES EDIBLE

Bake a batch of green and blue biscuits, cookies or cakes to replicate the heating of the Earth in its 'oven' of greenhouse gases.

Beavers Rainbows Cubs Brownies Scouts Guides Explorers Rangers



11. EARTH CIRCUITS ACTIVE

Undertake a short period of exercise (eg. x5 press-ups, x20 hops, x3 shuttle runs) dressed as you would normally be. Next, repeat the same exercises but wearing warm clothing (eg. hat, gloves, scarf, a blanket, jumpers, socks etc.) and observe the difference in your body temperature at the end. The warm clothing you have put on represent the thickening layer of greenhouse gases around the Earth (you!). This extra layer causes you to warm up much more than you otherwise would!

Beavers Rainbows Cubs Brownies

12. TRUE OR FALSE ACTIVE QUIZ

When a question is read out, participants must run to one side of the room if they consider it true, and the other side of the room if they consider it false. They can either gain points for getting answers correct, or be eliminated if they guess incorrectly until just one participant remains.

* see appendix for questions

Beavers Rainbows Cubs Brownies Scouts Guides Explorers Rangers

13. CARBON FOOTPRINT CALCULATOR QUIZ

Your carbon footprint is the amount of carbon you emit in your daily activities. Carbon is a greenhouse gas contributing to global warming. Find an online carbon footprint calculator (I like this one from the WWF <https://footprint.wwf.org.uk/#/>) and compare your footprint to others. Identify factors that increase your footprint and discuss how you could act to lower yours.

Cubs Brownies Scouts Guides Explorers Rangers

14. ENERGY SCAVENGER HUNT GAME

Head out on an energy scavenger hunt to learn about the causes of climate change and its relation to energy. Players can either be sent out in teams with one full list each, or it could be a timed race between individuals finding one item at a time.

*see appendix for a scavenger hunt sheet

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15. CLIMATE VIDEO CREATIVE

Search the internet for videos which explain climate change. Discuss which you think is best and why and then use this information to create your own. Your video should be aimed at your age group and should focus on the causes of climate change.

Cubs Brownies Scouts Guides Explorers Rangers

16. PITCH A TENT CAMP

When you sleep in a tent, you will usually find that the inside warms up much more than the outside. This is similar to the greenhouse gas effect, with your body representing the Earth, and the tent walls representing the greenhouse gas layer. Heat energy and warmth from inside the greenhouse gas layer (aka tent walls) cannot escape so becomes trapped within, causing the Earth (aka you) to heat up! Pitch a tent to experience this for yourself.

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CONSEQUENCES OF CLIMATE CHANGE

Melting Ice & Indigenous People

Global warming occurs extra fast at the Poles, leading to lots of ice melt. This means icy animal habitats are lost and sea levels rise. It also affects the daily lives of indigenous people (who traditionally live off of the land) such the Inuit, who hunt and live on the ice.

1. MARSHMALLOW IGLOOS EDIBLE

Find out about how the lives of the Inuit people of the Arctic are impacted by climate change eg. their hunting methods or health. Inuit people traditionally shelter in igloos, but with a warming planet, ice melt is a genuine concern. Create your own igloo and eat your creation to simulate ice melt! Cut an apple in half (or cut a cupcake into shape) then smother in peanut butter, icing, marshmallow fluff or nutella and load with mini marshmallows to represent blocks of ice.

Beavers Rainbows Cubs Brownies Scouts Guides Explorers Rangers



2. MILK BOTTLE IGLOO CRAFT

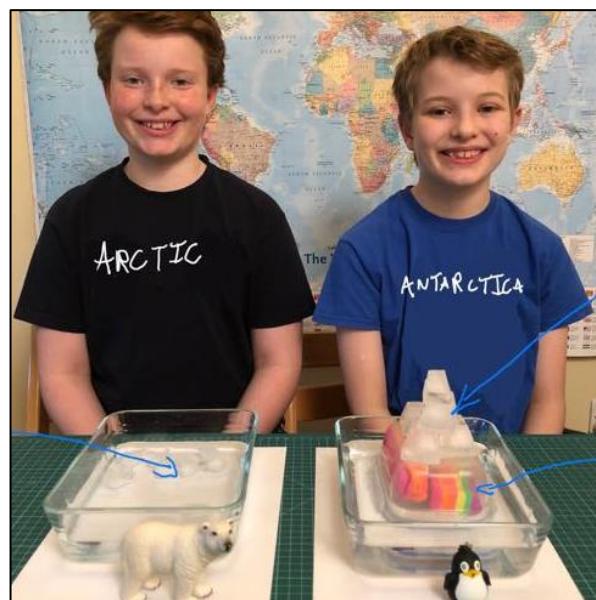
Learn about the traditional Inuit culture and the effects of climate change on their way of life. As part of this, create your own life-size recycled igloo to help you feel what it is like to live like an Inuit. Begin by drawing a large circle on a big sheet of card to use as a base. Next, lay clean, empty plastic milk bottles (with lids for additional strength) on top of the circle, facing inwards. Layer them up like bricks and stick them together using a hot glue gun. Don't forget to an entrance way so that when night falls you could try sleeping inside! Search the internet to see examples.

Cubs Brownies Scouts Guides Explorers Rangers

3. SEA-ICE VS LAND-ICE EXPERIMENT

Begin with two tubs, one labelled 'Antarctica' and the other the 'Arctic'. In the centre of the Antarctic tub add a pot of clay, a large rock or other object to represent land. Place ten ice cubes on top of your land mass in the Antarctic tub and another ten in the centre of the Arctic tub. With ice cubes in place, fill both tubs with water and measure to ensure they begin at the same depth. Leave the tubs until all ice has melted. When you return the Antarctica tub should have deeper water than the Arctic. This is because 'sea-ice' (eg. ice bergs) and 'land-ice' (eg. glaciers and ice shelves or sheets) have different effects on water levels. Melt from the former doesn't cause a rise because it is simple a change of state, whilst the latter does because additional water is added to the ocean. Whilst the Arctic is dominated by sea-ice (no land beneath) Antarctica is dominated by land-ice.

Cubs Brownies Scouts Guides



4. POLAR TUB EXPERIMENT

Similar to the previous activity, you will need a tub of water (eg. baking dish) with a large ice-block floating inside. You could perhaps use an empty margarine or yoghurt tub to create your ice-block. Make model penguins and polar bears from clay, lego, recycled materials or other building supplies and place your characters on top of the ice. Observe over time as the ice melts and they slowly lose their habitat to ice melt. You could also measure how the water level rises over time.

Beavers Rainbows Cubs Brownies

ICEBERG BALANCE GAME

Lay out a sheet of tarpaulin to represent sea-ice and have all participants (aka emperor penguins!) begin standing on it. When told to go fishing, all penguins must leave the ice so that the leader can fold the tarp to make it smaller. When the penguins return they now have less space to move on the ice. After several rounds, they may have to work together to ensure they all fit on the tarp and eventually some just won't make it! This replicates the issues emperor penguins are having with sea-ice melt in Antarctica.

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5. PENGUIN DASH GAME

Similar to the 'fruit salad' game, all participants set up by sitting on a chair in a circle, facing inwards. Each is a penguin on an 'iceberg' chair. The leader goes around the circle, labelling each child after one of three penguin species (eg. rockhopper, gentoo, emperor). To begin the game the leader shouts the name of a penguin species and all corresponding players/penguins must get up and swap seats/icebergs with another of their species. This continues but with each round, a chair is removed to represent ice melt and one penguin will be 'out'. This demonstrates how penguins are losing much of their habitat to ice melt. At the end of the game each species will have two winners (6 winners in total).

Beavers Rainbows Cubs Brownies Scouts Guides



Mining & Drilling

Fossil fuels are coal, oil & gas. When extracted from the ground and burnt to produce usable energy, (eg. to drive cars, heat our homes, make products like plastic & concrete etc.) they emit greenhouse gases which contribute to global warming. This mining/drilling can also damage wildlife habitats.

6. COOKIE COAL MINING EDIBLE

Provide everyone with a cookie, which represents their piece of earth. Before mining takes place, the cookie is neat and clean and the animals that live here are happy. Using a toothpick, 'mine' your Earth to remove the chocolate chips (coal). This will destroy the cookie and possibly your toothpick too (you may need spares!). This demonstrates how the ground surface is broken apart by mining, which damages animal habitats.

Beavers Rainbows Cubs Brownies



7. MAKE AN OIL SPILL EXPERIMENT

Fill a tub/bowl with water; this is your ocean. Next, decorate this habitat with rocks, sticks, feathers, shells, toy fish etc. and then add your oil spill by glugging cooking oil into the bowl. Observe what happens to the water and feathers/fur if you included these. You will see how birds and furry mammals get clogged with oil, preventing them from swimming or flying easily; threatening their survival. To prove how difficult it is to clean spills, experiment with different cleaning methods (eg. cotton balls, spoons, paper towels). It is nearly impossible (unless you use dishwashing liquid to absorb the oil)!

