

## Geography



Welcome year 5!

This last half term we will step back to a topic we touched on earlier in the year: **Physical Geography**. We are going to describe and understand key aspects of physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and most importantly, given our record breaking wet winter and very dry spring, the water cycle. We will conclude this term with a report asking the key question:

**What would humans need to live on Mars?**



For this topic, we are encouraging you to lead your own learning. You may already have some ideas about what most interests you about our earth's physical features.

**OUTCOME:** Whichever approach you choose, we would like you to **create an e-book** of instructions for a human colony on Mars. We want to know what Martians will need every day so that we understand how earth's resources are precious and support all living things.



**Book Creator:** Sign up (with permission) to <https://bookcreator.com/>. This is a child friendly online book creator and is designed for teachers and pupils to share publications. Once you have signed up, and made your e-books, you can download and share them.

### Lesson 1

#### What is a climate zone?

What do you know about climate? We've all heard about climate change but it's really important that we understand what it means for the world and for us in the UK.

#### Activity 1: Question time!

Think about and jot down what you can remember and what you already know about the Climate. Can you answer any of these 5 questions? Also jot down what else you might like to find out about.

1. What does the word climate mean?
2. Are there other climates in the world, can you name some?
3. What causes a climate?
4. Is there a pattern to climate distribution?
5. Which climate would you like to live in?

Did you know that two thirds of people on the earth have never experienced snow?

Then read through the power point called 'Climate zones'.

#### Activity 2: What can you do about climate change?

Have a think and talk to your friends and carers about climate change and how to slow it or stop it. There is sheet for you to capture your ideas on appendix 1.

Then **create a poster** of all the things that individual people could do that would make a difference and prevent our climate from warming further.



## Lesson 2

### What is a biome?

**Activity 1:** Today you are going to look at biomes and how they are affected by climate. Your task is to go to do some research on biomes. There is a **PowerPoint on biomes** to explore if you would prefer.

Did you know? The word 'biome' evolved from the word 'bio' which means life in ancient Greek and the suffix 'ome' which means a complete collection, or collective of something. Do you know any other words that end in 'ome'?

### Activity 2:

Use an atlas to help you answer these questions and fill in the table.

**What is the biome and climate in...**

- a. North Africa?
- b. Northern Russia?
- c. India?
- d. Central Australia?
- e. Eastern USA?
- f. the UK?

Area	Biome	Climate
North Africa		
Northern Russia		
India		
Central Australia		
Eastern USA		
UK		

**Activity 3:** Now, design and make a post card email or letter describing the climate and the landscape. You should include a description of the type of weather you are experiencing. You should describe the types of plants and animals you can see.



### Lesson 3: Rivers and Mountains

Can you name any rivers? What do you know about Mountain ranges? How do you think the two may be related?

**Activity 1:** Investigate Mountain ranges and try to answer these questions. If you would like, you may use the [PowerPoint lesson 3 Mountain Ranges and Rivers](#).

Questions:

1. How do maps reveal information about the highest and lowest areas?
2. When do hills become mountains?
3. Where is the highest mountain in the world located?
4. What do we call it when mountains are clustered together?
5. Can you locate other mountainous areas on a picture of the world?
6. How are mountains formed?



### Activity 2:

What do you know about rivers? London was built around a mighty river that has helped to build the city into the success it is today. Do you know what it is called? (Information can be found in the PowerPoint: Mountain ranges and Rivers.) Use the labels and diagram in **appendix 2: features of rivers** at the bottom of this document to describe the key features of a river system.



## Lesson 4: Volcanoes and Earthquakes

### Activity 1:

What can you remember from year 3 when you studied Volcanoes? Can you remember how they are formed and what they are composed of? Today you are going to do some quick revision, you may use the [PowerPoint on Volcanoes and Earthquakes](#) or do your own research.

**Activity 2:** See if you can make this wonderful 'Volcano Cake' as a naughty treat for your family. If not, create a stop frame picture of a volcano exploding. There is a template below (Lesson 4: Volcanoes)

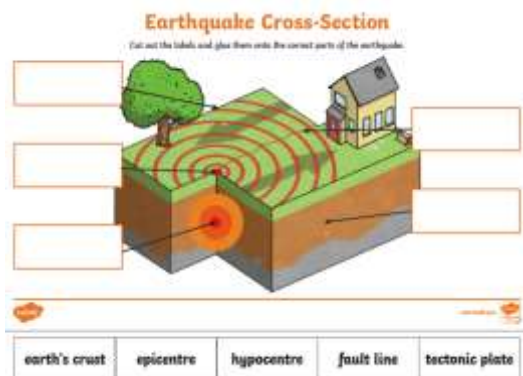
<https://www.bbcgoodfood.com/recipes/volcano-cake>

**Important:** Since this recipe involves very hot temperatures and volatile liquids you must make sure an adult is available to help you make and, of course, eat it!



