

KNOWLEDGE ORGANISER

WORLD STUDIES

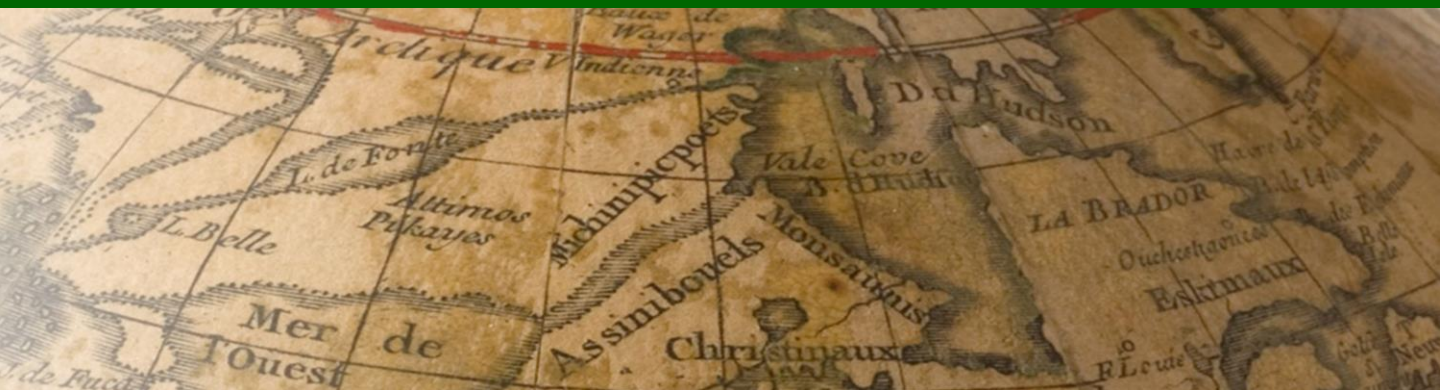
Year 7 Geography

The Origins of Geography

Name:

Class Teacher:

Big Question	Task	Due Date
3	Complete Homework Task 1 pages 19 & 20	
6	Complete Homework Task 2 pages 21 & 22	
9	Complete Homework Task 3 pages 23 & 24	
11	Revise for end of unit test	

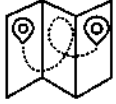












ENQUIRY QUESTIONS

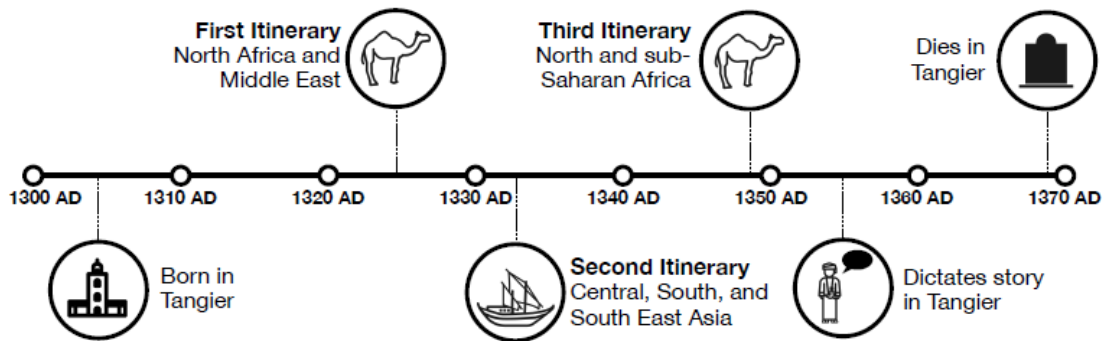
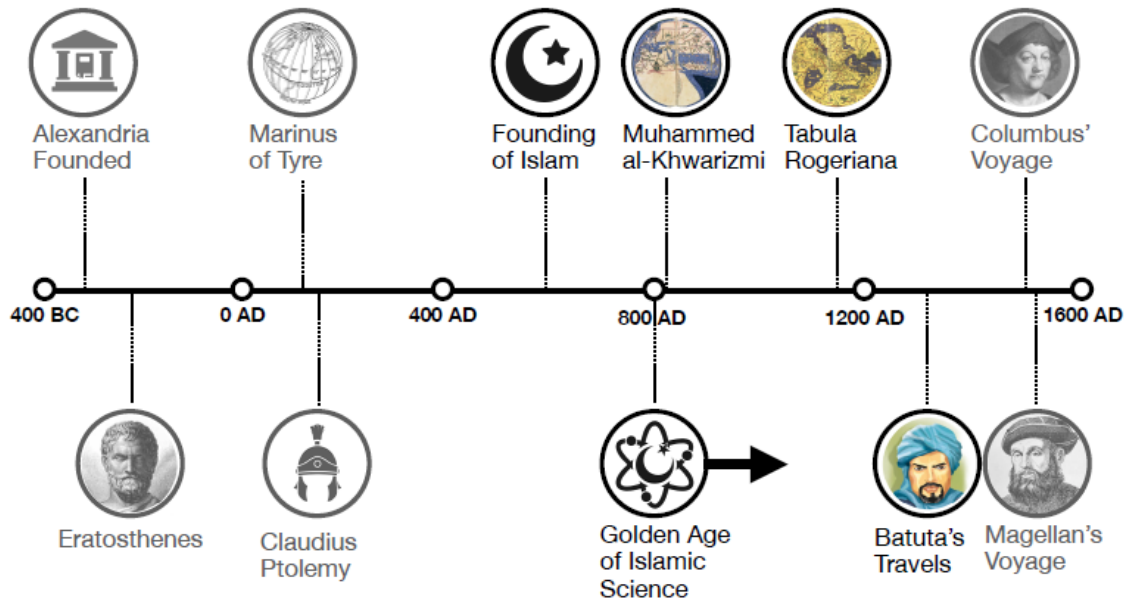
1. Who was Eratosthenes and how is he linked to the word 'Geography'?
2. Why is latitude measured in degrees?
3. How are latitude and temperature linked?
4. How does the story of the Titans and the Olympians link to Geography?
5. What causes seasons?
6. How did Eratosthenes calculate the circumference of the Earth?
7. Why are the Tropic of Cancer and Tropic of Capricorn named as such?
8. What role did Marinus of Tyre play in the creation of longitude
9. How do coordinates work on a map?
10. How did Islamic explorers increase our knowledge of Geography?
11. How did the Islamic Empire's cartography influence Columbus?
12. What is the relationship between cartography and trade routes?



GLOSSARY

Key term	Icon	Definition
Cartography		Means 'Writing it down on paper'. It includes the production of maps.
Circumnavigation		To sail all the way around the globe/world
Climate		The weather conditions in an area over a long period of time.
Continent		One of the main landmasses of the globe
Country		The territory of a nation
County		A political division of the UK or Ireland
Explorer		A person who goes somewhere no-one had been before
Geology		Means 'to study the Earth'. Includes The Earth's physical structure and the processes which act on it.
Geography		Means to 'write about the Earth'. Includes the physical features of the earth, and of human activity and its impact.
Latitude		Imaginary lines parallel to the equator that help map makers to locate places with accuracy. (Horizontal lines)
Longitude		Imaginary lines parallel to the prime meridian line that help map makers locate places with accuracy. (Vertical lines)

TIMELINE



BQ1. WHO WAS ERATOSTHENES AND HOW IS HE LINKED TO THE WORD 'GEOGRAPHY'?