Beavers Rainbows Cubs Brownies Scouts Guides Explorers Rangers

Ocean Acidification

As we burn more fossil fuels and cut down more trees, a greater number of greenhouse gases (such as carbon dioxide) are emitted into the atmosphere. A lesser known fact however, is that oceans also absorb carbon dioxide, which can cause ocean acidification. This can cause damage to the shells and skeletons of the ocean's smallest creatures; the creatures that so many other animals rely on for food.

8. BAKING SODA BALLOON

EXPERIMENT

Use a teaspoon or funnel to pour baking soda into a deflated balloon and then pour approx. 4cm of vinegar into a plastic bottle. Cover the lid with the balloon and then carefully lift the balloon so that the baking soda it falls into the vinegar. As the baking soda reacts with the vinegar, the balloon will start to inflate! A similar reaction occurs between acidic ocean water (represented by the vinegar) and shells/skeletons of tiny fish (represented by the baking soda), which can be damaged and destroyed by the chemicals in the water.

Beavers Rainbows Cubs Brownies Scouts Guides Explorers Rangers



9. NOT FINDING NEMO GAME

Ocean acidification is thought to damage a clown fish's sense of smell, which they usually use to navigate ocean currents and avoid predators. To simulate this, have all players (aka clown fish) begin touching the wall and place a chair (aka their anemone) in a random location in the room. Have the clown fish run from the wall to their anemone. Repeat a second time, but have all clown fish blindfolded, to represent a loss of smell. This time the challenge will be much harder! Make the game more complex by adding in 'sharks' to capture the clownfish or set a time limit.

Beavers Rainbows Cubs Brownies Scouts Guides

10. SPARKLING WATER EXPERIMENT

Compare the taste of tap water and non-flavoured sparkling water. Sparkling water tastes different because carbon dioxide has been added to it to make it more acidic and 'sparkly'. This is an extreme version of acidification in our oceans.

Beavers Rainbows Cubs Brownies

11. THE FOOD CHAIN GAME

Large volumes of carbon dioxide in the ocean can damage krill eggs and reduce the number that hatch. Although not very 'pretty' creatures, krill are essential to the whole ocean food chain feeding animals like penguins!

All players begin this game as 'krill' (crawling with their stomachs on the floor). The aim is to move up the food chain to 'fish' (crawling on knees with hands together moving left and right as if swimming) then 'penguins' (stand and waddle) then 'whales' (you've won and stand at the edge of the room).

Players can move both up and down the food chain but their aim is to move up. To do so they must move around the room acting as their animal, until they find another individual of their species. The pair must then play rock, paper, scissors; the winner of which can progress up one level, whilst the loser moves down (unless they are already krill, in which case they remain krill). If for example, two waddling penguins played rock, paper scissors, the winner becomes a whale and stands at the edge of the room, whilst the loser downgrades to a fish once more and must now find another fish to play against. Eventually all players will become whales except one krill, one fish and one penguin.

Cubs Brownies Scouts Guides

Endangered Animals

A habitat is a place where an animal can live; where it finds food, mates and shelter (e.g. hedgerows, forests, sea ice, coral reefs and rivers). Animals all over the world are suffering as climate change alters their habitats. This is threatening many of our favourite creatures with extinction! Examples include: polar bears, sea turtles, orangutans, gorillas, tigers, elephants, rhinos, penguins, whales, pandas, wolves, brown bears, kangaroos, butterflies, frogs, sloths, dolphins etc.

12. SOAP TURTLES CRAFT

The sex of a sea turtle is determined by the temperature of the sand in which the eggs hatch. Global warming heating the sand could therefore result in an imbalance of significantly more females than males, threatening future populations. Have a go at carving your own sea turtle from a bar of soap using carving tools eg: knives, chopsticks, spoons, lolly sticks, toothpicks... (dependent on supervision, age and soap softness).



Scouts Guides Explorers Rangers

13. ANIMAL MASKS CRAFT

Use a paper plate or other recyclable materials to create a mask of your favourite endangered animal and share what you love about them and why they are under threat. Maybe you could also dress up like your animal and host a party?

Beavers Rainbows Cubs Brownies

14. FOOD CHAIN ON A PLATE EDIBLE

The food chain describes how animals eat one another. If climate change causes certain species of animal or plant to suffer or become extinct, then other animals in the chain are also affected. The Antarctic food chain (phytoplankton > krill > fish > penguins > killer whales) is one example of this because krill are threatened by changes in water temperature. If krill numbers decrease, their predators (animals which eat them) will go hungry and their prey (organisms which they eat) increase in number as fewer are being taken. Research your own food chain threatened by climate change and recreate it on a plate!

Beavers Rainbows Cubs Brownies Scouts Guides

15. HABITATS GAME

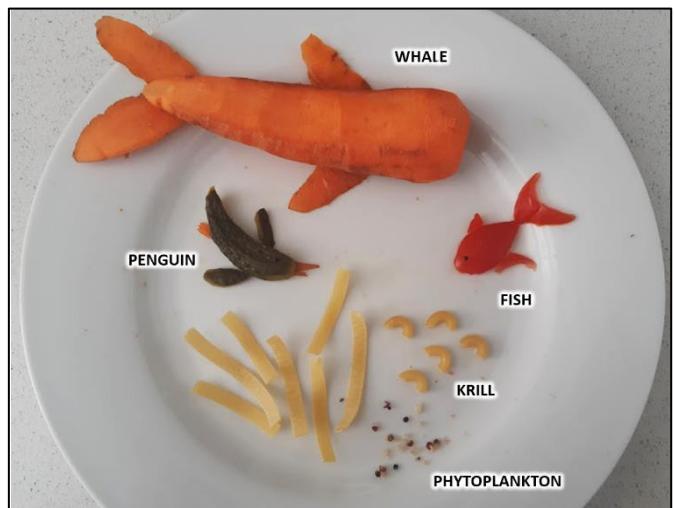
'Habitats' are marked out with either chalk, newspaper or rope and each player assigns themselves an endangered animal. Players move around the room acting as their animal (eg. hopping like a frog). When the leader shouts 'habitat!' everyone jumps into a marked area, however, only 3 players are allowed inside each, else the space becomes overcrowded and there are too few resources for all individuals to survive. With each round, habitats are either removed, or reshaped to allow fewer animals inside them at once; hence modelling the effects of climate change. With each round more and more players will run out of space and become 'extinct'.

Beavers Rainbows Cubs Brownies

16. SCRAP PAPER CREATURES CRAFT COMPETITION

Challenge participants to rip paper into the shapes of endangered animals (examples listed above) without using pencils or scissors. Use scrap paper, newspaper or magazines that would otherwise be thrown away. To make the challenge competitive, have other players try to guess the animal.

Cubs Brownies Scouts Guides Explorers Rangers



Weather Patterns

Whilst 'climate' refers to the long-term average conditions, 'weather' refers to the day-to-day changes in precipitation (rain), temperature and wind in a location. Climate change is already causing more extreme weather, such as droughts, hurricanes and storms and it is also likely to alter normal patterns.

17. PLANT HAIRDRYER EXPERIMENT

To demonstrate the effects of extreme weather on nature, hold up a flower and blow it intensely with a hairdryer to simulate how the strong winds of a hurricane damage plants, trees and habitats.

Beavers Rainbows Cubs Brownies

18. WEATHER REPORT FOR THE FUTURE PRESENTATION

Research the effects of climate change on weather patterns, then produce your own weather forecast or news report for a date in the future. Maybe add special effects too, such as the sound of rain from a home-made rain stick or effect of wind from a hairdryer!

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19. TORNADO IN A JAR EXPERIMENT

Tornados and hurricanes will become much more frequent as climate change continues to warm the oceans. Make a glitter tornado in a jar! Fill your jar $\frac{3}{4}$ water, a squirt of washing up liquid and a teaspoon of fine glitter. Fit the lid and begin to swirl the jar until you see your tornado begin to form. Alternately, use a cup/glass rather than a jar, but be aware not to overfill and cause a flood!

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20. NORTH ATLANTIC DRIFT GAME

This is similar to the traditional flap-a-fish game which replicates the way that the North Atlantic Drift ocean and wind currents normally transport warm weather systems from the Caribbean across the Atlantic ocean and towards the UK. This current explains why the UK is so much warmer than Canada and Russia despite being at the same latitude. Climate change is likely to weaken or re-route this current so that the UK will not receive these warm weather systems and this could cool our climate significantly. To set up the game, players should design, draw and cut out an image of the sun from a sheet of paper or newspaper to represent the Caribbean climate. They can then roll up a newspaper into a baton/flapper to represent the wind/ocean currents. Place the paper suns on the floor (preferably flat & non-carpeted) at the 'Caribbean' start line ready to race. To play, challenge individuals or patrols to use only their batons/flappers to 'waft' their sun to the 'UK' finish line without touching it!

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TAKE ACTION

Some ideas to get you thinking about how you can help counter climate change...

