

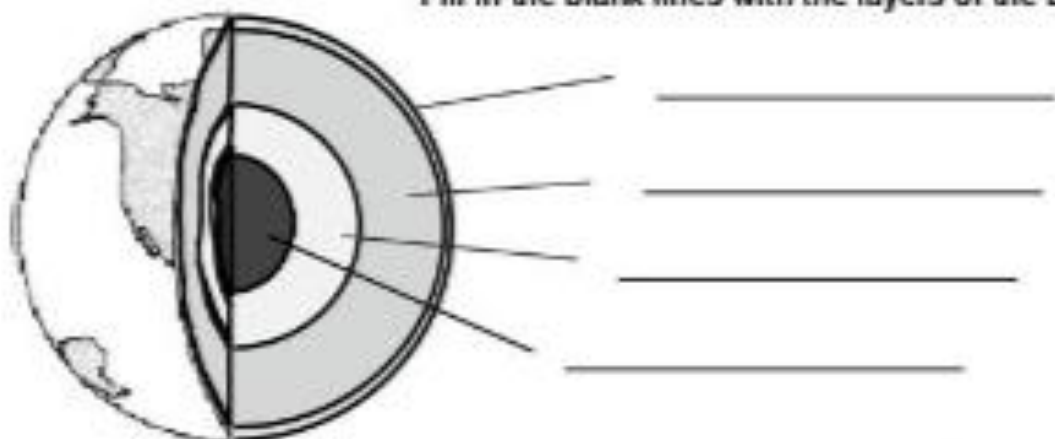
Rocks and soils



Constructive /Destructive Forces
Sponge Day 2
Inner Structure of the Earth

Student name _____
Teacher _____

Fill in the blank lines with the layers of the Earth



1. What is true about the earth's crust?

T or F The Earth's crust is made of rock.

T or F The Earth's crust thick melted rock.

T or F The Earth's crust is thicker than the inner layers.

T or F The Earth's land forms are found on Earth's crust.

2. What is true about the mantle of the earth?

T or F The mantle is a solid piece of rock.

T or F The mantle is thick liquid rock.

T or F The mantle is the outside layer of the earth.

T or F The mantle is hotter than the crust.

Sponge Day 3
Landforms

Fill in the blank lines with T (true) or F (false)

- _____ 1. Mountains can be found on the ocean floor, deep under the sea.
- _____ 2. The outer layer of the earth is called the core.
- _____ 3. The outer layer of the earth floats on the mantle.
- _____ 4. The continental crust is thicker but of lighter rock than the oceanic crust.

ROCKS

A rock is a hard, solid material made up of minerals. Rocks form and are broken down in a continuous cycle. There are three main types of rock. These are metamorphic rock, sedimentary rock and igneous rock.

Igneous rock is **magma** or lava that has been cooled. The word "igneous" comes from the Greek word for fire. All igneous rocks do not cool the same way. That is why they do not all look the same. Some of them cool slowly inside the Earth (Granite is an example of a rock that cools slowly and has large crystals) and others cool quickly outside on the **crust** when a volcano erupts (Basalt is an example of this type of rock).

Sedimentary rock:

The Earth's surface is constantly being **eroded**. This means that rocks are broken down into smaller pieces by **weathering** agents such as wind, water, and ice. These small pieces of rock turn into pebbles, gravel, sand and clay. Over a long period of time, the pieces become pressed together and form solid rock called **sedimentary** rock.

Metamorphic rock:

Heat and **pressure** can change many things. They can even change rocks. The name for rocks that have been changed is metamorphic rocks.. Metamorphic comes from a two Greek words meaning "change" and "form". Metamorphic rocks form deep in the Earth where high temperature, great pressure, and chemical reactions cause one type of rock to change into another type of rock.

Rocks on the Earth are constantly changing through the rock cycle. Rocks are continually formed, **weathered** and changed; the rock cycle is a process in which rocks and minerals are heated, **melted**, cooled and broken down, and it takes years to be completed; this cycle is extremely slow and can **last** thousands of years.

Each type of rock can change **itself** into a different one **due to** various processes;

Compaction	cementation	weathering	erosion	pressure
cooling	heat	melting		

4) Match the words on the left with the ones on the right:



Compaction
Cementation
Weathering
Erosion
Pressure

To wear out
Strength, force
Cement
To make harder
Weather

5) Complete the sentences:



Weathering is the **exposure** to the_____.

We use _____ and bricks to build houses.

Rain, wind, ice, cause_____.

Pressure is a _____ of nature.

If we impress a _____ on a material we compact it.