Eratosthenes

- ☐ Eratosthenes lived in the city of Alexandria in the country of Egypt.
- ☐ Eratosthenes worked in the Great Library as the Chief Librarian.
- ☐ Eratosthenes studied Mathematics, Astronomy, Poetry, History, and Philosophy.
- ☐ Eratosthenes made a new word called Geography. In Ancient Greek, **Geo** means '**the Earth**' and '**graphy**' means '**to write**'. Geography means '**to write about the Earth**'.



The Great Library

- ☐ The city of Alexandria was home to the Great Library.
- ☐ The Great Library was home to knowledge and information from across the Greek Empire.

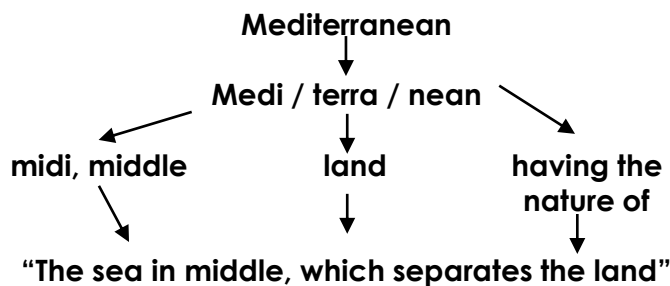


Egypt

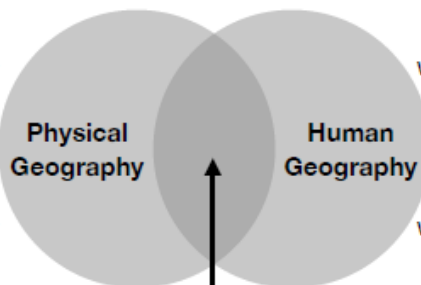
- ☐ Egypt was part of the empire of Ancient Greece in 220 B.C.
- ☐ Alexandria was a coastal city in the North of Egypt next to the Mediterranean Sea.
- ☐ The city of Alexandria was founded by a Greek, Alexander the Great; he named the city after himself.



Mediterranean



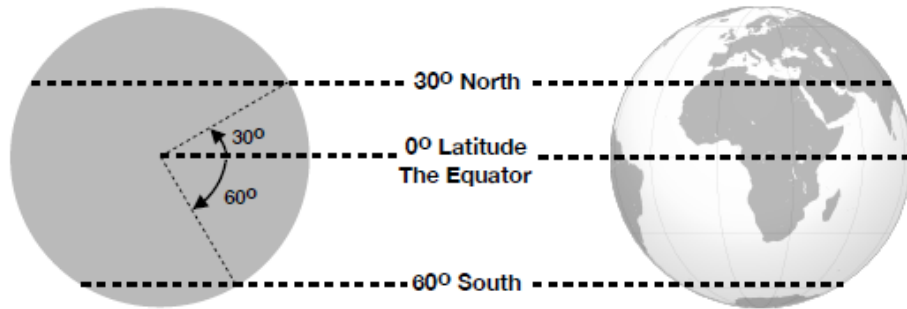
How do rivers shape the land?
 Why does it rain?
 What causes volcanoes?
 What creates waves?
 Why does winter happen?



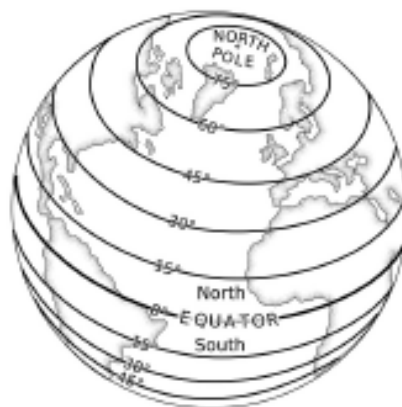
Where do people live?
 Are there too many people?
 How do cities cope?
 Why do some people live longer?
 Why are some countries richer?

Environmental Geography
 The interaction between people and the environment

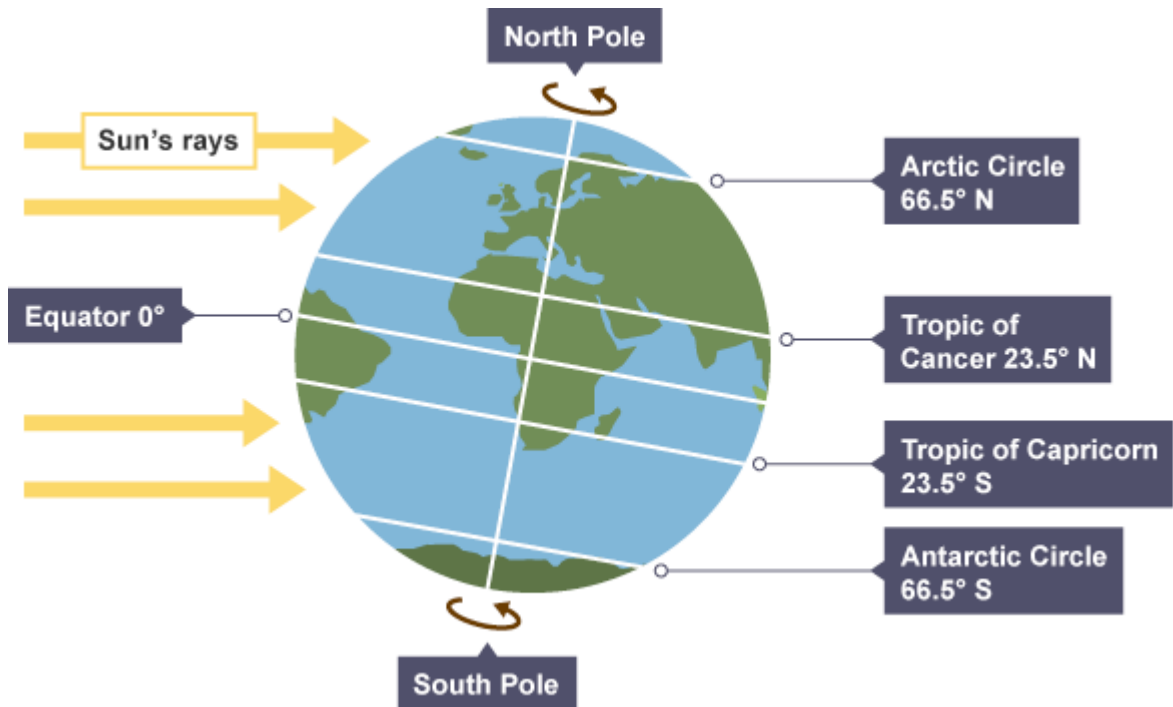
BQ2. WHY IS LATITUDE MEASURED IN DEGREES?