- Take shorter showers (under 4mins)
- Reduce, reuse, recycle
- Go veggie or vegan
- Meat-free Monday
- Switch to cycling or public transport
- Switch off unnecessary lighting
- Insulate your home effectively
- Eat less palm oil (growing palm oil often causes deforestation)
- Use less water (it wastes energy)
- Avoid plastic
- Turn engine off in traffic or drive an electric car (or avoid driving!)
- Bring your own refill coffee mug to cafes
- Use tap not bottled water
- Turn off tap when brushing teeth
- Volunteer with conservation work
- Lower air-con or heating by 1°C or more (or turn it off!)
- Switch to a renewable energy provider
- Plant a tree (or many!)

Creative Solutions

This is a complicated issue, requiring a creative solution. Share your own creative ideas about how to tackle climate change.

1. EARTH DAY RESEARCH

Research Earth Day on 22nd April (see the website for more info) and decide how you could get involved in a creative way this year. Perhaps take the quiz, host a litter pick, run a meeting using no electricity or take pledges to act sustainably.

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2. CLIMATE SNAP GAME

Each participant writes down one action that they could take in order to help prevent climate change. Ideas are then shared and those with duplicate or similar ideas SNAP and they are out. Continue with multiple rounds (if required) in order to find out who has the most creative ideas!

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3. SUSTAINABLE SNOWBALL FIGHT GAME

Each participant should write down, on a sheet of scrap paper, one action they could take to counter climate change. Next, scrunch up the paper and have a massive snowball fight! After a few minutes, have the group stop and pick up their nearest snowball to share what is written on each. To extend the activity, have the most impractical or least effective methods sit down first, followed by the most expensive, or difficult. Eventually you will be left with an agreed array of easy, cheap techniques. Please recycle the paper afterwards!

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Go Plastic Free

Plastic is used in almost every part of our lives. Plastic litter is not the only threat to wildlife but its production and incineration (burning after use) can also release large amounts of greenhouse gases which contribute towards climate change. We must consider eco-friendly alternatives or reduce our demand for single-use plastics.

4. PLASTIC ALTERNATIVES

BRAINSTORMING

Fold a sheet of scrap paper in half. On the left, list five plastic products that you use everyday, then swap with your partner and on the right side, list non-plastic or lower-plastic alternatives. Examples include: swapping a plastic toothbrush for a bamboo toothbrush or replacing a plastic shopping bag with a reusable material bag.

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5. PLASTIC-FREE PUDDING EDIBLE

So much of our food comes in plastic packaging now, but it is possible to find some without and to encourage supermarkets to reduce unnecessary packaging. Challenge each patrol to cook the best plastic-free or low-plastic pudding, using ingredients wrapped in minimal plastic as possible. These could include fruit salads or cakes.

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6. LITTER PICK ACTIVE

In order to understand the scale of plastic that we produce and therefore just how much energy is used to create it, go on a litter pick of your local area, focusing on plastic waste. Perhaps race to see who can gather the most but be aware of dangers eg. sharp objects.

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Energy

We use energy all the time, for example to switch on our lights and phones, to grow food and to travel. Most of our energy currently comes from burning fossil fuels but we can reduce greenhouse gas emissions by switching to renewable energy sources or using less energy in the first place!

7. PINWHEEL WIND TURBINE

CRAFT

When wind turbines rotate, they convert energy from the wind, into energy we can use at home. Create a pinwheel turbine and watch it spin!

*see appendix for instructions

Credit to: firstpallet.com

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8. LIGHTS OUT HOUR CHALLENGE

Earth Hour happens every year on a select day in March. From 8:30-9:30pm local time, lights all over the world are switched off in support of our environment. Lighting requires energy, which is usually sourced from fossil fuels, and therefore switching them off calls attention to the issue of climate change. Host a unit/troop meeting with lights off for a whole hour. Perhaps play games by torchlight or candlelight for example: arty photography with lights, knot tying in the dark, grandma's footsteps with a torch, morse code with lights, hide and seek or sardines, charades by candlelight or host a shadow puppet show.

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Recycling

'Stuff' that we buy requires energy in order to be made. This energy often comes from fossil fuels, which release greenhouse gases when burnt. Recycling our 'stuff' can mean fewer gases are released to create the new 'thing'. It also reduces the rubbish in landfill or incinerators (which burn rubbish), preventing the release of further harmful gases.

9. CHARITY SHOP SCAVENGER HUNT COMPETITION

Buying from charity shops is a method of recycling because it reuses products so that new ones don't need to be made. Get permission from the owner, donate to their cause as a thank you and discover the treasures within your local shop in a competitive scavenger hunt. Challenges could include finding: the cheapest, most expensive or weirdest items, items totalling exactly £4.23, the best bargain, something with an animal on it, the best outfit for your leader or patrol leader (and try it on!), a full outfit with every item the same colour, the highest heals, the biggest shoes, something good for the planet, something sparkly, the longest book, something which smells nice, the best hat, something with a use-by date, the heaviest item, the best selfie with the shopkeeper, the oldest receipt, their favourite item etc.

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10. RECYCLE RELAY GAME

Layout a line of (cleaned) recyclable rubbish to represent litter on a beach. Challenge each patrol to a relay race to place the most items in the correct recycling bins according to the rules in your local area.

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11. TOILET ROLL CONSTRUCTIONS CRAFT

Put used, clean toilet rolls to good use by creating a life-size construction, for example a giant castle, spaceship, skeleton or giant marble run!

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12. RECYCLED FASHION CRAFT

Use old sheets, plastic bags, crisp packets, newspapers etc. to dress up one member of your patrol for the catwalk! Aim to use minimal sellotape and recycle after use.

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13. RECYCLED CREATURES

Use old brick-a-brack and recycled rubbish to recreate a piece of the natural world. You could for example, use multi-coloured bottle caps to create the shell of a turtle, or a bag of old marbles to create an army of clay snails with colourful shells or a dozen toilet rolls to build a whole ecosystem of toilet-roll animals!

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14. TIN CAN LANTERN CRAFT

Use an empty, cleaned tin can, fill it with water and freeze. On a piece of paper cut to size, design your lantern pattern and wrap this around your frozen can like a label. Next, use a hammer and nail to punch holes in the metal, following the design on the paper. The ice should prevent the can from misshaping. Once finished remove the paper and defrost. You now have a little lantern for a candle!

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Wildlife & Habitats

Lots of wildlife and their habitats (the places where they live) are being disrupted by the changes caused by increasing greenhouse gas emissions. But we can do our bit to protect them.

15. BUILD A BEE B&B CRAFT

Climate change is an issue for bees because there is an increase likelihood of disease and their habitats are changing faster than they can adapt (for example, flowers are blooming at the wrong time for bees to feed on their pollen). Build a bee B&B to help them on their way! Cut off the bottom and top of a plastic bottle (preferably 2ltrs) then stuff with bamboo canes. If you saw the bamboo down to size, try to sand paper the ends to make them less sharp. If you don't have bamboo, use paper straws or rolled up sheets of card instead. If you can, fill in the gaps with sticks so that it is all packed tight. Hang up your home somewhere sunny but sheltered from the rain and ensure it is at least 1 metre off of the ground and with no vegetation obscuring entrances.

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16. PLANT A TREE (OR MANY) GARDENING

Trees are good for our planet in many ways. Not only are they homes/habitats to many animals, from insects to birds to monkeys, but they also absorb carbon dioxide, which is the most abundant greenhouse gas in our atmosphere. Human beings cut down (deforest) a lot of trees for our own use whether that is lighting fires or timber for construction. Wood is a sustainable product (which can be replaced) but only if we replant so that future generations can also benefit from the positive effects of trees! Plant your own, or preferably multiple trees, to replace those which have been deforested.

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17. BIRD FEEDER CRAFT

Climate change is affecting many garden birds, for example food availability and timing as well as migration and breeding patterns. Help them on their way by making your own garden feeder. Melt suet/lard in a pan and then combine with a dry mix of ingredients such as: seeds, raisins, peanuts, oats, bread/cake crumbs etc. The ratio should be approximately 1/3 lard/suet to 2/3 dry mixture. Whilst the mixture is still warm it can be stuffed into a yoghurt pot or around a pine cone then placed in the fridge to set (preferably overnight) before hanging up. Remember that it is easiest to attach your string to the pot/pine cone before stuffing.

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Food

The food we eat can have a massive impact on the environment as a result of transporting it, packaging it or because of the nature of the food itself.

18. AIRMILES COOKING CHALLENGE EDIBLE

The food in our supermarket comes from all over the world. Much of it is flown into our country by aeroplane, but this method of transport emits huge quantities of greenhouse gases. Buying local food can therefore be better for the planet. Give each patrol a budget and send them into a supermarket. Challenge them to buy ingredients for and then cook, the tastiest meal, desert, soup or fruit salad that has the lowest possible air miles.

