Year 6 Topic: Extreme Earth Activity Summer 2, Week 5
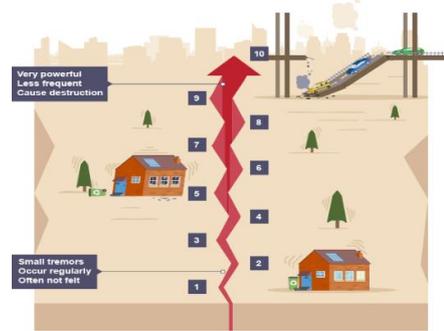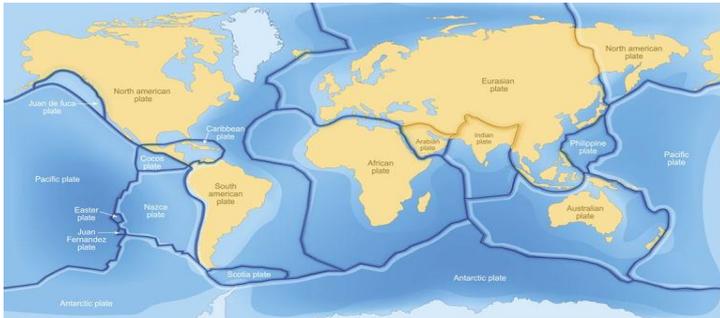
L.O. TBAT describe and understand key aspects of physical geography, including earthquakes.

Big Question: What are Earthquakes, how are they formed and how are they measured?

What are earthquakes?

Watch the following video: https://www.bbc.co.uk/bitesize/topics/z849q6f/articles/zj89t39

and complete the quiz after. Extra video link: https://www.youtube.com/watch?v=dJpIU1rSOFY

How are earthquakes measured?

There are thousands of earthquakes across the world each day and some are so small that they can only be detected by specialist equipment. Others can be so intense that they can create lots of damage and destroy towns and cities.

The Richter magnitude scale is used to measure the size of earthquakes. It measures the magnitude of an earthquake (how powerful it is). It is measured using a machine called a **seismometer** which produces a **seismograph.** A Richter scale is normally numbered 1-9+

Task 1: Sort these earthquake magnitude descriptions from the strongest to the weakest. Remember the Richter scale goes from 1 - 9 +

— If you are in a car, it may rock. Glasses and dishes may rattle. Windows may break.

— Very few buildings stay up. Bridges fall down. Underground pipes burst. Railroad rails bend. Large rocks move. Smaller objects are tossed into the air. Some objects are swallowed up by the earth.

— Buildings shake a little. It feels like a truck is passing by your house.

— You may notice this quake if you are sitting still, or upstairs in a house. A hanging object, like a model airplane, may swing.

— Causes complete devastation and large-scale loss of life.

— Earthquakes this small happen below ground. You can't feel them

— Pictures can fall off walls. Furniture moves. In some buildings, walls may crack.

— It is hard to keep your balance. The ground cracks. Roads shake. Weak buildings fall down. Other buildings are badly damaged.

— Trees sway. Small ponds ripple. Doors swing slowly. But you can't tell that an earthquake is to blame.

Big Question: What are Earthquakes, how are they formed and how are they measured?

Here is a timeline of some of the world's deadliest major earthquakes in the last 10 years:

- Sept 19, 2017 - MEXICO - A 7.1 magnitude quake hits central Mexico, killing at least 369 people, causing more devastation in the capital than any since the 1985 earthquake that killed thousands.
- Aug 24, 2016 - ITALY - A 6.2 magnitude quake strikes a cluster of mountain communities 140 km (85 miles) east of Rome in central Italy.
- Apr 16, 2016 - ECUADOR - A devastating magnitude 7.8 earthquake smashes Ecuador.
- Aug 3, 2014 - CHINA - A magnitude 6.3 earthquake devastates southwestern China.
- Sept 24, 2013 - PAKISTAN - Twin earthquakes, measuring 7.7 and 6.8 magnitude, strike Pakistan's southwestern Balochistan province.
- Aug 11, 2012 - IRAN - Two strong quakes, measuring 6.4 magnitude and 6.3 respectively.
- Oct 23, 2011 - TURKEY - A powerful magnitude 7.2 earthquake shakes southeast Turkey.
- March 11, 2011 - JAPAN - A 9.0 magnitude earthquake and tsunami strikes Japan's northeast.
- - A 6.3 magnitude earthquake hits Christchurch.
- Feb 27, 2010 - CHILE - An 8.8 magnitude quake, wrecking hundreds of thousands of homes and mangling highways and bridges.

Task 2: Draw a bar graph showing: The World's worst earthquakes over the last decade.

Success Criteria

- Use squared paper
- Use a sharpened pencil and a ruler
- Label your axis e.g. magnitude of earthquake
- Consider suitable numbered intervals for Y axis
- Write the name of each earthquake on the X axis.
- Give your bar chart a suitable title
- Write a conclusion of what you have found from the data used. E.g. The strongest earthquake over that decade is… which means

Tectonic plates: https://www.youtube.com/watch?v=cavq2HFBa-U

Tectonic plates are pieces of the rocky outer layer of the Earth known as the crust. These plates are constantly moving, and volcanoes, earthquakes and sometimes mountains are found at the plate boundaries.