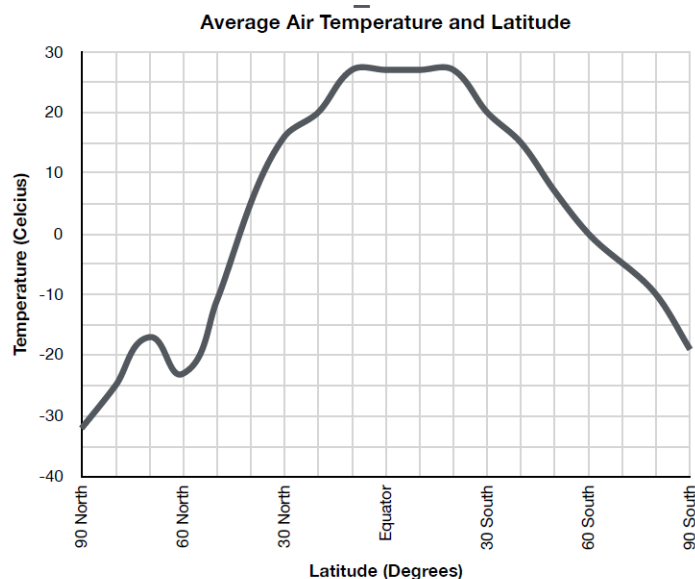
- ☐ Lines of latitude run horizontally around the surface of the Earth.
- ☐ The line that runs horizontally around the surface of the Earth in the middle is called the Equator.
- ☐ The line of latitude that runs horizontally around the surface in the middle is called the Equator because it separates the surface of the Earth into two *equal* halves.
- ☐ Latitude is measured in degrees because of the angle measured from the centre of the Earth.
- ☐ The line of latitude runs horizontally around the Earth's surface at the place where the angle from the centre of the Earth reaches the surface.



BQ3. HOW ARE LATITUDE AND TEMPERATURE LINKED?



- ❑ Temperatures drop the further an area is from the equator due to the curvature of the earth.
- ❑ In areas closer to the poles, sunlight has a larger area of atmosphere to pass through and the sun is at a lower angle in the sky. As a result, more energy is lost and temperatures are cooler.



BQ4. HOW DOES THE STORY OF THE TITANS AND THE OLYMPIANS LINK TO GEOGRAPHY?

The **Titans** and the **Olympians** were the gods of Ancient Greece.

The Titans were the older gods. The Olympians were the younger gods. There were twelve Titans and there were twelve Olympians. The Titans came first, the Olympians were like their children.

Eventually the Olympians wanted to be in charge, and rule instead of the Titans. The Titans were strong and powerful.



Zeus

Zeus was the leader of the Olympians. When Zeus and the Olympians decided that they wanted to rule, they started a war.

The war Zeus and the Olympians started against the Titans was called the **Titanomachy**. The Olympians and the Titans were very evenly matched during the Titanomachy.



Cronos

Cronus was the leader of the Titans. Fighting alongside Cronus was Atlas.

Each of the gods in Ancient Greece were in charge of something. Cronus was the Titan in charge of time. The words **chronology** and **chronological order**, come from the name of the leader of the Titans, Cronus.

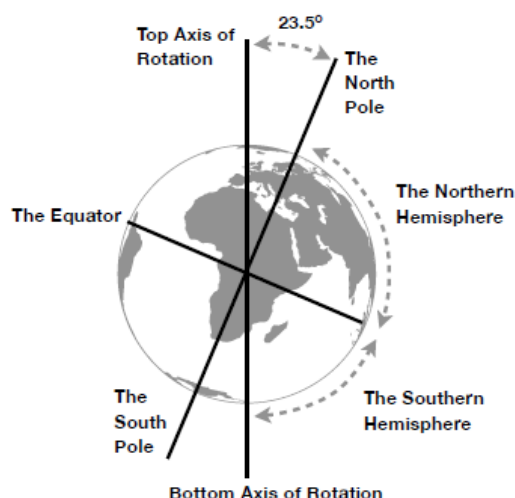
After ten years of fighting, the Olympians defeated the Titans by trapping ten of them in a prison called Tartarus. Cronus was one of the ten Titans trapped in **Tartarus**, but Atlas was not.



Atlas

Atlas was punished by Zeus to stand at the Western edge of the Earth, and hold up the celestial spheres. In Ancient Greece, the theory of celestial spheres was used to explain the orbit of planets around the sun.

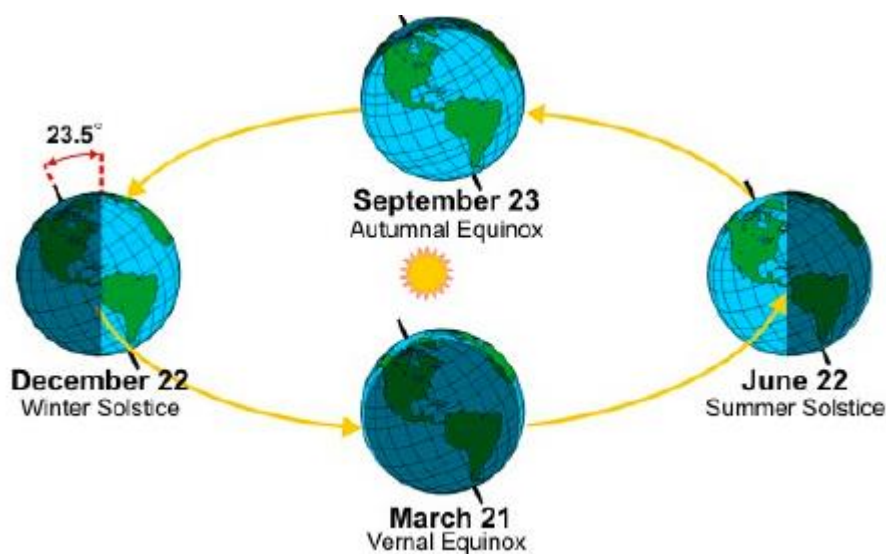
BQ5. WHAT CAUSES SEASONS?



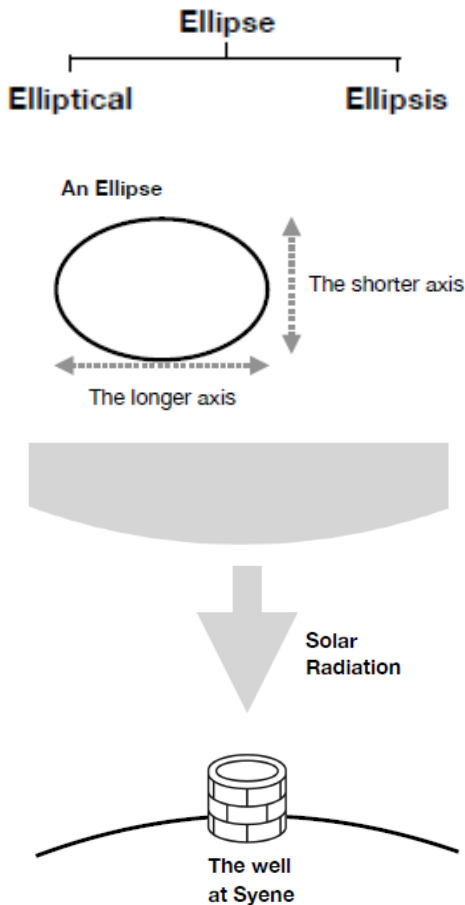
There are four main seasons in the U.K. The U.K. has four main seasons because the Earth is **tilted**, and because the Earth **orbits** the sun.

Because the Earth is tilted at **23.5 degrees** the North Pole is never pointed directly at the sun. However, for half the year the North Pole is tilted towards the sun and for half the year the North Pole is tilted away from the sun.

Whilst the South Pole is tilted towards the sun, it is summer in the Southern Hemisphere. This is because more of Southern Hemisphere is facing the sun. Because more of the Southern Hemisphere is facing the Sun, the southern hemisphere receives more solar radiation.



BQ6. HOW DID ERATOSTHENES CALCULATE THE CIRCUMFERENCE OF THE EARTH?