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19. VEGAN MILK EDIBLE

Whether you become fully vegan or simply incorporate it into your current diet, the benefits for the planet will be significant. Meat production requires vast amounts of energy and animals are far less energy efficient than plants, hence more greenhouse gases are released to produce the food. Try your hand with a vegan recipe for example cashew milk as an alternative to dairy milk. To produce one small cup of cashew milk soak $\frac{1}{2}$ cup of cashew nuts in 2 cups of water for at least 1-2 hours. Then drain the liquid, rinse, add 1 cup of plain water to the nuts and blend (slowly adjusting to a faster setting as you go). Add optional extras such as maple syrup, honey, vanilla extract, salt, cinnamon, dates etc. then finishing blending until completely smooth. Strain through a sieve or cloth if you are left with bits inside. When finished you could try making other types of milk or buy a selection from a supermarket and taste them eg. almond, oat, rice, soy, hazelnut, hemp.

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Transport

Methods of transport such as aeroplanes, cars and trains require burning harmful fossil fuels as a source of energy. The good news is that we do have eco-friendly alternatives, for example: using public transport produces fewer gases per person and cycling, walking or driving electric vehicles do not require fossil fuels.

20. BIKE RIDE ACTIVE

Head out on a bike ride, or learn to ride a bike, and appreciate the benefits of this mode of transport.

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Shout About It

Although taking personal actions can contribute towards tackling climate change, it is much more effective if you get others to follow your lead. Try and inspire friends, family and your communities such as those at school, work, other Scout/Guide groups, church or sports clubs.

21. WRITE TO YOUR MP & SIGN A PETITION ACTION

MPs (members of parliament) represent people in their area to share their concerns and priorities with the central UK Parliament. You can write to your MP about any problems affecting people in your local community or to ask them to support a campaign you feel strongly about. Write to your MP about your concerns regarding climate change. Perhaps relate your letter specifically to how climate change will impact your local area, or what could be done locally to tackle the issue. Alternately, you could create a petition or browse the Parliament petitions website. If you sign any petitions, ensure to thoroughly research what you are signing for before committing.

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22. POSTER, LEAFLET, GUIDE CRAFT

Create leaflets, posters etc. to teach others what you have learnt and what they can do to support the cause. Display these or give them to friends, family or others in your community.

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23. FUNDRAISE ACTION

Fundraise for a charity that looks after our planet for example: WWF, Friends of the Earth, the Rainforest Foundation, the Woodland Trust, GreenPeace etc. Methods could include cake, craft or bric-a-brac sale, attending a boot-fair, a sponsored challenge etc.

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24. BOYCOTTING ACTION

Become a responsible consumer and join thousands of other people boycotting harmful, unethical clothing or food. For example, boycott meat and try veganism or vegetarianism or boycott fast fashion buy shopping in charity shops. The more people that work together the greater the beneficial effects will be.

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Make a Pledge

The story doesn't end here. Take action outside of your unit/troop meetings too.

25. PLEDGE ACTION

Set yourself an individual goal, task or pledge which will contribute towards reducing the negative effects of climate change. This should be achievable over several days, weeks, months or even years and it should occur outside of your Scout/Guide meetings. The pledge can be big or small, but it is important to understand that every single action matters. Examples include: walk to Scouts/Guides for a week, pick up one piece of litter every day, turn off the tap when brushing your teeth etc. These pledges could even be written on green handprints and made to look like an 'eco-tree' or they could be displayed in another way at your meeting place.

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If your young people have questions about climate change, the challenge or anything else please email me LUCY@REQUEST2021.ORG.UK

APPENDIX

SUN SMORES

Equipment:

For your oven...

- A box (preferably a shallow pizza box)
- Aluminium foil (reflects the sunlight)
- Clingfilm (traps the heat in the box)
- Glue and tape
- Stick or skewer
- Ruler
- Knife (ensure a responsible adult is on scene when this is in use)
- Black paper (this helps absorb the heat)

For your smore...

- Digestives
- Chocolate squares
- Marshmallows: mini ones melt faster!

Adapted from: Sick Science!



Don't forget to recycle equipment after use!

Instructions:

1. On the top of the box, measure and draw a square approx. 5cm from the edge of the box. Cut along the front and two sides of the square using a knife. Don't cut along the hinge side but you may need to score the cardboard slightly here to allow the lid to lift. This square becomes a flap that lifts up like a lid.



2. Glue foil to the entire inside of the box and bottom of the lid (shiny side out).



3. Measure and cut a piece of black paper that's 2-5 cm smaller than the bottom of the box. Centre the paper on the foil base and hold it in place using the clear tape.

4. Open the lid and load your oven with smores (digestive biscuits loaded with small chocolate pieces and marshmallows). Keep the smores spread out on the black paper in your oven.

5. Open the lid again and tape cling film tightly across the opening of the box. The lid should still be able to move freely.

6. Use a skewer or stick to prop open the lid and place your oven in a sunny location so that the sunshine will reflect off of the foil lid and into the box. You'll have to leave it for a while but remember to keep checking on your oven.

This is a mini version of the Earth; the sun reflects off of the foil like it reflects off the surface of the Earth. The cling film acts like a layer of greenhouse gases around the Earth, trapping the heat inside the box and causing everything inside to melt.



CLIMATE CHANGE IS COMING

Instructions: The whole group starts in the middle. The leader shouts a command and players have to act accordingly. Each time a command is shouted, one player (either the slowest or least enthusiastic) is 'out' until you have a winner.

Command!	Action!	How a player gets 'out'
Arctic/North Pole	Run to one side of the room	The last person to that side of the room is out
Antarctic/South Pole	Run to the other side of the room	The last person to that side of the room is out
Drive your cars	Sit on the floor with your feet out straight and hands out in front of you pretending to turn a steering wheel (like you're driving in a car!)	The last person so get into position is out
Cut down the trees	Get into pairs, one person pretend to chop down the tree, the other pretend to be the toppling tree	The person who is not in a pair or whose acting is not convincing enough is out
Farming your cows	Drop onto hands and knees and moo like a cow	The slowest or least convincing cow acting/mooing is out!
Make your cement	Spin around and around on the spot like a cement mixer	The slowest is out. Anyone who falls over is out. Anyone who bumps into anyone else is out.
Climate Change is coming!	The children run to line up in front of the leader	The child at the end of the line is out- they were too slow to act against climate change

Extra information: How do each of these cause climate change?:

- Driving cars- Cars/vehicles release invisible greenhouse gases (e.g. carbon dioxide). These gases go up into the atmosphere and stay there. They act as a blanket or greenhouse around the earth, warming it up and preventing heat escaping.
- Cutting down trees- Trees absorb carbon dioxide. Cutting them down releases all this carbon dioxide back into the atmosphere and prevents that which is already in the atmosphere from being absorbed in the future.
- Farming cows- Trees are cut down to make space for cattle farms and also, when cows fart they release lots of methane, another very strong greenhouse gas!
- Making cement- The reaction which is undertaken in the making of cement releases vast quantities of carbon dioxide.

(If they're younger players, don't worry about all this extra information, just focus on the causes e.g. 'driving cars causes climate change' without the scency explanation.)

TRUE OR FALSE QUIZ

Adjust questions to suit age groups and make questions harder as you go.

Easy questions

1. The sun makes you warm – TRUE! (the sun's warmth travels so far through space that it reaches us!)
2. Climate change affects our weather – TRUE (climate change will change our weather)
3. Climate change only affects polar bears and penguins – FALSE (it will affect all animals and people)
4. Driving cars causes climate change – TRUE (although it's not the only cause)
5. Climate change makes the Earth get colder – FALSE (the Earth is getting warmer on average)
6. Climate change is good for the planet – FALSE (some effects are positive but it's mostly bad news because it is causing such drastic changes)

Medium questions

1. Earth is hotter than the sun – FALSE (sun heats Earth)
2. Greenhouse gases are visible – FALSE (they are invisible but exist in the atmosphere above us)
3. Greenhouse gases work like a blanket to keep Earth warm – TRUE (they stop heat escaping into space)
4. Climate is affected by how much rain we get and how warm we are – TRUE
5. At night, the Earth gets as cold as space – FALSE (our atmosphere works like a blanket to trap the heat next to the Earth and stop it getting as cold as space)
6. The Earth gets all its heat from volcanoes – FALSE (the Earth is warmed by the sun however, volcanic emissions can contribute towards thickening the greenhouse gas layer)

Hard questions

1. Black surfaces reflect the sun's energy whilst white surfaces absorb the sun's energy – FALSE (it's the other way around! - this is called the albedo effect and it means that white icy places are colder than dark forest places)
2. Weather and climate are the same – FALSE (weather is the everyday change in rainfall and temperature, whilst climate is the long-term average of rainfall and temperature)
3. The Earth's climate has changed before in the past – TRUE (but this was due to natural causes like volcanic eruptions or changes in the sun's energy, modern day climate change is caused by humans)
4. The ocean absorbs lots of the greenhouse gases which get released – TRUE (this causes ocean acidification)

