

Year 5

Term – Spring 1

Science Physics - Forces

This year we have increased our learning through investigation. Each half term we have a concluding investigation question that we try to solve based on what we have learnt during the half term. Our question this term is:

How can simple machines be combined to make a more complicated machine?

In order to answer this question they will be learning: That gravity is pulling objects towards Earth all the time. The force of gravity can be measured by using Newtonmeters. Friction affects the speed an object moves. Air resistance is friction acting on an object moving through the air. Water resistance is friction acting on objects in water and finally that humans make machines like levers, gears and pulleys to counteract gravity and the friction it causes.

This term we will be learning about... **The Scottish Highlands**



To make our machines in Science we need some materials from you. Please speak to your child's teacher for details of when we need them and a list of required equipment.

Key Information

Attached to this newsletter is a copy of our fact organiser for the year 5 Geography topic about the Scottish Highlands. It shows, in detail, the questions the children are going to be investigating and learning about. There are links to helpful websites about the topic which you can use to support your child's learning about the topic. There is also a list of the key vocabulary your children should be able to use to explain their thinking.

We hope you find this helpful.

PSHE

This term in PSHE children are exploring the unit, 'My Network'.

Key learning:

Communities are created based on where people live in relation to someone else. Communities can be exposed to different challenges: these issues might include: clean and safe housing; criminal activity; lack of jobs; racism; prejudice.

English

In Reading, pupils will develop their ability to justify inferences on a character's motives while discussing the meaning of words in different contexts. Children will participate in discussions, structured role-play activities and will be expected to support their opinions with evidence from the text. In Writing, pupils will continue developing their skills through practising, applying and mastering them in a wide variety of genres. These include using a variety of sentences, figurative language, parenthesis, adverbials and modal verbs through descriptive, persuasive and poetry writing. This half terms key text is: **Macbeth by William Shakespeare**

RE

Year 5 pupils will learn about Prophet Muhammed and the events which took place in his life. They will explore why the quran is important to Muslim people and how it is respected and why the words and actions have affected the Muslim community. To summarise the unit, children will reflect who has been the biggest influence in their lives.

Mathematics

In Mathematics, children will use numerical methods to calculate area and perimeter of rectangles and squares. They will be introduced to simple formulae such as $\text{perimeter} = 2 \times (\text{length} + \text{width})$ and $\text{Area} = \text{length} \times \text{width}$. Application of these methods will include working inversely and using a systematic approach to find rectangles with a given perimeter or area. They will also compare the area of squares and rectangles as well as estimating the area. Children will deepen their understanding by calculating the area of shapes which they will create. Children need to continue learning their times table and ensure they are able to recall them mentally.

Computing

In this unit, pupils will use physical computing to explore the concept of selection in programming through the use of the Crumble programming environment. Pupils will be introduced to a microcontroller (Crumble controller) and learn how to connect and program components through the application of their existing programming knowledge.

You might like to join in with our learning at home by:

Reading

- **Read everyday and record this in the reading record - try a range of text types.**

Watching [Fabulous facts about Scotland! | National Geographic Kids](http://www.safetynetkids.org.uk/personal-safety/staying-safe-online/)
<http://www.safetynetkids.org.uk/personal-safety/staying-safe-online/>