An ellipse is a circular shape but it is not a perfect circle. In an ellipse, one axis is longer than the other. An ellipse does not have a constant diameter. The Earth does not have a constant diameter, excuse the Earth is not a perfect sphere, the Earth is **Elliptical**.

Eratosthenes had read that in the city of Syene there was a well. This was a deep well that provided the city with its water supply. On the summer solstice, there was no shadow in the well. This meant that on the day of the year with the most daylight hours, often called the 'longest day of the year' the sun was directly above the city of Syene.

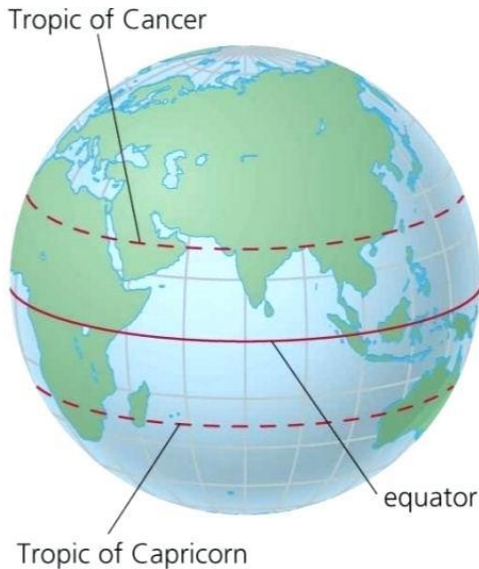
Eratosthenes waited until the summer solstice. During the summer solstice the midday sun was shining down on the city of **Alexandria**. Eratosthenes measured the length of the shadow cast by the sun on the pillars of the city.

By measuring the length of the shadow, he calculated the angle of the sun as 7.2 degrees. Eratosthenes now knew the angles of the sun at Alexandria (7.2) and at Syene (0). Setting off on horseback, Eratosthenes calculated the distance to be 5000 stadia (787.5km).

Eratosthenes knew that there were 360 degrees in a circle, and he had calculated the distance for 7.2 degrees of them. Eratosthenes believed that the Earth would be a perfect sphere. Eratosthenes calculated the circumference to be **39,375km**.

We have since calculated the circumference of the Earth to be 40,008km. Though incorrect, Eratosthenes was within 2% of the correct answer when working calculating the Earth's circumference more than 2000 years ago.

BQ7. WHY ARE THE TROPIC OF CANCER & TROPIC OF CAPRICORN NAMED AS SUCH?



The Tropic of Cancer is the most northerly line of latitude that at which the sun can be directly overhead. The city of Syene is almost exactly on the Tropic of Cancer which is why Eratosthenes was able to use it to calculate the circumference of the Earth.

The Tropic of Cancer's counterpart in the Tropic of Capricorn. The Tropic of Capricorn is in the Southern Hemisphere. The Tropic of Capricorn is the same distance from the Equator as the Tropic of Cancer. The sun is directly overhead of The Tropic of Capricorn during the **winter solstice**.

The **Tropic of Cancer is 23.5 degrees North**, and the **Tropic of Capricorn is 23.5 degrees south**.

Around 200 B.C., when Eratosthenes would have been alive and working as the Chief Librarian in Alexandria, the Tropic of Cancer was named. During the summer solstice, in the month of June, the sun was directly overhead of the Tropic of Cancer. In the Month of June the constellation **Cancer** was also directly overhead. The line of latitude is named after the constellation that was also directly overhead.

BQ8. WHAT ROLE DID MARINUS OF TYRE PLAY IN THE CREATION OF LONGITUDE?



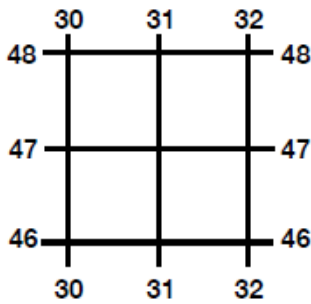
- ❑ **Marinus of Tyre** is named after the place he lived.
- ❑ The city of Tyre was in the Roman Province of Syria.
- ❑ Tyre was once conquered by Alexander the Great
- ❑ Marinus was born in 70AD and died in 130AD.
- ❑ Marinus of Tyre was a cartographer and mathematician.

Marinus of Tyre realised that in order to be able to locate cities, rivers, mountains, and the coastline on his map, he needed more than latitude.

- ❑ Latitude is measured in degrees from the Equator. The Equator separates the Earth into the Northern Hemisphere and the Southern Hemisphere.
- ❑ The first challenge for Marinus of Tyre was creating a line of longitude as a counterpart to the Equator.
- ❑ Marinus decided that the answer was to create the **Prime Meridian**. The Prime Meridian is the 0 degree line of longitude. The Prime Meridian is a counterpart to the Equator, because they are both 0 degree lines.
- ❑ Longitude is measured in degrees East and West of the prime meridian.

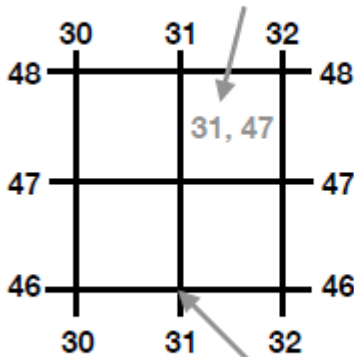


BQ9. HOW DO COORDINATES WORK ON A MAP?



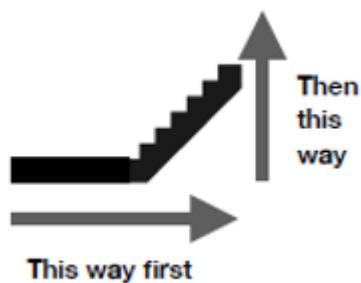
- ☐ Grid lines are imaginary lines of a map the resemble a grid.
- ☐ All of the grid lines are numbered. Grid lines only use integers for numbers. There are never fractions or decimal places.
- ☐ The numbers of the grid lines go up sequentially.
- ☐ Grid lines go up sequentially East and North.

The grid reference for this square area is (31, 47)



The coordinates for this point, are (31, 46)

- ☐ Coordinates help us to determine a point on a graph.
- ☐ The grid lines help us to identify square areas on a map.
- ☐ Coordinates are written as two numbers, separated by a comma.
- ☐ The numbers used to identify a square area on a map is called a **grid reference**.
- ☐ Every square on a map has its own grid reference.



BQ10. HOW DID THE ISLAMIC EXPLORERS INCREASE OUR KNOWLEDGE OF GEOGRAPHY?

- ❑ By the 12th Century, Europe had entered the Dark Ages and almost all the knowledge of Geography and cartography had been lost.
- ❑ The Islamic Empire had entered its **Golden Age of Science** and the discipline of Geography was still being studied.



Muhammed al-Idrisi

- ❑ Muhammed al-Idrisi joined the court of King of Sicily, King Roger II
- ❑ Muhammed al-Idrisi was a Geographer, and was very interested in the study of cartography.
- ❑ King Roger II of Sicily gave Muhammed al-Idrisi the task of creating the most accurate map of the world
- ❑ Muhammed al-Idrisi based his map on longitude and latitude that **Eratosthenes** had developed
- ❑ Muhammed al-Idrisi used information gathered by **Muhammed al-Khwarizmi**, who was the Chief Librarian of the House of Wisdom in Baghdad.
- ❑ The latin name for the map is the **Tabula Rogeriana**, which translates to English as 'The Map of Roger
- ❑ Muhammed al-Khwarizmi is credited with discovering both algebra and algorithms.