7. There are things I can do to stop climate change – TRUE (you will find out later)
8. Turning on all the lights in my house will help stop climate change – FALSE (turning off lights helps to prevent climate change)
9. 'De-treeing' is a word used to describe the cutting down on millions of trees all over the world – FALSE (it's actually called deforestation)
10. Climate change is not going to affect me – FALSE (we will all be – and are currently all being- affected by climate change either directly or indirectly)

7. Cutting down trees makes climate change worse – TRUE (trees absorb carbon dioxide, a greenhouse gas, so less trees means more carbon dioxide is in the air and more heat is trapped in the Earth)
8. Recycling causes climate change – FALSE (recycling helps prevent climate change)
9. Climate change means it might rain more than normal in winter and be sunnier in the summer – TRUE (it causes more extreme weather)
10. If there are more people living on the planet, climate change will get worse – TRUE (probably!!! unless these people live eco-friendly lifestyles e.g. recycling more)
11. Becoming vegetarian causes climate change – FALSE (eating meat is bad for climate change so becoming vegetarian is actually a good thing)

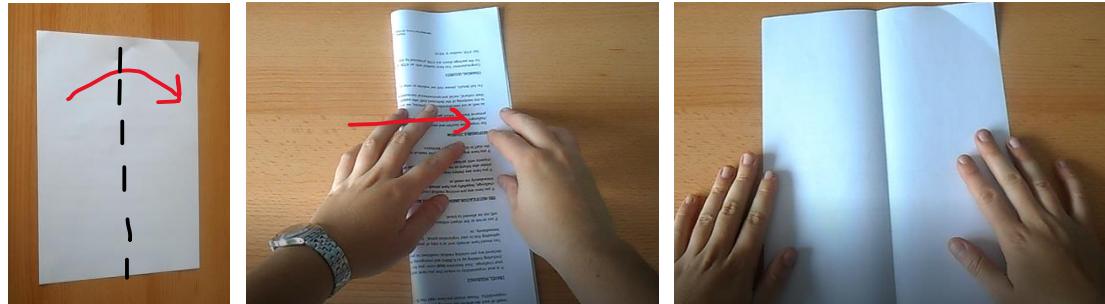
5. Global food waste produces more greenhouse gases than the entire country of the UK – TRUE (if food waste was a country, it would be the third largest greenhouse gas emitter after the US and China, according to 'earthday.org', this is because of the wasted energy used to grow and transport the food)
6. If the cement industry were a country, it would be the twentieth largest greenhouse gas emitter in the world – FALSE (it would be the third largest emitter!)
7. Carbon dioxide is the only greenhouse gas – FALSE (it is the most abundant gas but others exist too, most of which are actually much stronger and have a greater global warming potential eg. methane and nitrous oxide)
8. Of all transport, cars emit the most greenhouse gases – FALSE (aeroplanes are much worse emitters!)

PAPER TRANSPORT

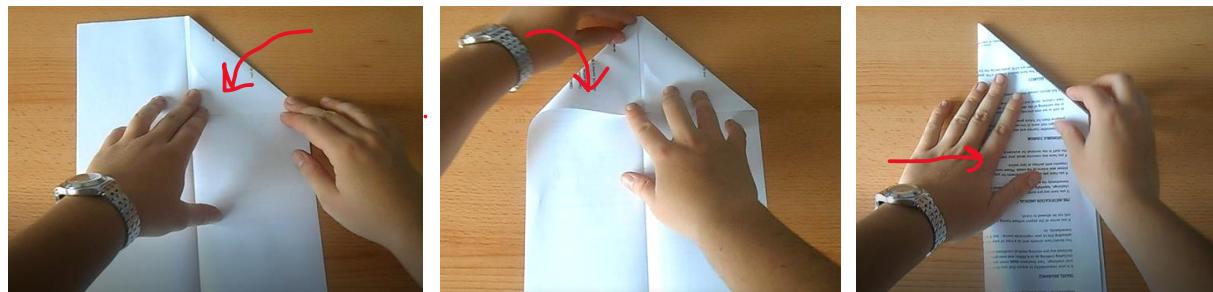
(Please use scrap paper to avoid waste!)

SIMPLE PAPER AEROPLANE

- 1) Fold in half long-ways and then unfold



- 2) Fold top corners in towards the centre and then fold entire sheet in half



- 3) Fold down the wings of your craft on both sides

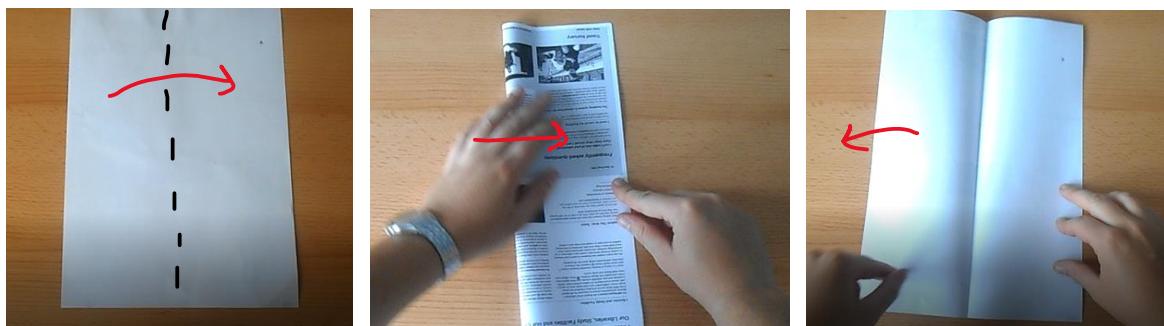


- 4) Ta dah!

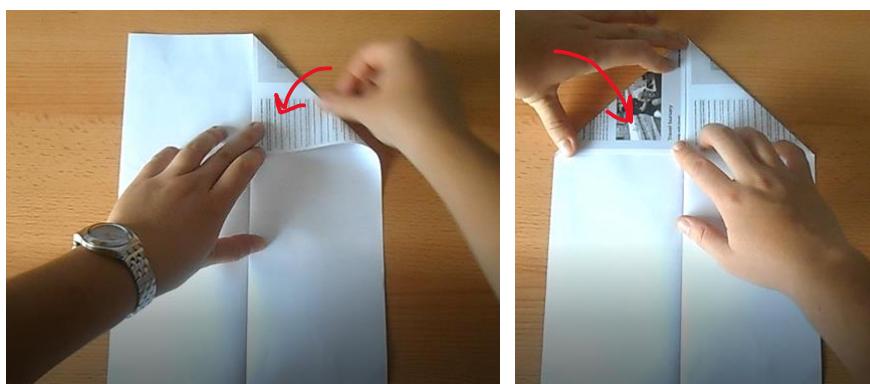


ADVANCED PAPER AEROPLANE

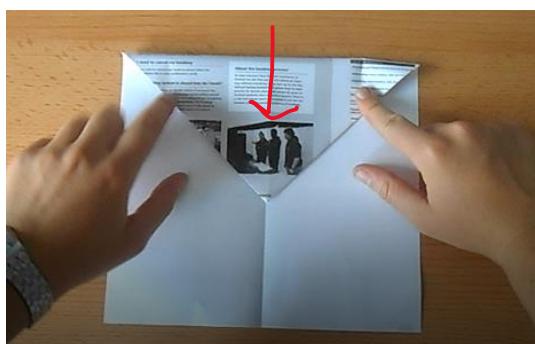
1) Fold in half long ways and unfold again



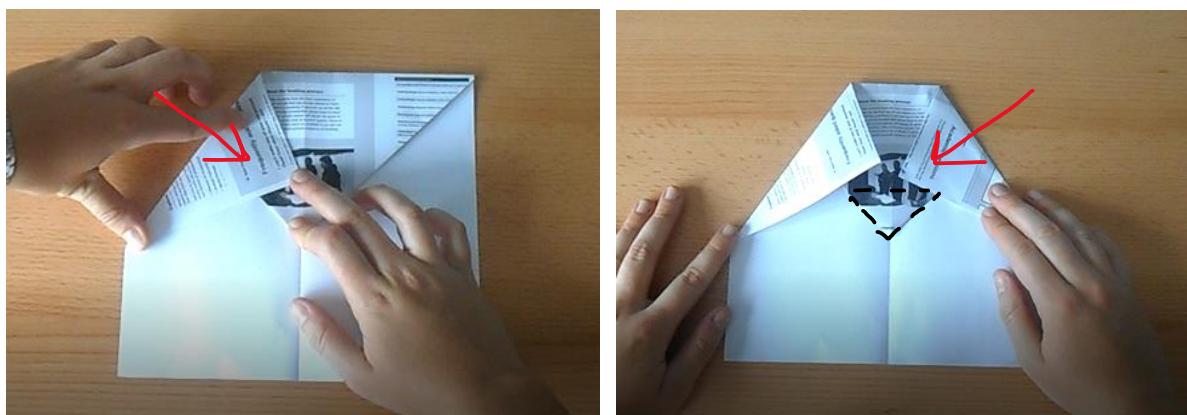
2) Fold in the top corners towards the centre crease



