Cogan Scholars Programme

Geography Award

This document contains the syllabus for the Cogan Scholars: Geography Award.

You will need to study all the information presented here.

Staff will help you develop the study skills you need in order to memorise, retain and recall this information.

Once you are confident you can recall this syllabus, tell your teacher and they will give you your undergraduate test.

Once you have passed you will receive a badge and be known as a Cogan Scholar!

Countries have flags primarily to represent their national identity, sovereignty, and unity.

- There are 195 countries in the world.
- Flags act as visual symbols and serve as a way to distinguish one nation from another in the international arena.
- The oldest continuously used national flag in the world is the Dannebrog, the flag of Denmark.

Flags of the World

- The UK's Union Jack is often cited as the most popular and recognizable flag globally, followed closely by the flags of the United States and Canada. Other flags frequently recognized include those of Japan, China, Brazil, Switzerland, Germany, Israel, and Ukraine.

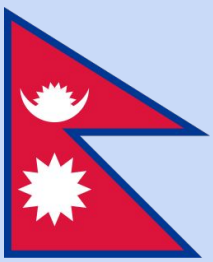









- Here are some unusual flags from around the world...


Nepal


Macedonia


Bahrain


South Korea


Saint Lucia

- The most used colour on a flag is red, followed by blue and white.
- Flags were first flown in the 18th century to signify ownership of a territory.

At times, Londoners and tourists will see the Union Jack flag flying over Buckingham Palace, but what does this mean? The various royal residences keep a flag flying at all times, but the sight of a country flag indicates that the King is not at home.

- The world has warmed by approximately 1.1° C to 1.2°C since 1850-1900.
- Earth's atmosphere reacted in surprising ways to the lowering of emissions during the pandemic, showing how closely climate warming and air pollution are linked.

Climate Change

1. What is Climate Change? **Climate change** refers to **long-term changes** in the average weather patterns on Earth. These changes can include shifts in temperature, rainfall, and the frequency of extreme weather events like storms, droughts, and heatwaves. **Climate change** can be caused by both **natural processes** (such as volcanic eruptions) and **human activities** (such as burning fossil fuels).

2. The Greenhouse Effect: The **Greenhouse Effect** is a natural process where **gases in the Earth's atmosphere** trap heat from the sun, keeping the planet warm enough for life. The main **greenhouse gases** are:

- **Carbon dioxide (CO_2)**
- **Methane (CH_4)**
- **Nitrous oxide (N_2O)**
- **Water vapour**

However, **human activities**, like burning **fossil fuels** (coal, oil, and gas) for energy, have increased the amount of these gases in the atmosphere, making the planet warmer. This is known as **global warming**.

3. Causes of Climate Change: **Burning Fossil Fuels**: Activities like driving cars, flying airplanes, and using electricity created from coal and natural gas release carbon dioxide and other greenhouse gases. **Deforestation**: Cutting down trees removes plants that absorb carbon dioxide. Trees are important for helping reduce the amount of greenhouse gases in the air. **Industrial Processes**: Factories and other industries also release greenhouse gases like methane and nitrous oxide. **Agriculture**: Farming animals (especially cows and sheep) creates methane. Large-scale agriculture can also lead to deforestation and soil degradation.

4. What is Global Warming? **Global warming** refers to the long-term increase in Earth's average surface temperature due to the buildup of greenhouse gases in the atmosphere. The Earth's average temperature has increased by approximately **1°C** (1.8°F) since the late 19th century, with the rate of warming accelerating in recent decades. This increase in temperature is linked to **rising sea levels**, **melting ice caps**, and **more extreme weather patterns**.

5. Effects of Climate Change: **Rising Sea Levels**: As global temperatures increase, ice caps and glaciers melt, and water expands in warmer temperatures. This leads to higher sea levels, threatening coastal areas and islands. **More Extreme Weather**: Climate change can cause more **frequent and intense** weather events, including heatwaves, storms, droughts, and flooding. **Melting Ice Caps**: The Arctic and Antarctic ice sheets are melting due to higher temperatures, which can affect wildlife and raise sea levels. **Ocean Warming and Acidification**: Rising temperatures are warming oceans, which affects marine life. The excess carbon dioxide in the air is also being absorbed by oceans, causing the water to become more acidic, which harms coral reefs and marine species. **Disruption of Ecosystems**: Many plants and animals are struggling to adapt to the changing climate. Some species are at risk of extinction due to changes in their habitats.

7. What Can We Do About Climate Change? **Reduce Greenhouse Gas Emissions**: Use less energy by turning off lights, walking or cycling instead of driving, and using renewable energy sources like wind, solar, and hydroelectric power. **Plant Trees**: Trees absorb carbon dioxide and help fight climate change. Protecting forests and planting new trees is important. **Use Sustainable Transport**: Walk, cycle, or use public transportation instead of driving. Electric cars can also reduce emissions. **Reduce, Reuse, and Recycle**: By using fewer resources and recycling materials, we can reduce the amount of waste that ends up in landfills and reduce emissions from waste processing. **Support Renewable Energy**: Encourage the use of clean energy sources like wind, solar, and hydroelectric power, which do not release greenhouse gases.

- **The highest mountain in the UK is Ben Nevis which is in Scotland. It is 1345m high.**
- **The highest mountain in the world is Mount Everest which is on the border of Nepal and China. It is 8849m high.**

Mountains

1. **What is a mountain?** A **mountain** is a large, steep landform that rises sharply above the surrounding land. Mountains are often formed by **tectonic forces** (plates in the Earth's crust colliding or moving apart) or volcanic activity. They can vary in size and height. Some mountains are very tall, like the **Himalayas** , and others are shorter but still significant, like the **Pennines** in the UK.

