OCTOBER / 01 - 05 / 2018

CLIMATE WEEK SCOTLAND

#ScotClimateWeek

# CLIMATE WEEK GLASGOW ACTIVITY PACK

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# Contents

Scotland is a world leader in climate change and as a nation we are well on the way in our transition towards a low carbon society. Climate Week is an amazing opportunity for all of us to showcase what we're doing about climate change and to plan for Scotland's future.



Glasgow Caledonian University

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## About:

This activity has been developed by Michael Mikulewicz of Glasgow Caledonian University Centre for Climate Justice. The maps have came from www.worldmapper.org/

If using the activity please tweet to

@GCUclimatejust

@worldmapper

@CaledonianNews

# Changing Maps

This exercise relies on cartograms – a specific kind of maps where statistical information is shown in diagrammatic form. Students are presented with three different maps of the world in sequence:

- Reference map – equirectangular projection, which shows countries in proportion to their territory (this is the kind of map we're normally used to)
- Carbon Emissions 2015 – showing countries according to their share of total Carbon Dioxide ($CO_2$) emissions in 2015
- Absolute Poverty 2016 – showing the proportion of the world's people living on less than or equal to $1.9 (around £1.50) a day in 2016.

The maps are found on the following pages, and can be downloaded from www.worldmapper.org

The three maps used together demonstrate climate injustice at international level.

Students will notice that, in most cases, countries that did not cause climate change are among the poorest in the world, and vice versa – the richest nations such as the United Kingdom and the United States have produced a lot of carbon emissions in the year 2015.

Educators should point out that the poorer countries are not prepared very well for climate change impacts, unlike most rich countries.

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# Changing Maps

## What to do:

1. Divide students into six groups and show them the Reference map (use a projector or print-outs).
2. Assign each group to a continent (Africa, Asia, Australia and Oceania, Europe, North America, South America).
3. (Optional) Have students identify a couple of the largest countries on each continent (students can point to the ones they already know, too).
4. Present the students with the Carbon Emissions 2015 map and ask the groups to guess what the map represents. Have each group comment on their highlighted countries/continents – did they grow bigger or smaller compared to the first map?
5. Present the students with the Absolute Poverty 2016 cartogram. Again, ask the groups to guess what the map represents. Have each group comment on their countries/continents – how do they compare to the previous map?

   Note: Most countries that are large on the Carbon Emissions map will be small on the Absolute Poverty map and vice versa, with two notable exceptions. India and China have a lot of people living in absolute poverty but their rapid industrialisation is generating a lot of carbon emissions, so they will be large in both cases.
6. Ask students about what they think after learning which countries/continents are causing climate change and which ones are the poorest. What can be done to fix this situation and make the world more climate-just? Discuss.