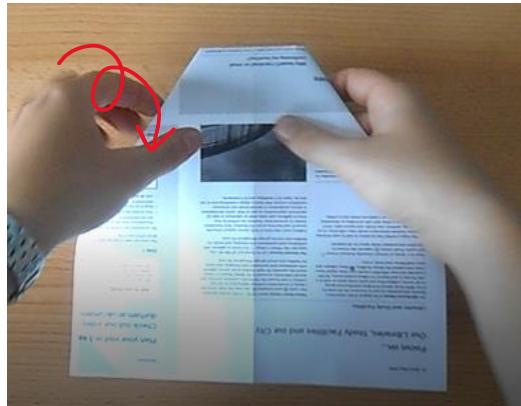
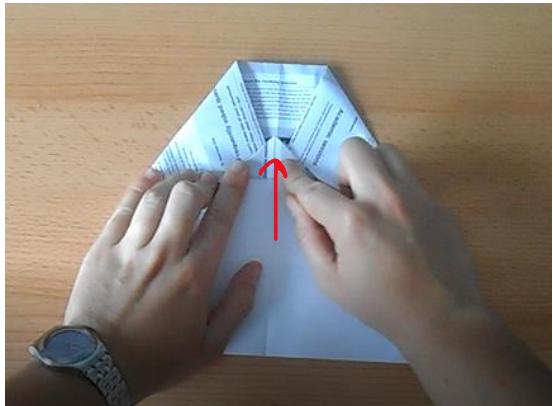
3) Fold down the point



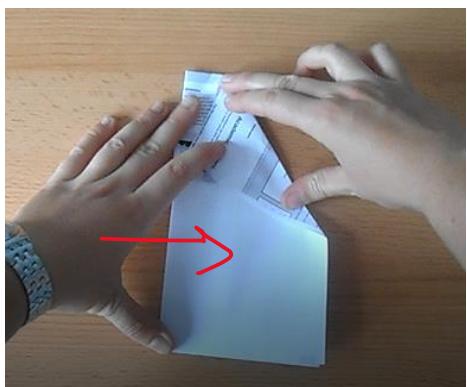
4) Fold top corners in again but in a different way so that the top of the page is not pointy



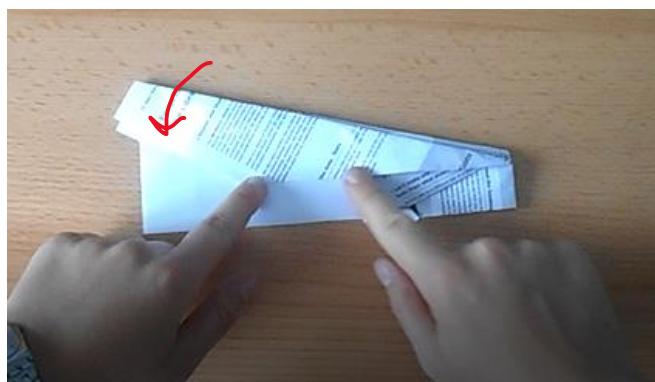
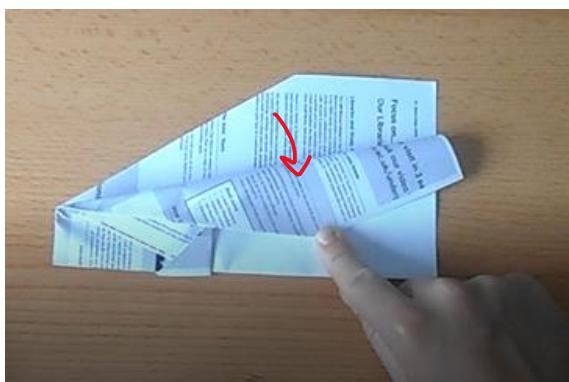
5) There should be a little triangle in the centre of the paper which can be folded upwards. The entire sheet can then be turned over



6) Fold sheet in half



7) Fold down the wings of your plane as seen below

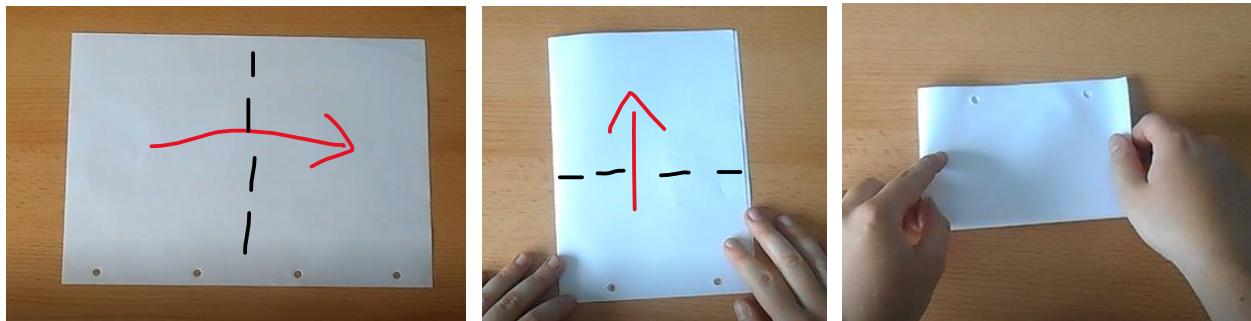


8) Ta dah!

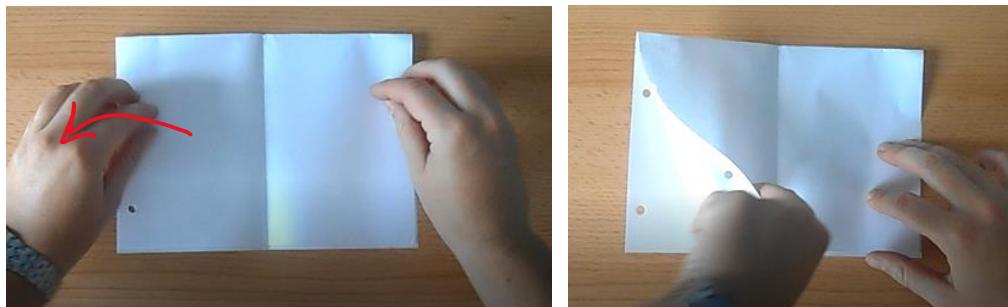


BOAT (ADVANCED)

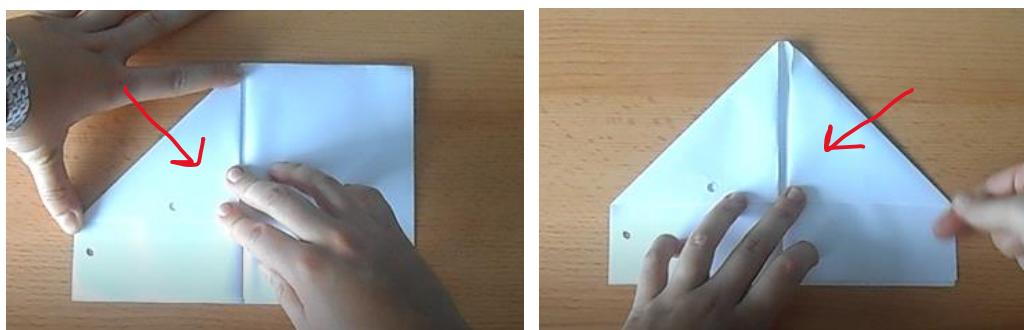
1) Fold the paper in half short-ways, then fold in half again (so it is a quarter of the original size)



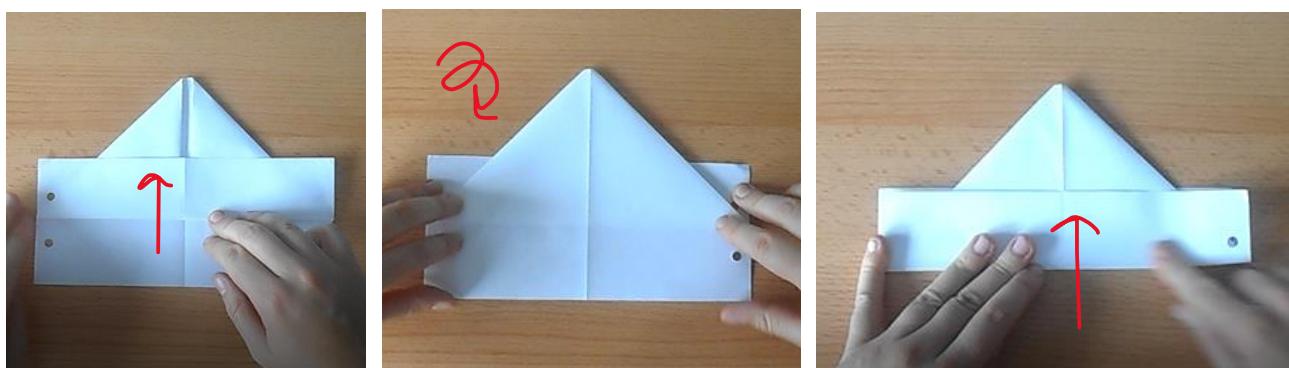
2) Unfold one step and ensure the remaining folded crease is at the top (as shown below)