Ibn Batuta

- ❑ Ibn Batuta was a Muslim and a North African from the modern country of Morocco.
- ❑ Ibn Batuta was a scholar and an explorer. Ibn Batuta travelled widely.
- ❑ Ibn Batuta dictated the story of his travels called "**A Gift to Those Who Contemplate the Wonders of Cities and the Marvels of Travelling**"

BQ11. HOW DID THE ISLAMIC EMPIRE'S CARTOGRAPHY INFLUENCE COLUMBUS?



- ❑ Silk from China, and spices from India, were sold to wealthy families in Europe.
- ❑ These trade routes were known as the **Silk Roads**.
- ❑ The city of **Baghdad** was in the middle of the Silk Road. Baghdad became the richest city in the world.
- ❑ The journey from China to Europe took along the Silk Road took two years.
- ❑ **Christopher Columbus** believed that it would be quicker to sail from Europe to China across the Atlantic.



Columbus incorrectly thought that the distance he'd need to sail was around 3700km, this is because he believed that...



...each degree of latitude on the map was 56 Roman miles

Actually

Each degree was 56 Arabic miles, longer than Roman miles



...Claudius Ptolemy was correct and Asia covered half the Earth

Actually

Asia is smaller, and only covers one-third of the Earth



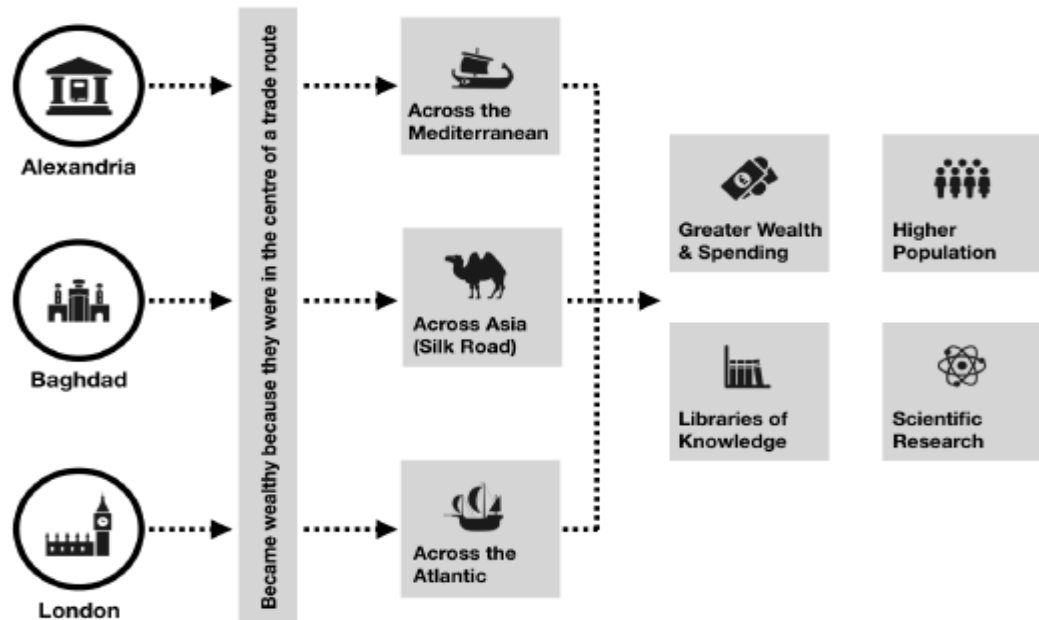
...Japan was larger, further East, and closer to the Equator

Actually

Japan is smaller, further North, and further West

- ❑ Columbus spent the remainder of his life arguing that he'd reached India.
- ❑ Columbus referred to the people he'd met there as Indians. We still use the name Indians to refer to the native people of North America today.
- ❑ Columbus named the islands he sailed to, the '**West Indies**'.
- ❑ **Ferdinand Magellan** was the first person to sail to India by sea. Magellan's voyage to India changed the Silk Road just like Columbus imagined.
- ❑ When Magellan entered the calm ocean on the other side he named it the **Pacífico**, which means 'peaceful'. We still call it the Pacific Ocean today.

BQ12. WHAT IS THE RELATIONSHIP BETWEEN CARTOGRAPHY AND TRADE ROUTES?



- ☐ The discovery of the New World led to improvements in cartography.
- ☐ Travelling from one side of the Atlantic Ocean to the other is known as a **transatlantic crossing**.
- ☐ The transatlantic trade contributed to the golden age of science in Europe. This golden age of science in Europe was known as the Age of Enlightenment.

The Mercator Projection and Tissot's Indicatrix

The problem is that maps are flat, and the Earth is elliptical. It is impossible to show an ellipsis on a flat sheet of paper perfectly.

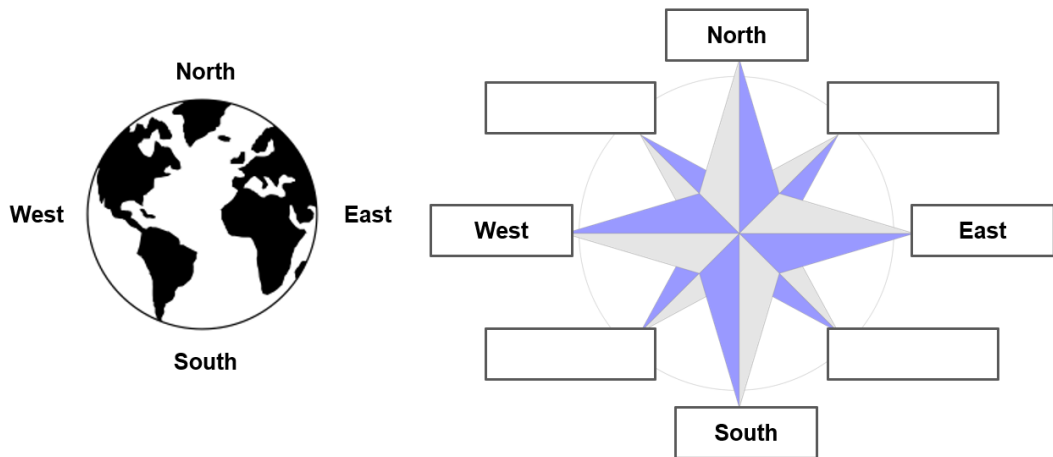
- ☐ The map designed by **Geraldus Mercator** is called the Mercator Projection.
- ☐ The Mercator Projection shows location accurately but distorts size and shape.
- ☐ We can use Tissot's Indicatrix to see how distorted the size and shape of places are on a map projection. Tissot's Indicatrix was invented by a French mathematician, **Nicolas Auguste Tissot**, to show the distortion in map projections.

HOMEWORK 1

Compass directions

Before we get started, it is important that you are confident with your compass directions. The cardinal (main) directions are: north, east, south and west. North and south are the most important, remember this when working out the intercardinal compass directions e.g. north-west.