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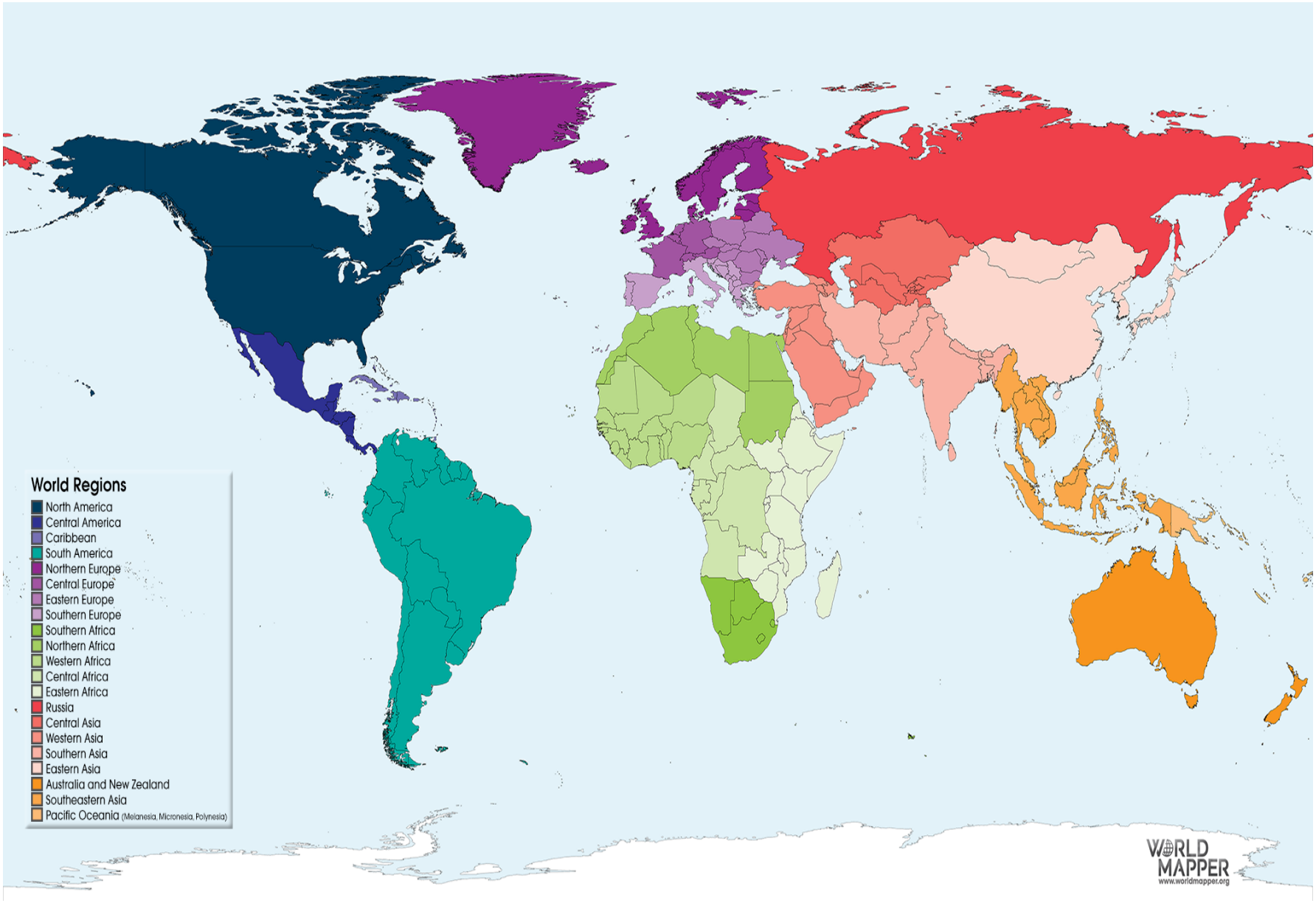