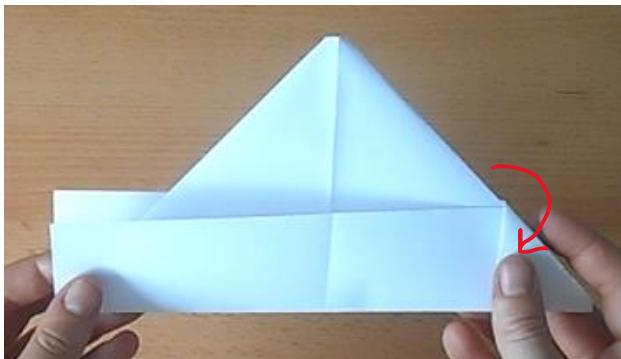
3) Fold the top right and left corners into the centre crease



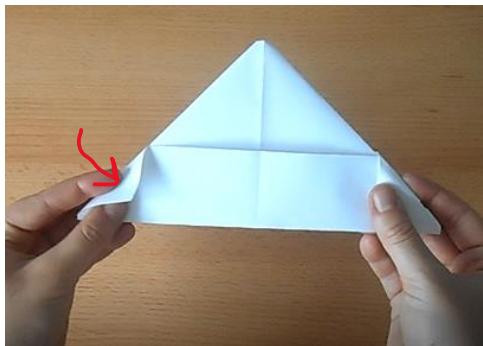
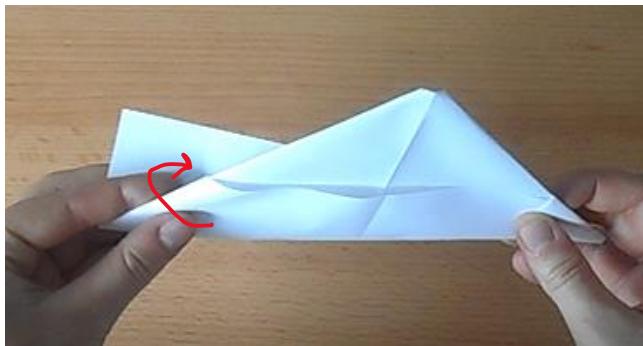
4) Fold up the bottom of the page then flip over and fold up the bottom on the other side



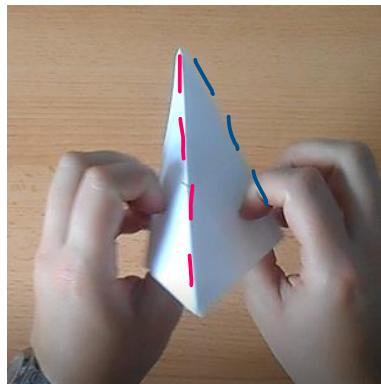
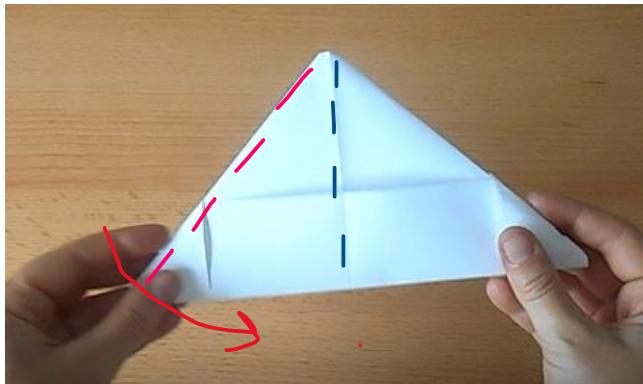
5) Fold in the top right corner of the rectangle at the front and then the one at the back



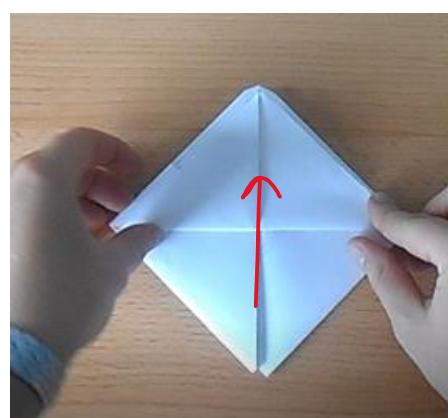
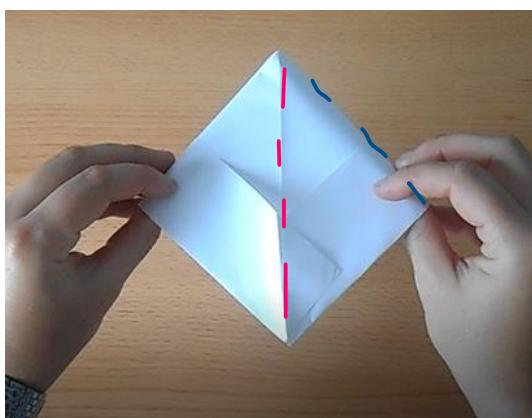
6) Repeat on the top left corner of the rectangle



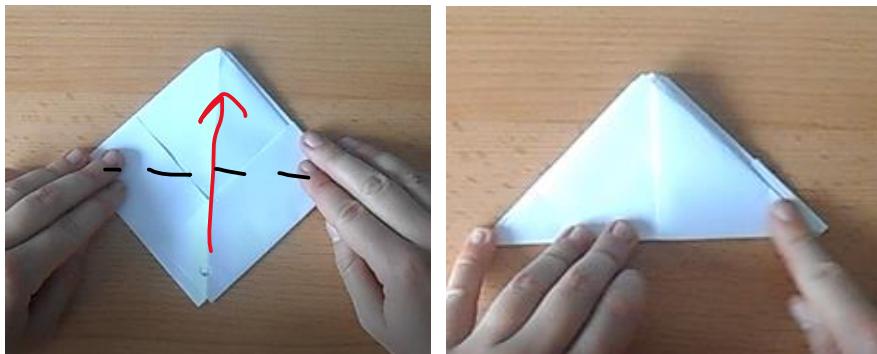
7) You now have a triangle. Turn the page and open up the triangle along the other crease



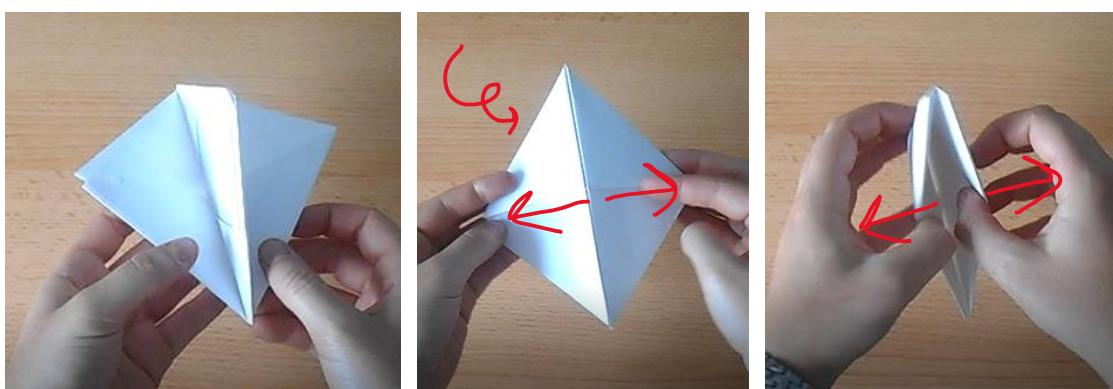
8) Fold the bottom corner up to the top



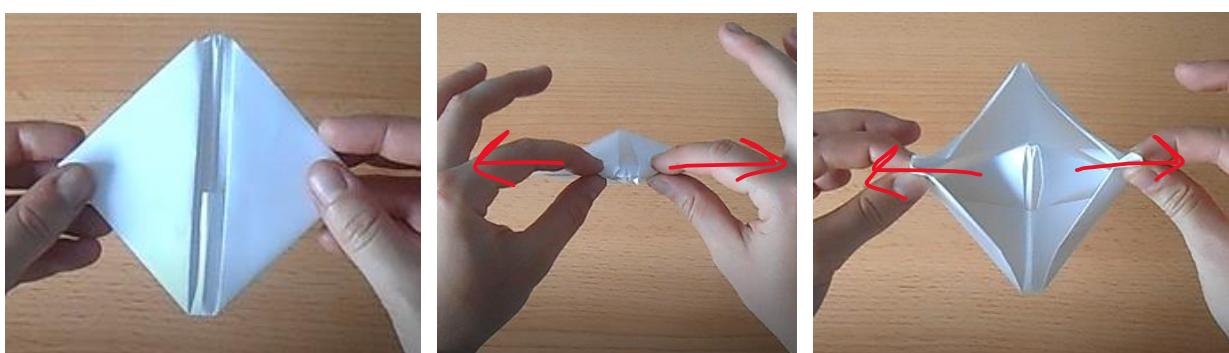
9) Turn page over and repeat, folding the bottom corner up to the top so that you are left with a little triangle