**Activity 3: Review the information about earthquakes on the PowerPoint and do the activity. You will need to pieces of paper and a flat surface to lay them on.**

Done? Now have a look at the appendix 4 Lesson 4 earthquakes to see if you can label the features of an earthquake?



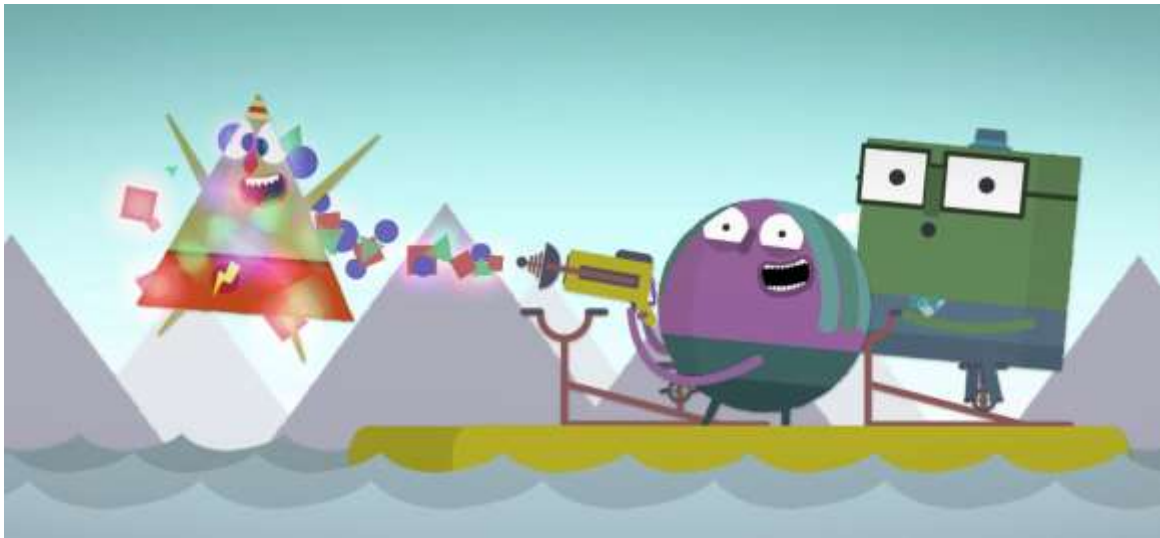
Did you know? The largest earthquake in Britain in recent years was a 5.2 quake in Market Rasen, Lincolnshire, in 2008.

## Lesson 5: The Water Cycle

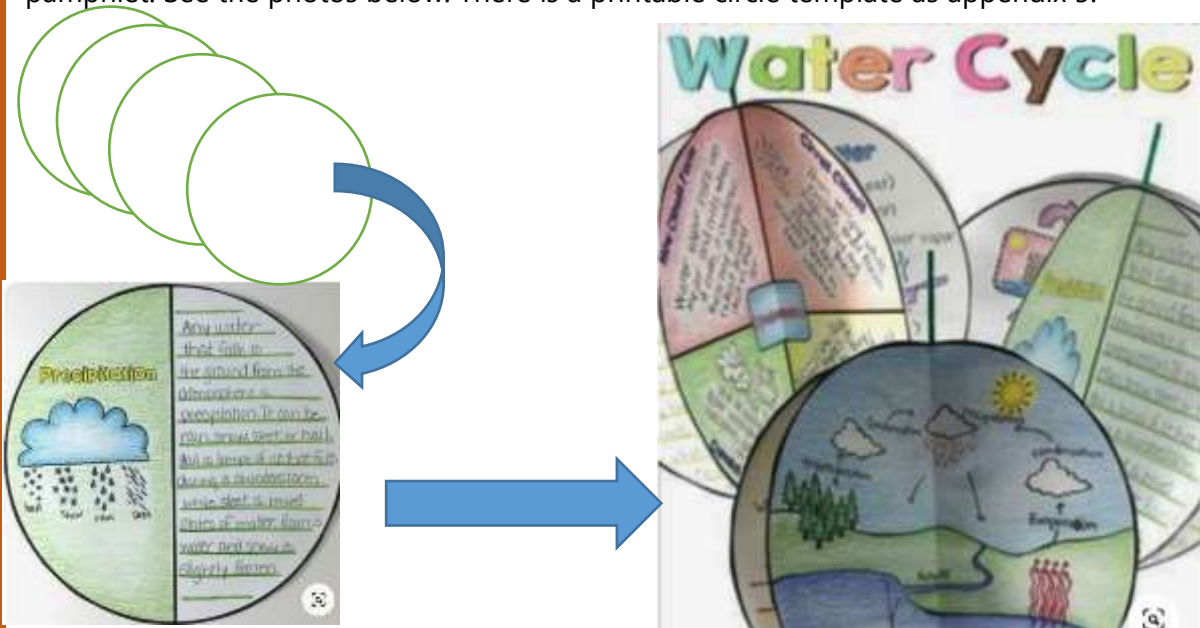
As you know, the weather is very topsy-turvy at the moment and an important part of that is understanding how we get our fresh water. Although Earth is known as the 'Blue Planet' because of all the water we have, most of the water is salty sea water. All land based living things depend on fresh water, which is not very abundant (only 3% of the world's water is fresh).