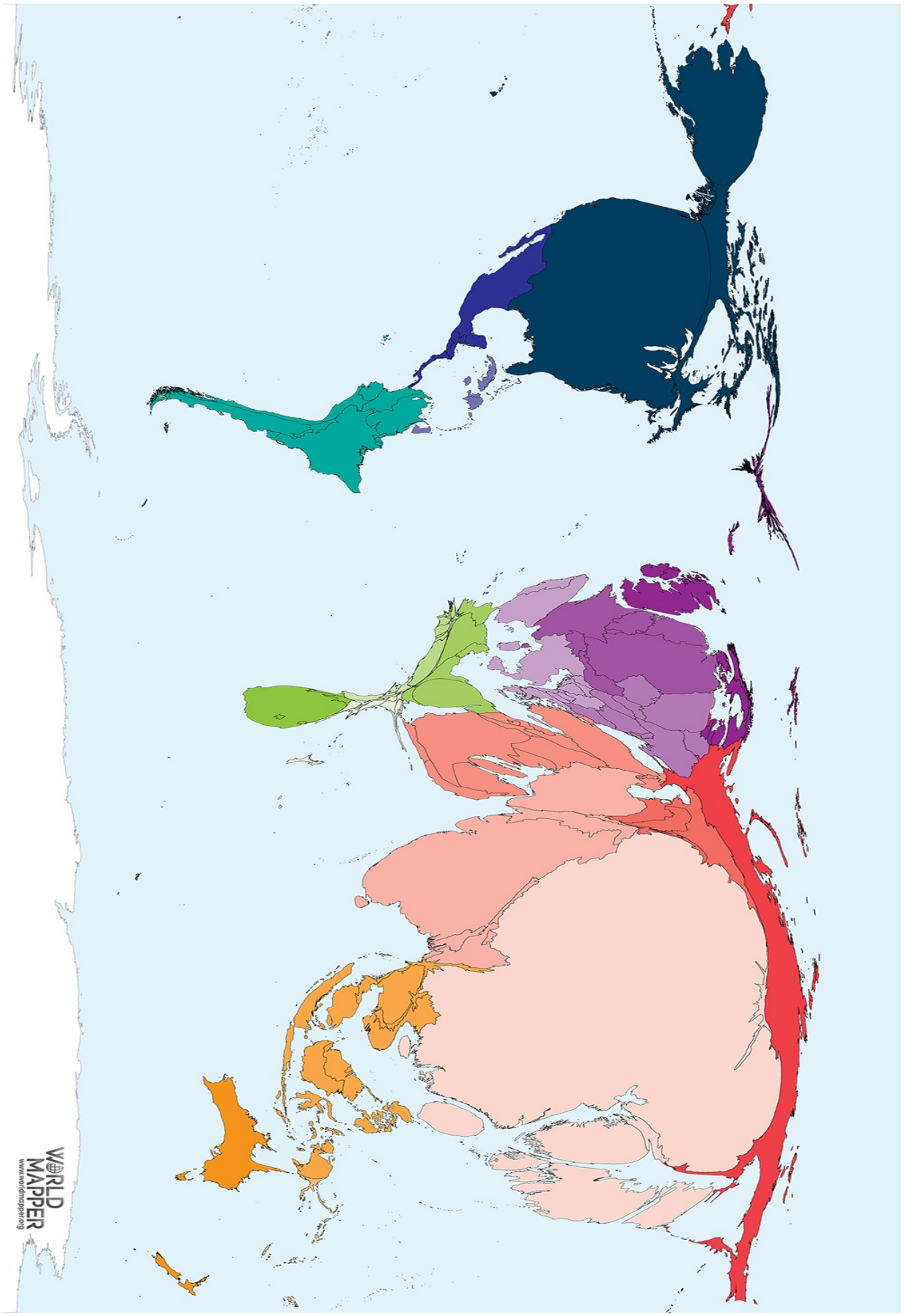
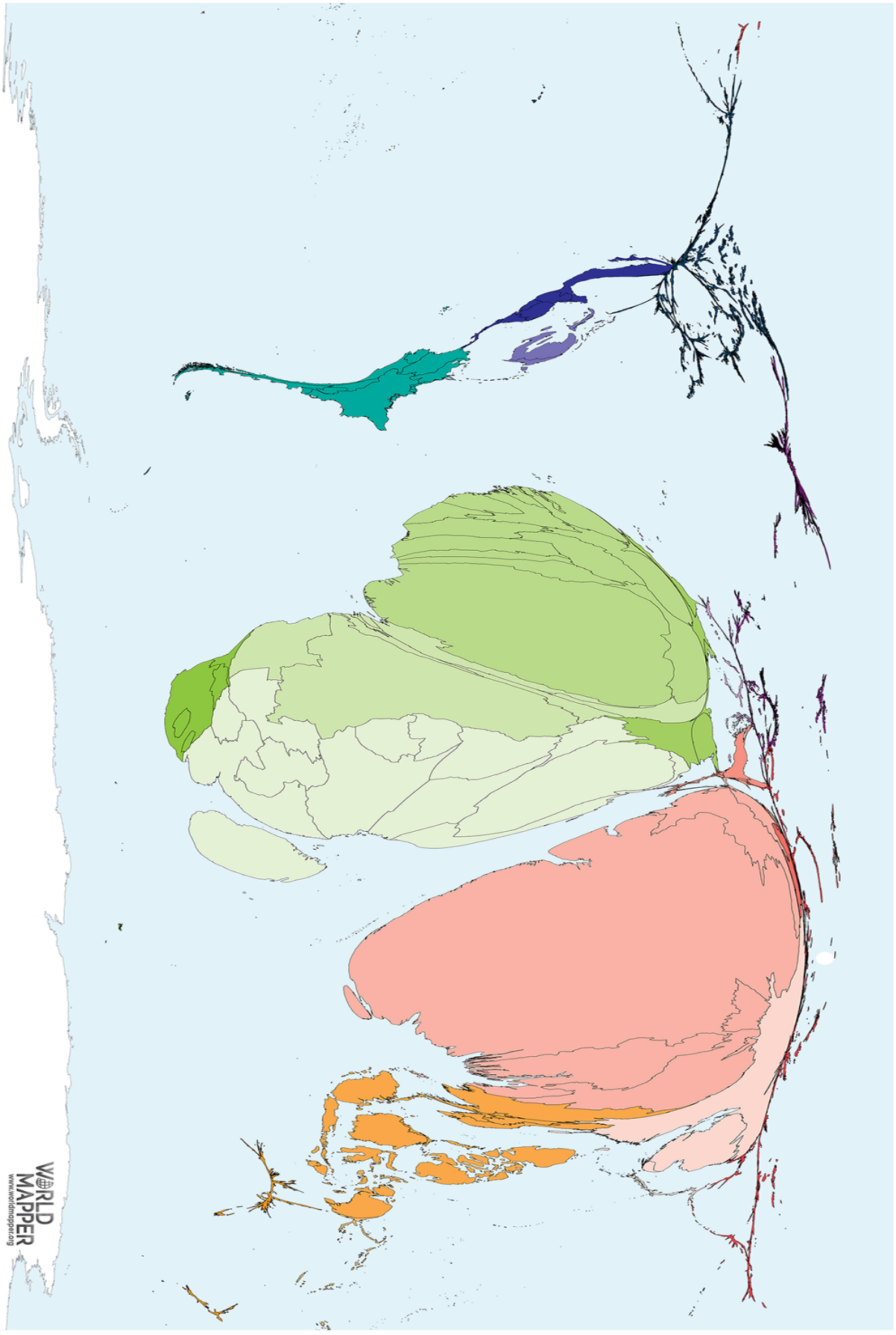