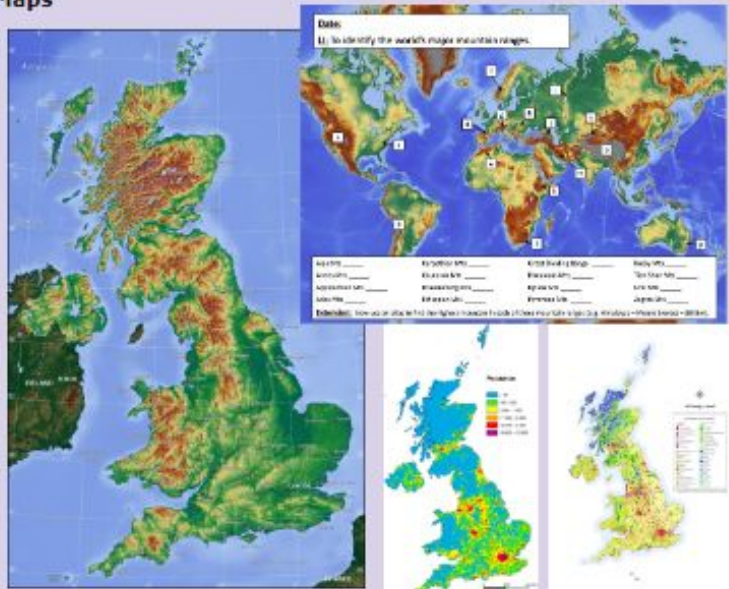
Doing

- **Why not try to make your own sculpture of Ben Nevis or Balmoral Castle?**
- **Revise times table facts up to 12x12 and use Times Table Rockstars daily to build timestable fluency.**

Year 5 - Geography. Final Enquiry: What type of development would be best for the Highlands?

Theme	Learning Goal	Key Questions to be asked	Answers
	The Scottish Highlands are a physically distinctive environment in the UK.	Where are the Scottish Highlands?	The Highlands are a largely rural area north west of Dumbarton and Stonehaven in Scotland.
		How are the Highlands different from London?	The Highlands are physical features such as mountains whereas London is mainly made of human features.
		How do the Highlands compare to other mountainous areas?	Most mountain ranges in the world have similar physical features although the Highlands are not as tall or long as many other famous mountain ranges.
	Human development can have positive and negative consequences.	How do humans develop their environment?	Humans change their natural environment with farms, parks and other buildings to suit their purposes.
		Do people always want areas developed?	Developments can be controversial due to the competing needs and desires of different groups of people.
		How do they decide which developments to allow?	Despite opposition, if the rules for development are followed they can go ahead.
	The environment of an area is impacted by national priorities.	How have humans historically developed the Highlands?	Historically humans have used the Highlands for farming, hunting and other rural pastimes and purposes.
		What does Trident show us about development priorities?	Sometimes, despite opposition or controversy, development happens due to national priorities.

Maps




Task: Use the world map to identify the world's major mountain ranges.

Legend:

1000m	1000m	1000m	1000m
2000m	2000m	2000m	2000m
3000m	3000m	3000m	3000m
4000m	4000m	4000m	4000m

Useful websites
https://kids.kiddle.co/Scottish_Highlands
https://www.snp.org/tridentfacts/
https://www.navylookout.com/why-relocating-trident-away-from-scotland-is-virtually-impossible/
https://mapsofindia.com/world-map/
https://www.bbc.co.uk/bitesize/topics/z849q6f/articles/z4q3qp3

Physical features / processes	
Ben Nevis	Scotland's and the UK's highest mountain.
	
Loch Nevis	A large lake at the base of Ben Nevis. Loch is Gaelic for lake.
Loch Ness	Scotland's deepest lake located at the entrance to the Highlands famous for rumours of a monster that appears from time to time.
Human features / processes	
Inverness	Largest city in the Highlands.
Trident	UK's nuclear deterrent programme consisting of 4 nuclear submarines with 8 nuclear missiles each.
Clyde Naval base	Permanent base for the nuclear submarines of the Trident programme.
Croft farms	Small farms rented from the owners of a larger property.
Rural	An area of land with low population density usually referred to as the countryside.
Urban	An area of land with high population density usually referred to as towns or cities.
Population	The people who live and work in an area.

Key Vocabulary	
agriculture	technology
urban	contours
Trident	oblique
nuclear	population
attractions	human impact
forest	belief
rural	expansion
topographical	reduction
tourism	valid
elevation	reliable
statistics	density

Geographical skills (Disciplinary Knowledge)
Maps
Relate maps to each other and to vertical aerial photos.
Use the index and contents pages of atlases to locate a place.
Use 4 and 6-figure coordinates to locate features.
Give directions and instructions to 8 cardinal points of the compass.
Use a range of viewpoints up to satellite.
Use models and maps to talk about contours and slope.
Use a scale bar on all maps.
Digital mapping - Find 6-figure grid references and check using the grid reference tool.