Task 3: Locate which tectonic plate each earthquake took plan on

Success Criteria

- Use the list of earthquakes above to identify on the world map where each earthquake took place
- Create a key on your tectonic map which signposts each earthquake

CANONBURY
PRIMARY SCHOOL

Pacific plate

Juan de
Fuca plate

North American plate

Nazca plate

Cocos plate

Caribbean plate

South.American plate

Scotia plate

African plate

Arabian plate

Eurasian plate

Antarctic plate

Indian plate

Australian plate

Philippine plate

Pacific plate

North American plate

CANONBURY PRIMARY SCHOOL

WORLD MAP

mapsofworld.com

1. Netherlands
2. Belgium
3. Luxembourg
4. Switzerland
5. Slovenia
6. Croatia
7. Bosnia and Herzegovina
8. Czechia
9. Slovakia
10. Austria
11. Hungary
12. Serbia
13. Moldova
14. North Macedonia
15. Albania
16. Cyprus
17. Lebanon
18. Guinea-Bissau
19. Guinea
20. Ghana
21. Togo
22. Benin
23. Cameroon
24. Equatorial Guinea
25. Rwanda
26. Cambodia
27. Panama
28. Malawi
29. Liechtenstein
30. Montenegro
31. Kosovo
32. Palestinian Territories
33. St. Vincent & the Grenadines

ARCTIC OCEAN

Arctic Circle

Beaufort Sea
Gulf of Alaska
Alaska (USA)
Canada
Baffin Bay
Hudson Bay
Labrador Sea
Greenland (Denmark)
Iceland
Faroe Islands (Denmark)
Jan Mayen (Norway)
Svalbard (Norway)
Franz Josef Land
Novaya Zemlya
Kara Sea
Laptev Sea
Kotelny
East Siberian Sea
Wrangel
Bering Sea
October Revolution

NORTH PACIFIC OCEAN

Hawaii Islands (U.S.)
Tropic of Cancer
Kiribati
Equator
Galapagos (Ecuador)
French Polynesia
Easter (Chile)
Tropic of Capricorn

SOUTH PACIFIC OCEAN

United States of America
Mexico
The Bahamas
Cuba
Haiti
Jamaica
Belize
Guatemala
Honduras
El Salvador
Nicaragua
Costa Rica
Dominican Rep.
Puerto Rico (U.S.)
Caribbean Sea
Bermuda (U.K.)
Antigua and Barbuda
Dominica
St. Kitts & Nevis
St. Lucia
Barbados
Grenada
Trinidad & Tobago
Venezuela
Colombia
Ecuador
Peru
Guyana
Suriname
French Guiana (Fr.)
Brazil
Bolivia
Paraguay
Chile
Argentina
Uruguay

NORTH ATLANTIC OCEAN

Canary Islands (Spain)
Cabo Verde
The Gambia
Senegal
Western Sahara
Mauritania
Morocco
Portugal
Spain
Andorra
San Marino
Monaco
France
United Kingdom
Ireland
Norway
Sweden
Finland
Denmark
Poland
Germany
Estonia
Latvia
Lithuania
Belarus
Ukraine
Romania
Bulgaria
Greece
Italy
Vatican City
Malta
Tunisia
Algeria
Libya
Niger
Mali
Chad
Nigeria
Benin
Togo
Ghana
Côte d'Ivoire
Liberia
Sierra Leone
Guinea
Burkina Faso
Cameroon
Central African Republic
Gabon
Congo
Dem. Rep. of the Congo
São Tomé and Principe
Angola
Namibia
Botswana
South Africa
Lesotho
eSwatini
Zimbabwe
Zambia
Mozambique
Malawi
Tanzania
Madagascar
Comoros
Mayotte (Fr.)
Mauritius
Réunion (Fr.)
Seychelles
Kenya
Uganda
South Sudan
Sudan
Egypt
Ethiopia
Eritrea
Djibouti
Somalia
Burundi
Turkey
Georgia
Armenia
Azerbaijan
Syria
Cyprus
Lebanon
Israel
Jordan
Iraq
Kuwait
Saudi Arabia
Bahrain
Qatar
UAE
Oman
Yemen
Iran
Afghanistan
Pakistan
Turkmenistan
Uzbekistan
Tajikistan
Kyrgyzstan
Kazakhstan
Russia
Mongolia
China
Nepal
Bhutan
India
Bangladesh
Myanmar (Burma)
Laos
Thailand
Vietnam
Cambodia
Sri Lanka
Maldives
Brunei
Malaysia
Singapore
Indonesia
Philippines
Taiwan
North Korea
South Korea
Japan
Timor-Leste
Papua New Guinea
Australia
New Caledonia (Fr.)
New Zealand
North Island
South Island
Tasmania

Red Sea
Mediterranean Sea
Black Sea
Caspian Sea
Aral Sea
Arabian Sea
Bay of Bengal
Andaman & Nicobar Is. (India)
Andaman Sea
Gulf of Mexico
Arabian Sea
South China Sea
East China Sea
Sea of Japan (East Sea)
Sea of Okhotsk
Barents Sea
Norwegian Sea
North Sea
Philippine Sea
Coral Sea
Tasman Sea
Great Australian Bight

INDIAN OCEAN
Cocos Is. (Aus.)
Christmas (Aus.)
Guam (U.S.)
Palau
Federated States of Micronesia
Northern Mariana Islands (U.S.)
Marshall Islands
Nauru
Solomon Islands
Vanuatu
Fiji
Tuvalu
Wallis and Futuna (Fr.)
Samoa
Tonga
Kiribati

SOUTH ATLANTIC OCEAN
Ascension (U.K.)
St Helena (U.K.)
Trindade (Brazil)
South Georgia (U.K.)
South Sandwich (U.K.)
Falkland Islands (U.K.)
Weddell Sea

SOUTHERN OCEAN
Antarctic Circle
ANTARCTICA

Prime Meridian
0°

Scale: 0 2,000 4,000 6,000 8,000 Kilometers
0 2,000 4,000 Miles