Cement, erosion, weather, force, pressure,

7) Match the words with the expression that means the same:



Thanks to
To become
Weathered
To melt
To wear out

To get liquid
To get old by the use or the pass of time
Due to
To turn into
Transformed by the weather

8) Match the phrases with the right definition:



Metamorphic rock
Igneous rock
Sedimentary rock
Sediments
Magma

Hot liquid found deep inside Earth.
A rock completely changed from its original form due to extreme heat and pressure.
Rocks formed from the cooling and hardening of magma.
Particles of rocks, minerals or animal or plant material combined to form a rock.
Loose pieces of minerals and rocks.

10) Work in pairs; ask your partner these questions.
Help him/her if he/she doesn't know the answer:



a) When Igneous Rock melts, what type of rock does it become?

It becomes _____

b) When heat and pressure are put on Sedimentary Rock, what type of rock does it become?

It becomes _____

c) What process changes Metamorphic Rock into magma?

The process that changes Metamorphic Rock into magma is called _____

d) What process turns Sedimentary Rock, Igneous Rock and Metamorphic Rock into sediment?

The process that turns any rock into sediment is called _____

e) What does magma become after it cools?

After cooling magma becomes _____

11) True or false?



- A rock is a soft, solid material made up of minerals.
- There are four types of rocks.
- Igneous rock is magma that has been cooled.
- Metamorphic rocks are formed due to high temperature and great pressure inside the Earth.
- The rock cycle is a very fast process.
- The rock cycle can last thousands of years.

13) Listen and read the text



Marble

Marble is made when heat and pressure change **limestone**. It is a metamorphic rock. Its surface has a high **polish** and smooth finish.

Marble can be **carved**, so it has been used for statues and buildings throughout history, including the Leaning Tower of Pisa and the Parthenon in Athens. However, it is too expensive for a normal building.



Leaning Tower of Pisa



Parthenon in Athens



David by Miguel Angel



Venus de Milo

18) Complete the following text. It will help you with your final project, where you will have to explain to the rest of the class how the rock cycle works.

The rock cycle is the _____ in which rocks are constantly _____ into other rocks.

This process is very slow and it can _____ thousands of years. There are three different types of rocks: _____ Rock, _____ Rock and _____ Rock.

Igneous rocks are formed when magma, also called lava, _____ when a volcano _____ or even inside, under the crust. This rock can be _____ due to weathering and erosion and become sediments which are little pieces of materials. These sediments, due to the processes of _____ and _____ become a different type of rock called sedimentary rock. Sedimentary rock, thanks to high _____ and _____ turns into metamorphic rock. Metamorphic rock deep inside the Earth can melt and turns into magma so, the rock cycle _____ again.

Any type of rock due to erosion transforms into _____ and eventually becomes a _____ rock.