### Activity 1: Watch this lesson about the Water cycle.

<https://www.bbc.co.uk/bitesize/topics/zkgg87h/articles/z3wpp39>



**Activity 2:** Now **create this clever circular pamphlet to explain the water cycle to your friends and family.** You will need 4 circles cut out to the same size. Colour and annotate each circle with a stage of the water cycle. Fold the circles in half and stick each half to the next half in the sequence. You should land up with a 3D pamphlet circular pamphlet. See the photos below. There is a printable circle template as appendix 5.



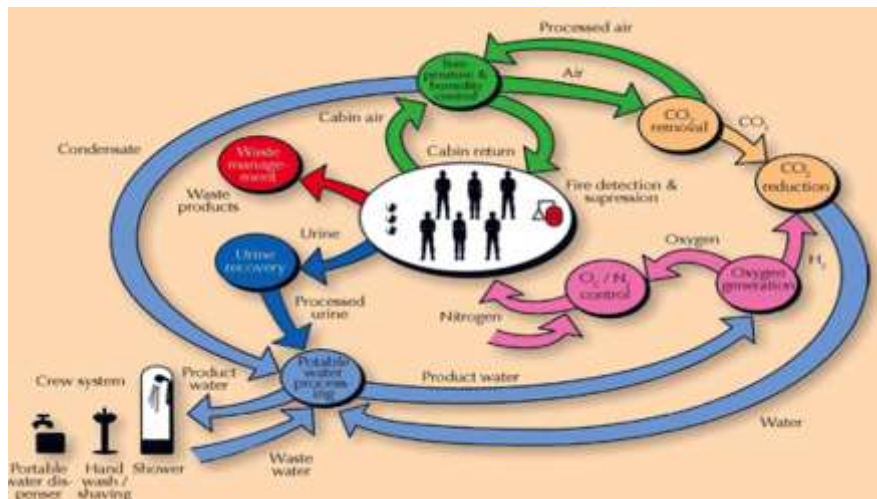
## TOPIC - GEOGRAPHY

### Lesson 6: **What would humans need to live on Mars?**

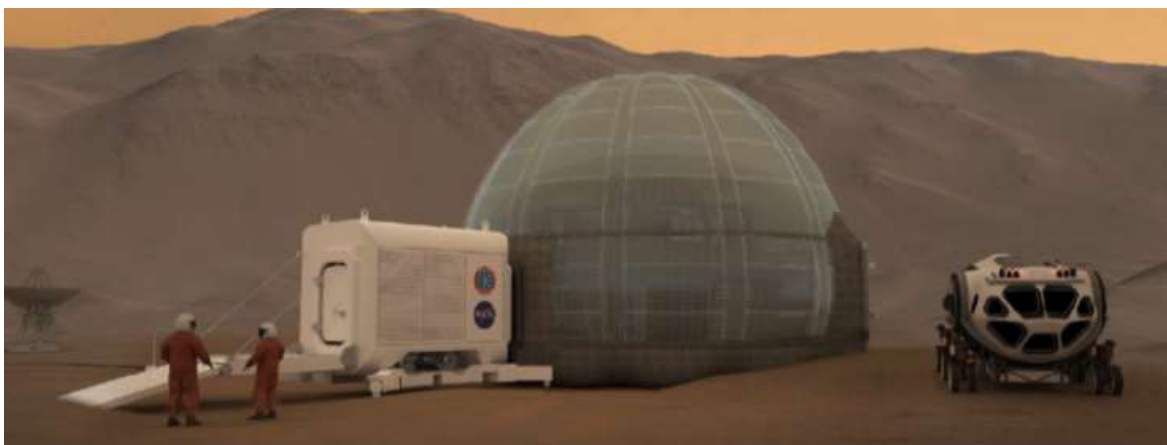
**Congratulations, you have reached the end of this sequence and for your final lesson you have a project to complete.** You now have a good idea of what all living things from earth would need if they were to colonise Mars. You're going to show off that knowledge by **creating your very own Martian station model.**