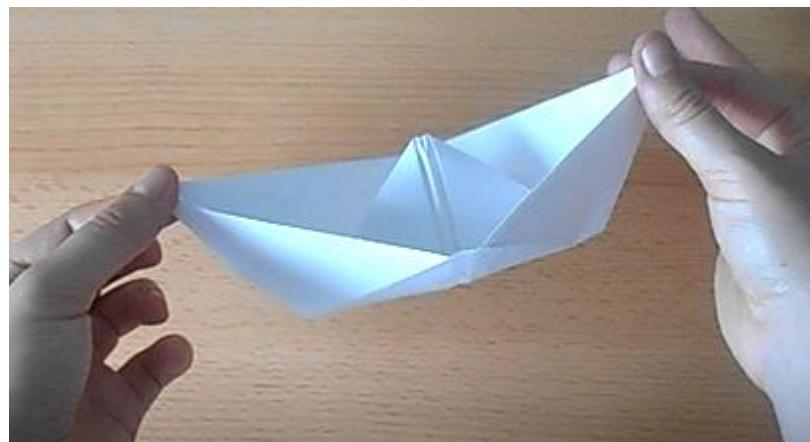
10) Your page should look like this. Now turn your triangle upside down and open up the pocket at the bottom, folding along the other creases as before



11) You should have a square looking like this. Pinch the top and pull apart...



12) ... until your boat appears!



ENERGY SCAVENGER HUNT

‘Energy’ is happening *all around us*. It is technically the ‘ability to do work’ but it is easier to understand what energy is by looking at examples. Energy can be converted into different types such as chemical energy, sound energy, kinetic energy (the movements of an object). The most important type of energy in relation to climate change is ‘thermal/heat energy’. The greenhouse gas effect is caused when heat energy, originally from the sun, is transported to the Earth but then cannot escape the atmosphere and begins to warm us up.

The hunt is on! Race to find the items listed below. All are linked to the causes of climate change and energy as explained in *italic* below.

- Find something green
Green is the colour associated with the environment.
- Find the hottest thing you can (be careful not to touch it if it’s too hot!)
Climate change is causing a general warming of the Earth’s atmosphere because heat energy from the sun is trapped by invisible greenhouse gases
- Find something that reflects sunlight
Energy from the sun reflects off of the Earth and also off of the invisible greenhouse gas layer. This is the reason that heat becomes trapped in the Earth’s atmosphere!
- Find your favourite cloud and draw an exact copy of it
Clouds can both reflect or absorb the sun’s energy, altering how much the atmosphere warms.
- Find something that melts
Heat energy trapped within the Earth is causing ice and snow at the Poles to melt.
- Find something that is powered by coal, oil or gas (fossil fuels)
These fossil fuels are burnt to release the energy that we use everyday in our lives, but they also release harmful greenhouse gases, which cause climate change!
- Find something that spins
Wind turbines rotate in order to convert energy from the wind into renewable energy we can use. This method does not emit harmful gases and therefore could replace fossil fuels.
- Find moving water
Moving water, for example rivers, can also be used to generate renewable energy, which we can use to replace fossil fuels.

PINWHEEL WIND TURBINE

Equipment:

- Paper & Scissors
- Glue stick
- Crayons or markers
- Pencil with eraser
- Push pin
- Bead or small button (optional)

Instructions:

1) Cut two identical squares of paper.



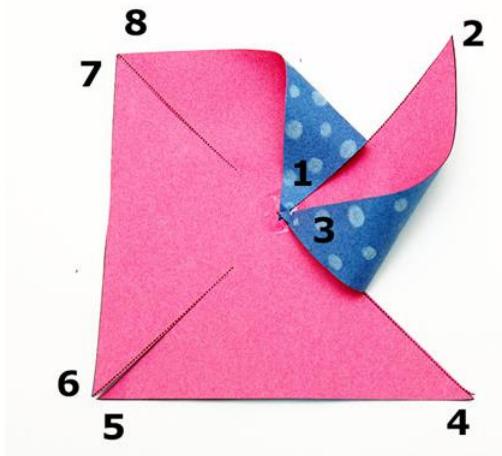
2) Decorate the squares on one side (optional).

3) Glue the undecorated sides of the squares together. Apply glue not just along the edges, but on the entire back area of the squares. Let it dry.

4) Cut four diagonal slits starting from the corners and ending halfway to the centre.

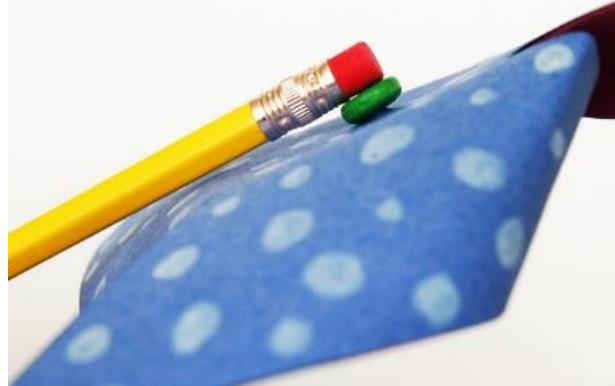
5) You now have 8 tips on your square. Take one and bring it to the centre of the square without creasing the paper. Either glue it in place or just hold it with your hand as you do the next steps.

6) Bring the remaining tips to the centre.



7) Insert a push pin at the centre. If you did not glue the ends of the tips in the previous steps, the push pin should hold all four tips together. Wiggle the push pin around to make the hole a bit larger.

8) Attach the pinwheel to a pencil by pushing the pin into the pencil's rubber. Don't push on too tight to allow the pinwheel to spin more freely.



9) For a better spin, put a button between the pinwheel and rubber to help it rotate more easily.

10) Finally, blow the edges of the pinwheel to make it spin. Loosen the pin if the blades don't rotate.



Credit: firstpallet.com

BADGE PERMISSIONS

Girlguiding UK

RE: Climate Change Badge

BM

Branding Matters <BrandingMatters@girlguiding.org.uk>

Mon 25/11/2019 08:40

You ↗

Hello Lucy,

Thank you for your email.

I can confirm your badge meets Girlguiding brand guidelines as it has the correct trefoil, localisation and badge name.

Any questions, feel free to email us.

Have a lovely day.

Many thanks,
Jenny
Jennifer Glancey

Girlguiding
17-19 Buckingham Palace Road
London
SW1W 0PT

Tel: 020 7834 6242

↶ ↲ → ...

Girlguiding Kent Weald

CP

RE: Climate Change Badge Branding Permission

Carolyn Parslow
Mon 28/10/2019 10:17

To: You

Hi Lucy,

That sounds a brilliant idea!

[REDACTED] for approval.
[REDACTED] Girlguiding UK as the guidelines for badges are very strict.
[REDACTED] you may need to use Girlguiding [REDACTED]

↶ ↲ → ..

There is a section on the Girlguiding website - listed I think as 'BADGES, GUIDING WEAR AND MERCHADISE, AND SIGNAGE GUIDELINES' which also gives further details.

Mary Saunders, our County Commissioner does not have any objections , subject of course to the approval of Vikki Goodridge.

Good luck & best wishes,
Carolyn

Girlguiding LaSER

Re: Badge permission

Microsoft Outlook 1 Sat 23/11/2019 23:03

MO Your message to visualband@... Sat 23/11/2019 23:03

Visual Brand Sat 23/11/2019 23:02

To: Lucy Morgan <lmorgan13@hotmail.co.uk>; visualband@girlguidinglaser.org.uk

Hi Lucy

Thanks for sending this through. I can confirm your badge meets Girlguiding branding guidelines.

All the best with the badge and exhibition

Vikki

Kent Scouts

DH Dean Harding <dean.harding@kentscouts.org.uk> Sat 23/11/2019 12:09 You

Hi Lucy
All looks ok
The badge might be a little large for a uniform badge
See what the others think

Dean

Dean Harding
County Commissioner – Kent Scouts

NE Scotland Scouts

From: rc@scouts-northeastscotland.org.uk <rc@scouts-northeastscotland.org.uk>
Sent: Wednesday, October 30, 2019 7:08:40 PM
To: MORGAN, LUCY C. (Student) <lucy.morgan@durham.ac.uk>
Subject: RE: Climate Change badge

Lucy,

I've no issues with the badge, happy to give my permission. Looks great to be honest. All the best with the fundraising.
Dougie Simmers
Regional Commissioner
North East Scotland Scout Region
Scottish Charity Number SC039551
www.scouts-northeastscotland.org.uk
We prepare young people with skills for life