5. Your final task:

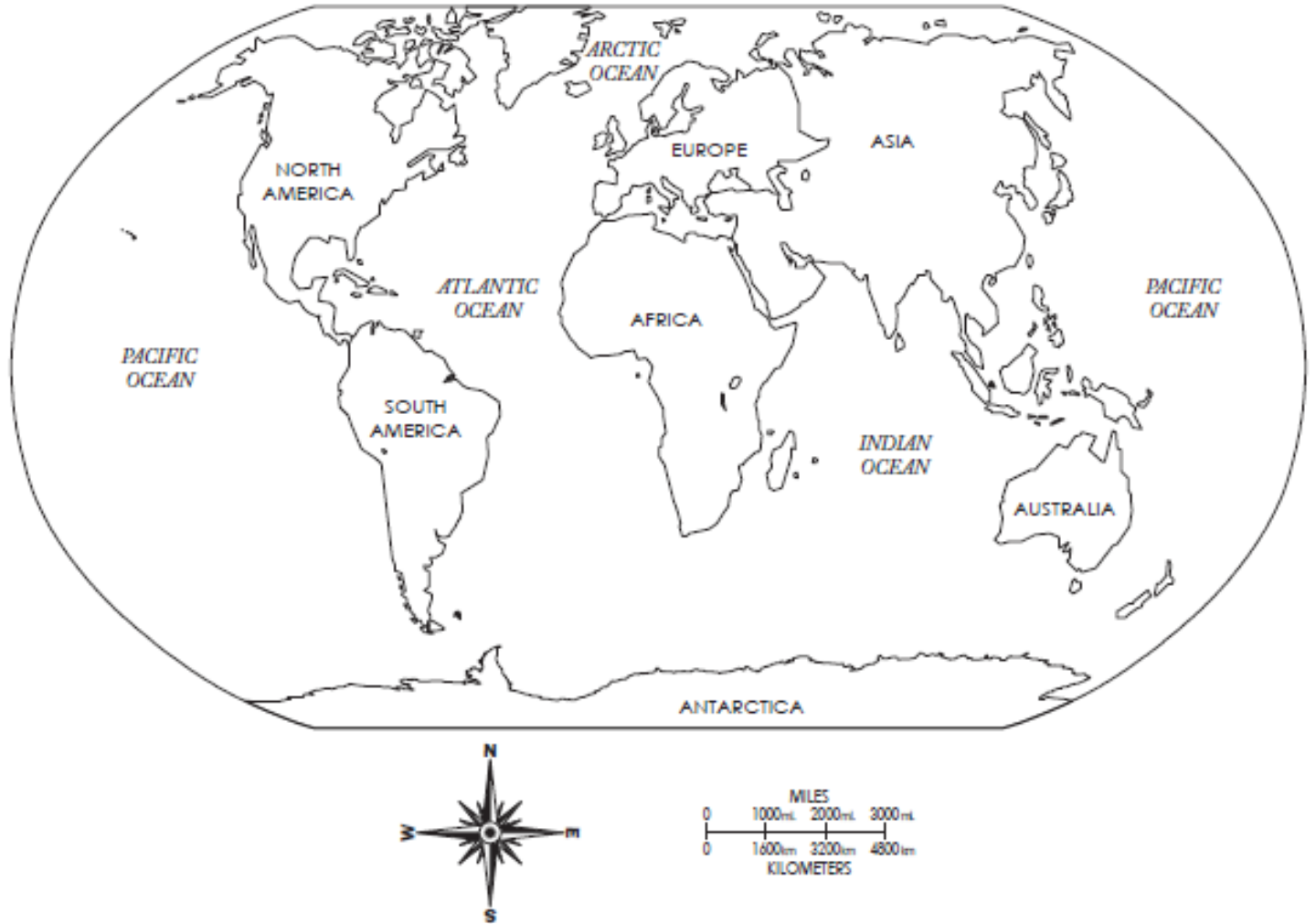


Now it's your turn:

Work in groups and make a poster about the rock cycle using real rocks to explain to the rest of the class this natural process. As you cannot use magma, you can use any other material to represent it.

	Mode of formation	Example	Spanish
Igneous rock		GRANITE, BASALT	
Sedimentary rock		SAND STONE, LIMESTONE	
Metamorphic rock		SLATE, MARBLE	