**Activity 1:** Discuss this project **with your friends and family** and make a list and notes on what would be needed to keep living things safe on Mars' surface. *If possible, and with your parent's approval, ask if you can watch the film 'The Martian' (2015). Try to make sure you watch with an adult to answer any questions you may have.*

**Activity 2:** On a piece of paper, **design** the layout of your Martian station. Have you remembered everything you will need to survive Mars' climate?



**Activity 3:** Create your **Martian station** using recycled materials, such as cereal boxes, loo-rolls, tin-foil and cling film, as a 3D model. Annotate the sections with hand written guides to explain what each section is for. For a realistic effect, you could glue sand to the surrounding area and paint it red. Send us pictures if you can! This project can extend into the summer holidays if you would like to spend more time making it really good.



Appendix 1: My great ideas to prevent climate change.

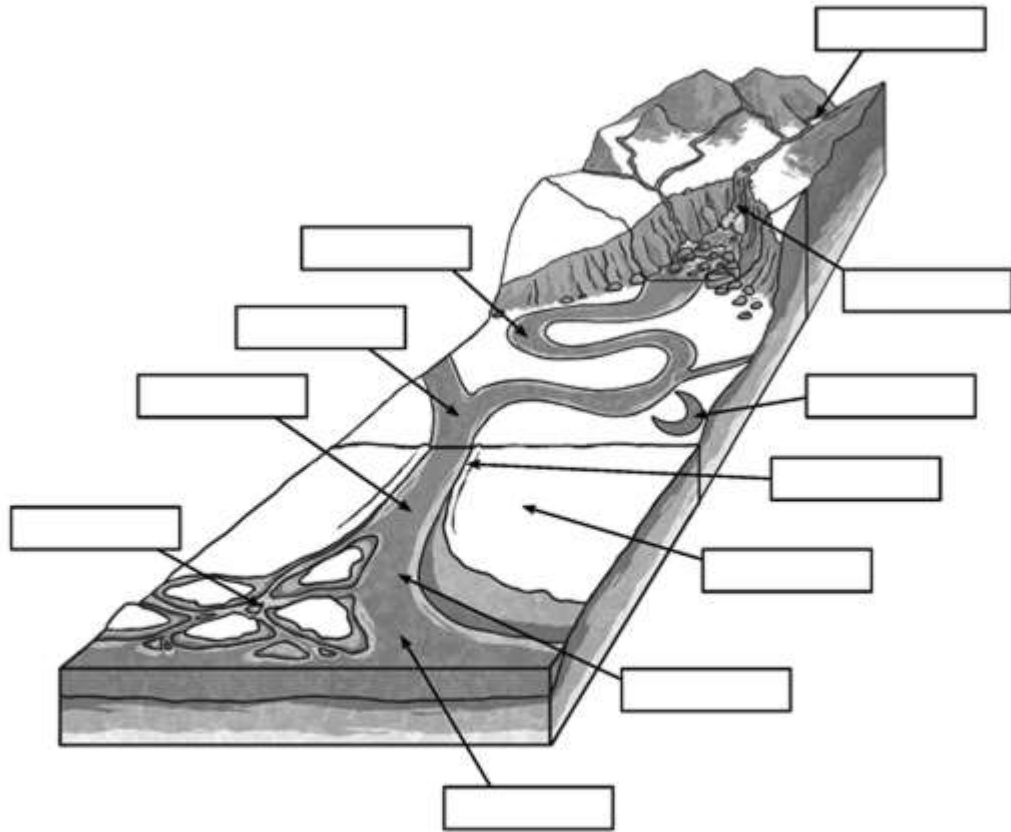
# My Ideas to Tackle Global Warming

Look at each problem and note down some ideas that you could do in your own house as well as what could be done at a national and international level.