# 1. Reference Map

## 2. Carbon Emissions 2015 Map



# 3. Absolute Poverty 2016 Map



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You can find out more about the work of the centre at :

www.gcu.ac.uk/climatejustice/

@GCUclimatejust

# Climate Lottery

Different countries will experience climate change impacts in different ways – some will have it easier than others. In this game, students will pretend to be farmers living in countries that are vulnerable to such impacts to varying degrees. The game will thus allow students to learn about the inherent injustices of climate change.

**You will need:**

- Sheets of paper (any colour)
- Thread, rope or chalk (optional)
- Dice

**What to do**

1. Divide students into 3 equal groups (countries) and have each group create a name for their country (use these names throughout the game).
2. Scatter single sheets of paper in three different areas of the classroom (these are the three countries – you may create country boundaries with chalk, rope or thread) in such a way that one country has three times the sheets as students, one has double the sheets as students, and one has the number of students plus two sheets.
3. Have each student stand on one sheet within their countries and explain the rationale behind the game. Students are going to be farmers who rely on a stable weather to produce food in their fields (sheets). The climate is changing and is having negative impacts on how much food they produce. However, they may receive some help to make things a bit better, but it's all a lottery!
4. Have a random student roll the dice (switch to a different country after each try). Follow the attached key. If there are no unoccupied fields (sheets) within a given country to remove and no help is provided by the other two countries (see below), a student standing on an occupied sheet leaves the game and takes the sheet with them. Make sure to count the number of turns for later.