2. **Parts of a mountain**

- **Peak (Summit)** : The highest point of the mountain.
- **Slope**: The sides of the mountain. They can be steep or gentle.
- **Base**: The bottom part of the mountain, where it meets the surrounding land.
- **Ridge**: A long, narrow elevated area of land, often found on the top of mountains.
- **Valley**: A low area between mountains, often where rivers or streams flow.

3. **How are Mountains Formed?** **Tectonic Plates** : Mountains are formed when Earth's tectonic plates push against each other. This is known as **orogeny** . Example: The **Himalayas** were formed when the Indian plate collided with the Eurasian plate. **Volcanic Activity** : Mountains can form from **volcanic eruptions** when magma rises to the Earth's surface, hardens, and builds up over time. Example: **Mount Fuji** in Japan. **Erosion** : Wind, water, and ice can slowly wear down mountains, but they can also create new features, like valleys and cliffs.

4. **Types of Mountains**

- **Fold Mountains** : Formed when two tectonic plates collide, causing the land to fold. Example: The **Himalayas** .
- **Fault-block Mountains** : Formed by tectonic forces causing huge blocks of Earth's crust to either rise or sink. Example: The **Sierra Nevada** mountains in North America.
- **Volcanic Mountains** : Created by volcanic eruptions. Example: **Mount St. Helens** in the United States.
- **Dome Mountains** : Formed when magma pushes up beneath the Earth's surface but does not break through. Over time, the layers above it are eroded. Example: **The Adirondack Mountains** in North America.

5. **Famous Mountains Around the World**

- **Mount Everest** (Himalayas) – The highest mountain in the world (8,848 meters).
- **K2** (Karakoram) – The second highest mountain (8,611 meters).
- **Mount Fuji** (Japan) – A famous volcanic mountain.
- **The Alps** (Europe) – A famous mountain range stretching across several countries, including France, Switzerland, and Austria.
- **Rockies** (North America) – A major mountain range that stretches from Canada down to the United States.

- The Pacific ocean is the largest and deepest ocean in the world.
- It covers ⅓ of the Earth's surface.
- The 'Ring of Fire' surrounds the Pacific Ocean. This is a chain of volcanoes situated all around the edge.

The Pacific

1. What is the Pacific? The **Pacific** refers to the **Pacific Ocean**, the largest and deepest of Earth's five oceans. It covers an area of over **63 million square miles** (165 million square kilometers), making up about **one-third of the Earth's surface**. The Pacific is located between **Asia** and **Australia** to the west and **North America** and **South America** to the east.

2. Pacific Ocean Facts: The **Pacific Ocean** is **twice the size** of the **Atlantic Ocean**. It reaches depths of over **36,000 feet** (about **11,000 meters**) in some areas, such as the **Mariana Trench**, the deepest part of any ocean. The **Pacific** is home to **more than 25,000 islands**, including famous ones like **Hawaii**, **Fiji**, and **Tahiti**. It is also known for the **Ring of Fire**, an area with many active **volcanoes** and **earthquakes** due to tectonic plate movement.

3. Geography of the Pacific: The **Pacific Ocean** is bordered by the **Arctic Ocean** to the north, the **Southern Ocean** to the south, the **Indian Ocean** to the west, and the **Atlantic Ocean** to the east. It is divided into two main parts: the **North Pacific** and the **South Pacific**. The Pacific touches the coasts of **Asia**, **Australia**, **North America**, **South America**, and many island nations in between.

4. Key Features of the Pacific: **Mariana Trench**: The deepest part of the world's oceans, reaching depths of about **36,000 feet**. It is found in the western Pacific, near the **Mariana Islands**. **Great Barrier Reef**: The world's largest coral reef, located off the northeast coast of **Australia**. **Ring of Fire**: A ring of volcanoes around the Pacific that are responsible for much of the world's volcanic activity. **The Pacific Garbage Patch**: A large area in the North Pacific Ocean where floating plastic and debris accumulate, affecting marine life.

5. Climate and Weather in the Pacific: **El Niño**: A natural weather pattern in the Pacific that causes **warmer ocean temperatures**. It can bring storms, floods, and droughts to different parts of the world. **La Niña**: The opposite of El Niño, where the Pacific Ocean cools. It can lead to **colder** temperatures and more **rain** in some areas. The Pacific Ocean's size means it has a major impact on **weather systems** around the world, affecting everything from rainfall patterns to the occurrence of **typhoons** (Pacific storms).

6. Pacific Ocean Ecosystems: The Pacific Ocean is home to a variety of ecosystems, such as:

- **Coral reefs**: Found in warm, shallow waters, these reefs are home to a wide range of marine species.
- **Open ocean**: Deeper waters where you can find animals like **whales**, **sharks**, **dolphins**, and **tuna**.
- **Kelp forests**: Found along the coastlines, especially in colder waters, these underwater forests are vital for marine life.
- **Marine life** in the Pacific includes species like **sea turtles**, **octopuses**, **dolphins**, **whales**, **sharks**, and countless species of fish and coral.
- The **Great Barrier Reef** alone is home to about **1,500 species of fish** and **400 types of coral**.

8. Island Nations in the Pacific: The **Pacific** contains many small **island nations**:

- **Hawaii** (USA) – A group of islands that is part of the Pacific.
- **Fiji** – An island nation known for its beautiful beaches and coral reefs.
- **Samoa** – Known for its rich culture and tropical climate.
- **Tonga** – A Pacific island nation that is one of the last remaining monarchies.
- Some Pacific islands, like **Maldives** and **Kiribati**, are facing the threat of **rising sea levels** due to climate change.

Task

Use your notes on each section to remember your facts before sitting the scholar exam - you can not bring the fact files with you, but you can bring your notes!