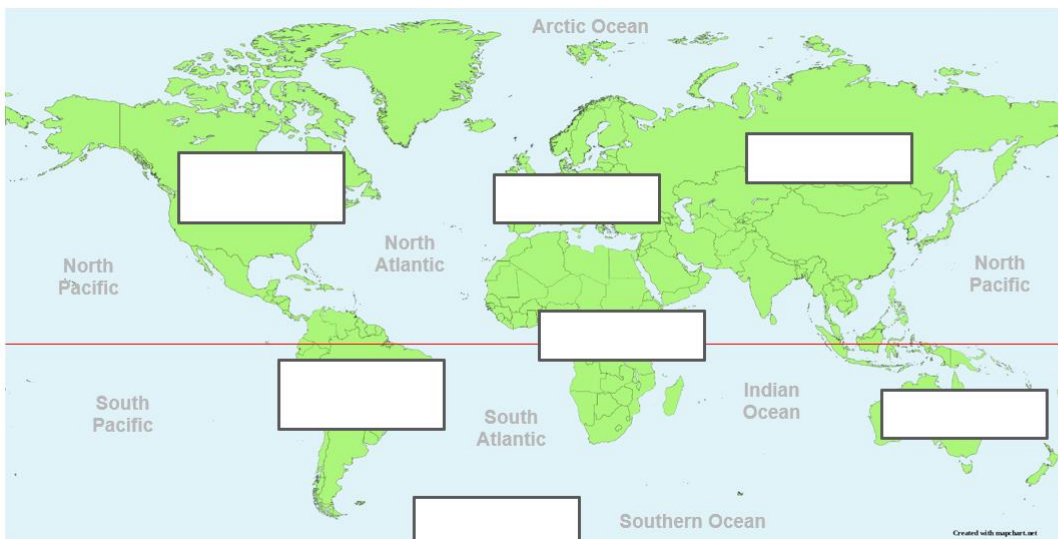
Task 1: Complete the 8 point compass below:



The continents

The continents are large areas of land that are generally separated from each other by the oceans. The exception to this is the division of Europe and Asia (by a mountain range called the Urals).

Task 2: Label the continents below:



Checklist

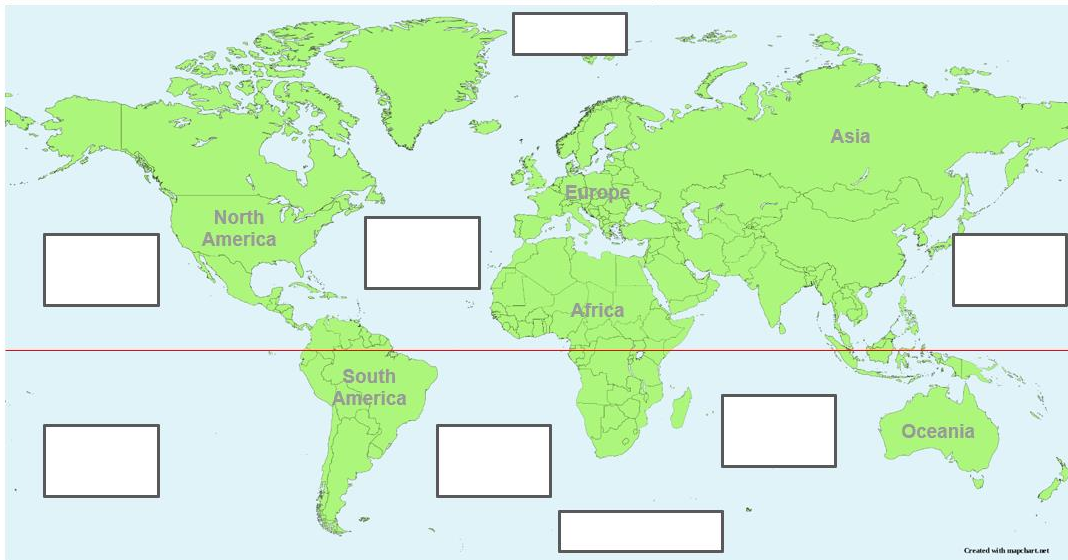
- ☐ Africa
- ☐ Antarctica
- ☐ North America
- ☐ South America
- ☐ Asia
- ☐ Europe
- ☐ Oceania

HOMEWORK 1

Oceans of the World

An ocean is a continuous body of salt water. There are five main oceans. We split the Atlantic and Pacific into north and south.

Task 3: Label the oceans below

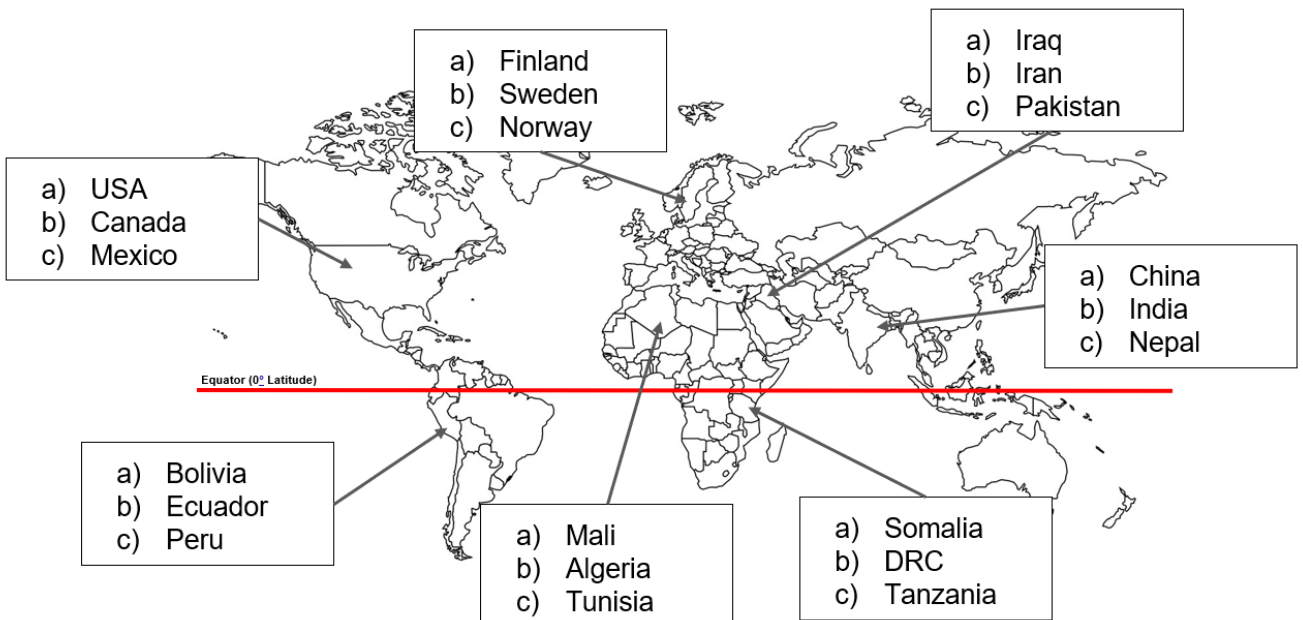


Checklist

- ☐ Arctic
- ☐ North Atlantic
- ☐ South Atlantic
- ☐ Indian
- ☐ North Pacific x2
- ☐ South Pacific
- ☐ Southern

Location of countries

Task 4: Select the correct option for each box.