# Climate Lottery

| Result | Description | Effect |
|---|---|---|
| 1 | A major drought strikes your fields | Take 1 sheet away from each country |
| 2 | A major storm floods your fields | Take 1 sheet away from each country |
| 3 | A hurricane struck your area and destroyed your crops | Take 1 sheet away from each country |
| 4 or 5 | You manage to withstand a major flood / drought / disease outbreak / pest infestation / hurricane (choose) caused by climate change | None |
| 6 | You and other farmers build an irrigation channel to water your fields | Give 2 extra sheets to each country |

5. **The objective of the game is for the three countries to survive as long as they can without having to lose a single farmer.** The game is over the moment two countries have lost their first farmer. The game should be played twice, in the following order:

- *Scenario 1 ('Every Man For Himself')*: Countries cannot exchange sheets or farmers.
- *Scenario 2 (Cooperative)*: Countries can give away/receive sheets and farmers, as long as both sides agree. In each turn, a country with extra sheets may give up to one sheet away to another country or (if it has spare sheets) accept up to one 'climate refugee' from another country with too few sheets to prevent it from losing the game.

If Scenario 2 is taking too long to complete, start taking two sheets away rather than one when the dice lands on 1 or 2.

After playing, students should discuss what happened in both scenarios (e.g. how many turns did the game last in both cases?). Did they think it was fair that the country with more sheets had it so much easier? Use the unfair setup to explain climate injustice.

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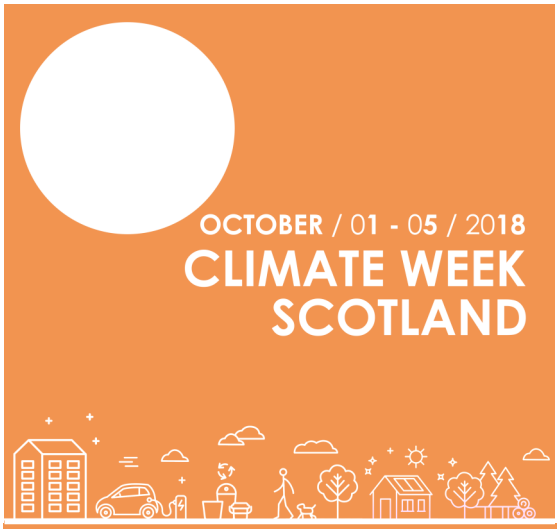
# Home Power




## About:

South Seeds is a community organisation based in the South Central area of Glasgow. Under the climate challenge fund South Seeds is increasing energy awareness and helping people learn more about growing food and reducing the amount of waste that we produce.

Find out more at :

http://southseeds.org/

**How much power do you use in your home?**

Understanding that power to your home is metered and where power is used in your home is the first step in understanding our personal impact on climate change.

Electricity is measured in watts (w) or kilowatt-hours (kWh) and your electricity meter records how many kWh hours your home uses, which your energy company then uses to calculate how much money you need to pay. Every electrical gadget in your home will have a label that says how many watts it uses - the higher the wattage, the more electricity it uses. The length of time a gadget is used for also impacts how much electricity is used - the longer a gadget is used for, the more electricity it uses.

**What to do**

1. Identify where your electricity meter is and record the number (meter reading) that is displayed on the meter and the date. If your home has a prepayment meter (you put a key into it) then you need to press the blue button until you are on screen 'H'
2. Every electrical gadget has an energy label that tells you how much electricity it uses. Find five gadgets that plug into the wall in your home and write down what the gadget is and how many watts of electricity it uses
3. Over the next few days, record how many times these gadgets are used and for how long. To figure out which gadget used the most electricity, multiply the watts of the gadget and how many hours it was used for. The highest number used the most energy
4. Go back to the meter in a few days' time and write down the meter reading of the electricity meter and the date. How many kWh did your home use in total?

**Safety first**

If the meter is high up ask an adult for help reading it. Don't use ladders without the help of an adult to support them and don't balance on furniture, seek support from an adult instead. Also, switch off the electrical gadgets before you look for the electricity rating.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