Cows making methane	I could:	The Government could:	The world could:
Palm oil deforestation	I could:	The Government could:	The world could:
Fossil fuels for energy	I could:	The Government could:	The world could:
Pollution from cars and factories	I could:	The Government could:	The world could:
Oil used for plastics	I could:	The Government could:	The world could:



Appendix 2: Key features of a river system



channel	confluence	delta	estuary	floodplain	levee
meander	mouth	oxbow lake	source	waterfall	

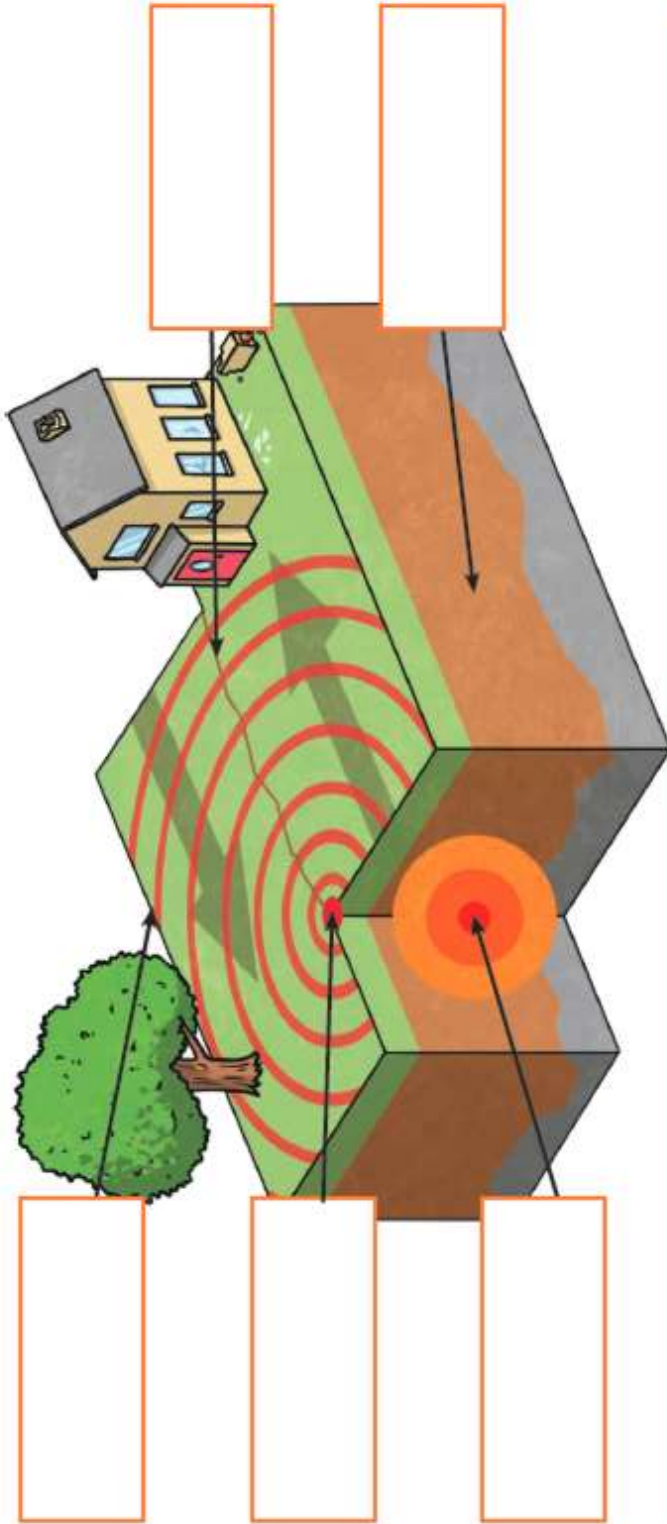
**Lesson 4: Volcano eruption sequence**

*Stop motion storyboard:*


Lesson 4 – cross section of an earthquake

# Earthquake Cross-Section

Cut out the labels and glue them onto the correct parts of the earthquake.



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earth's crust	epicentre	hypocentre	fault line	tectonic plate
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**Appendix 5: lesson 5. 3D pamphlet of the Water Cycle**

**You will need to print 4 of these circles.**