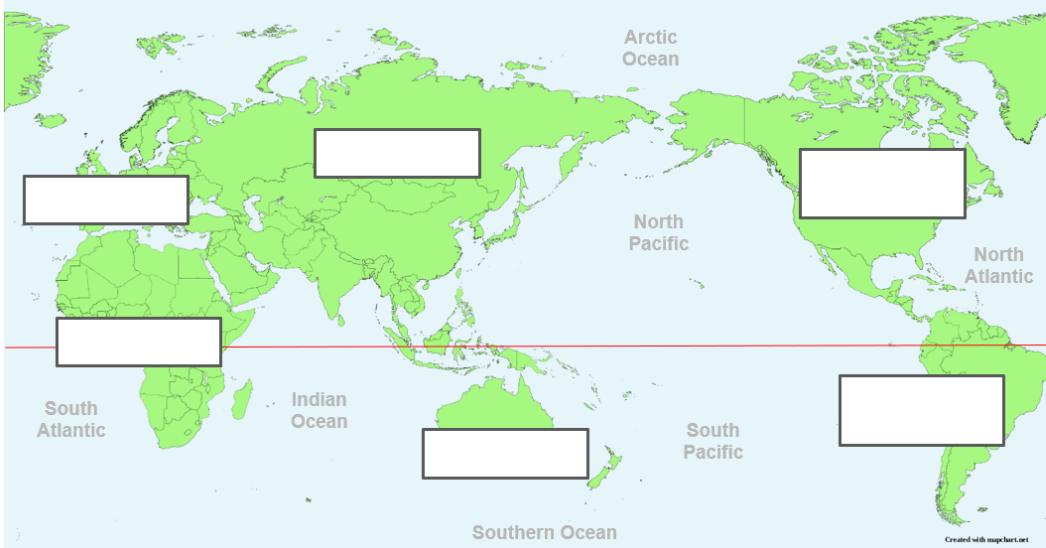


HOMEWORK 2

Pacific centered map of the world - Continents

We are not always used to seeing the world from this perspective. Countries that trade across the Pacific Ocean often use this map.

Task 1: Label the continents below



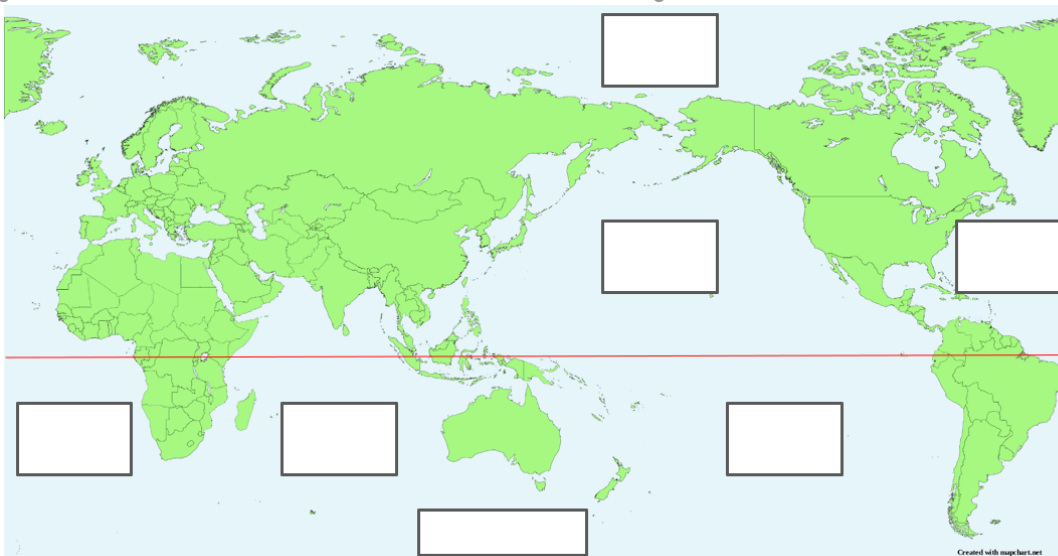
Checklist

- ☐ Africa
- ☐ Antarctica
- ☐ North America
- ☐ South America
- ☐ Asia
- ☐ Europe
- ☐ Oceania

Pacific centered map of the world - Oceans

We are not always used to seeing the world from this perspective. Countries that trade across the Pacific Ocean often use this map.

Task 2: Label the oceans below



Checklist

- ☐ Arctic
- ☐ North Atlantic
- ☐ South Atlantic
- ☐ Indian
- ☐ North Pacific
- ☐ South Pacific
- ☐ Southern

HOMWORK 2

1. What continent is to the east of Europe?

- a. Africa
- b. North America
- c. Asia

6. What Oceans is to the east of South America?

- a. South Pacific Ocean
- b. South Atlantic Ocean
- c. Southern Ocean

2. What ocean is to the west of Africa?

- a. South Pacific Ocean
- b. South Atlantic Ocean
- c. Indian Ocean

7. What continent is to the west of Oceania?

- a. Asia
- b. Antarctica
- c. Africa

3. What Ocean is to the south of Oceania?

- a. Indian Ocean
- b. Southern Ocean
- c. South Pacific Ocean

8. What continent is south of South America?

- a. Oceania
- b. Antarctica
- c. Africa

4. What continent is to the west of North America?

- a. South America
- b. Asia
- c. Africa

9. What Ocean is to the west of Europe?

- a. North Atlantic Ocean
- b. South Atlantic Ocean
- c. North Pacific Ocean

5. What Ocean is to the east of Asia?

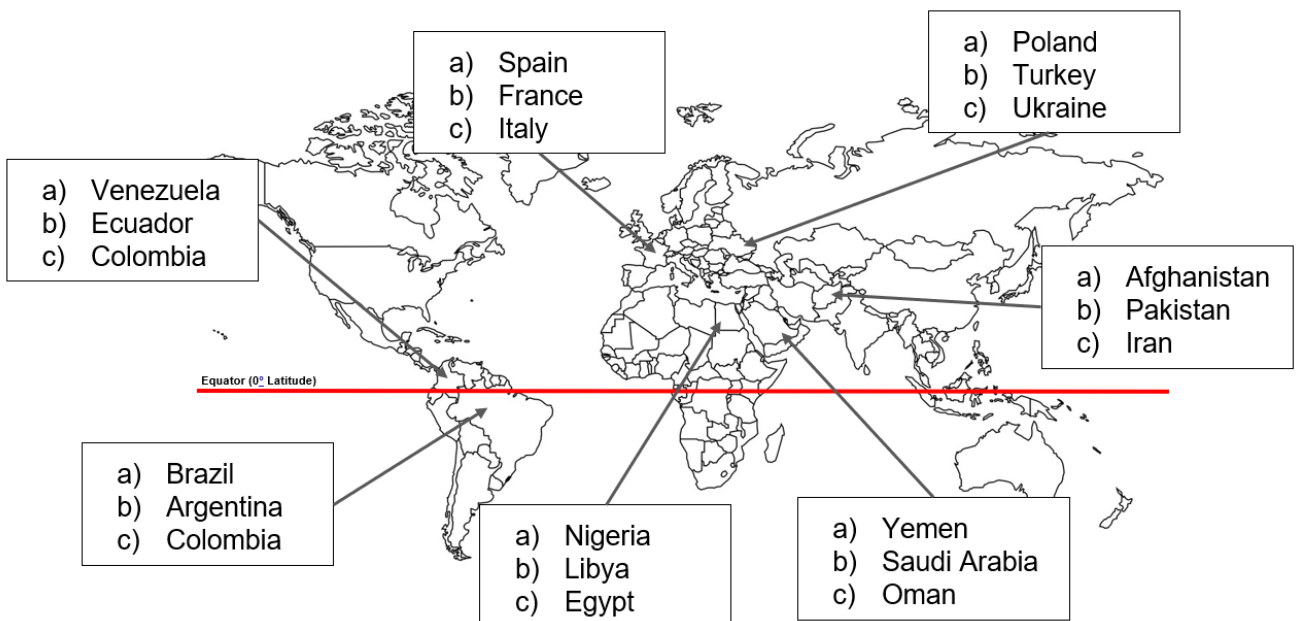
- a. Arctic Ocean
- b. North Pacific Ocean
- c. North Atlantic Ocean

10. What Ocean is located over the North Pole

- a. Arctic Ocean
- b. North Atlantic Ocean
- c. North Pacific Ocean

Location of countries

Task 4: Select the correct option for each box.

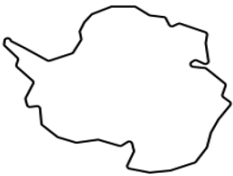


HOMWORK 3

The seven continents

Now that you recognise the continents in their correct positions, you should be able to recognise them by their outline alone.

Task 1: Label the continents below













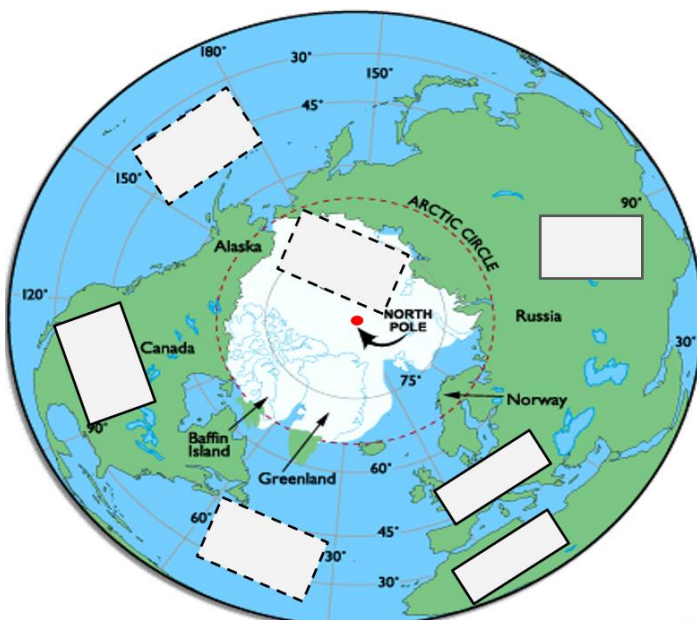


Checklist

- ☐ Africa
- ☐ Antarctica
- ☐ Asia
- ☐ Europe
- ☐ Oceania
- ☐ North America
- ☐ South America

North Pole centered world map

This is another unusual projection of the world. It is not often that we look down on the North Pole like this. This region is becoming more important as climate changes and the ice melts in the summer. It is important that you can recognise the continents and oceans from this perspective.



Checklist

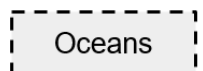
Oceans

- ☐ Atlantic Ocean
- ☐ Pacific Ocean
- ☐ Arctic Ocean

Continents

- ☐ North America
- ☐ Africa
- ☐ Asia
- ☐ Europe

Key



Oceans

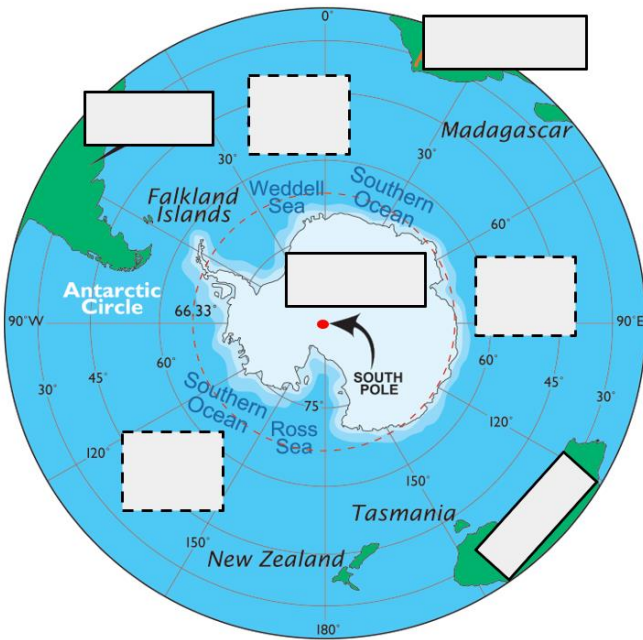


Continents

HOMWORK 3

South Pole centered world map

This is another unusual projection of the world looking down on the South Pole. It is from this perspective we can see that Antarctica is shaped a bit like a circle. No country owns Antarctica but seven countries have made territorial claims to the continent. These countries are: Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom.



Checklist

Oceans

- ☐ Atlantic Ocean
- ☐ Pacific Ocean
- ☐ Indian Ocean

Continents

- ☐ South America
- ☐ Africa
- ☐ Oceania

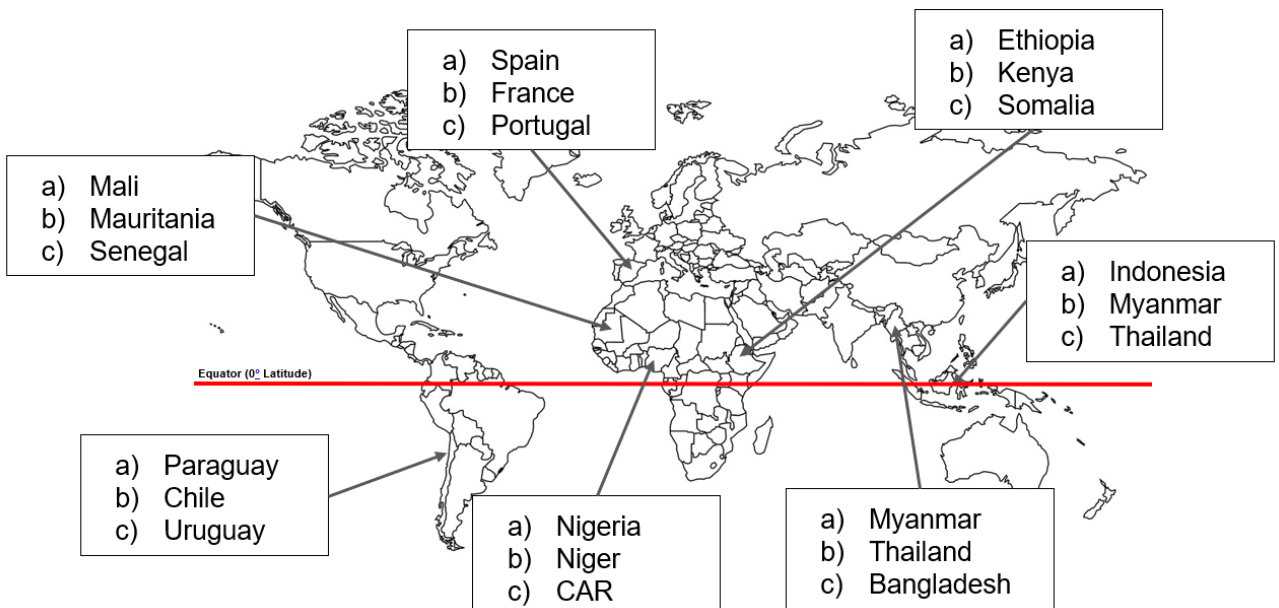
Key

Oceans

Continents

Location of countries

Task 4: Select the correct option for each box.



WIDER READING



Wider reading is a vital skill in geography in order to extend your knowledge. For each book listed here that you read, write a book report outlining your thoughts and you will **receive 30 house points**.