Continents and Oceans of the World



Name: _____

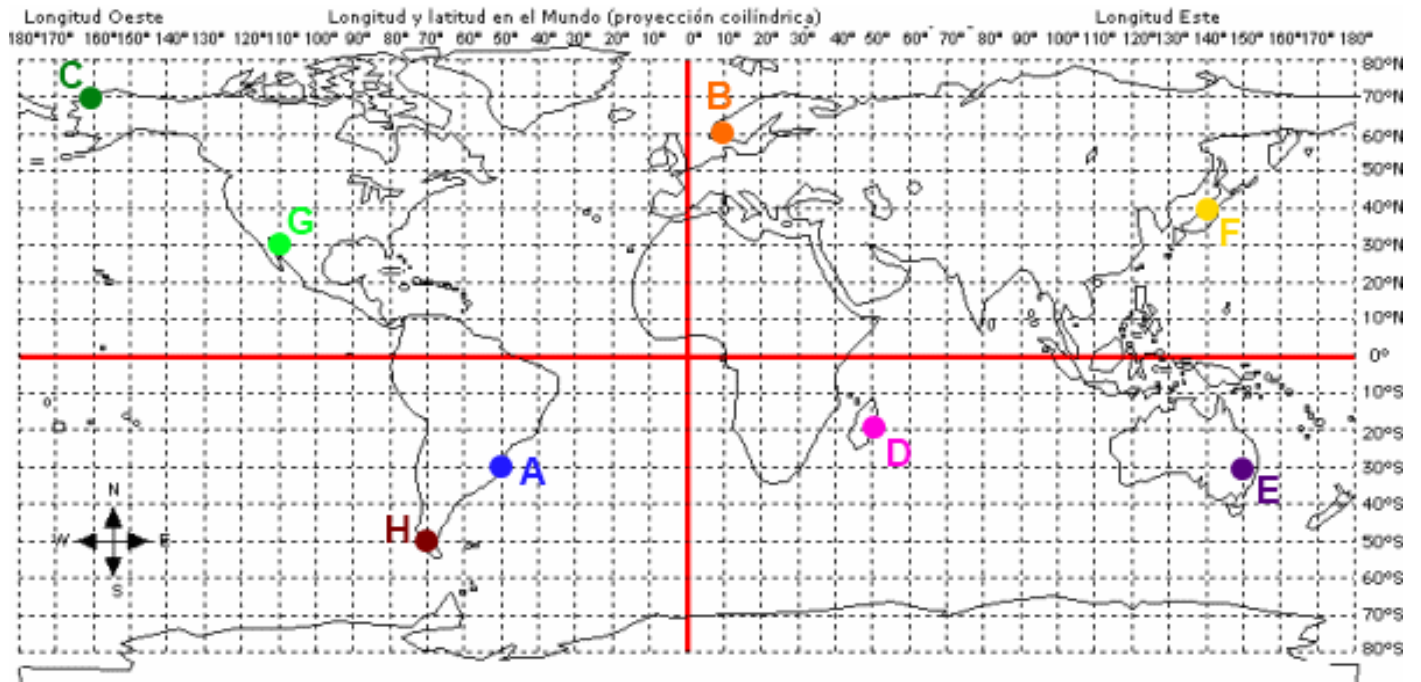
Latitude and Longitude



Write the name of the city and state found at the given latitude and longitude coordinates.

1. 33°N latitude, 112°W longitude _____
2. 35°N latitude, 78°W longitude _____
3. 46°N latitude, 96°W longitude _____
4. 45°N latitude, 122°W longitude _____
5. 29°N latitude, 95°W longitude _____
6. 43°N latitude, 79°W longitude _____
7. 25°N latitude, 80°W longitude _____

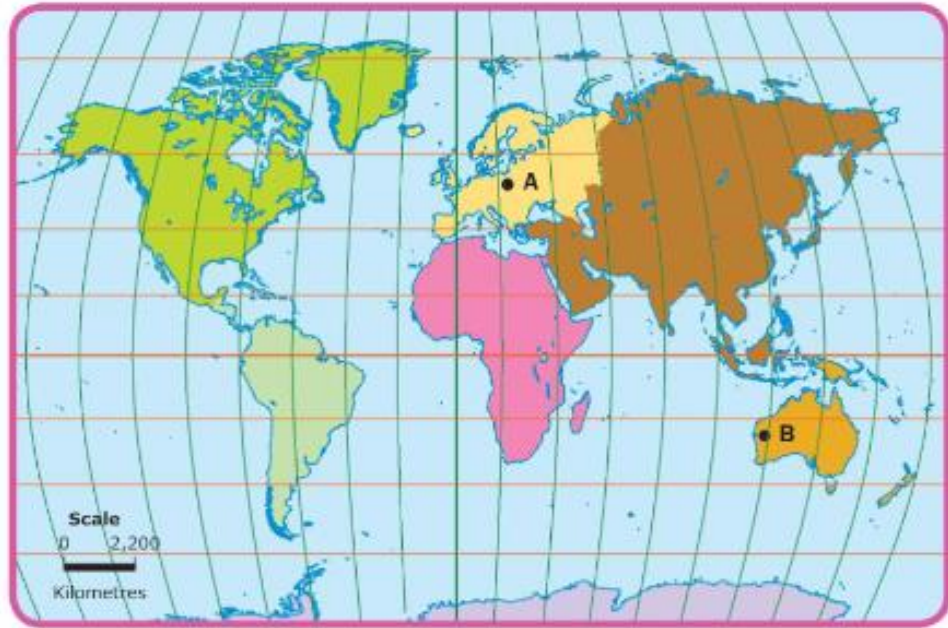
Source: <https://www.mathworksheetsland.com/coordinates/usa.html>



A) Latitud 30° S Longitud 50° O	E) Latitud <input type="text"/>
	Longitud <input type="text"/>
B) Latitud <input type="text"/>	F) Latitud <input type="text"/>
Longitud <input type="text"/>	Longitud <input type="text"/>
C) Latitud <input type="text"/>	G) Latitud <input type="text"/>
Longitud <input type="text"/>	Longitud <input type="text"/>
D) Latitud <input type="text"/>	H) Latitud <input type="text"/>
Longitud <input type="text"/>	Longitud <input type="text"/>

1 Copy the map. Then, answer the questions and label the map.

- What do the orange lines represent? What do the green lines represent?
- Label the following on your map: equator, northern hemisphere, southern hemisphere, Greenwich meridian.
- Label the oceans and the continents. Write the names of two countries on each continent.
- Find points A and B on the map. Measure the distance between them on the map. What is the actual distance between them? Explain your answer?



Finding points or co-ordinates on a map is similar to a game of battleships. In battleships, you use letters and numbers. On a map, you use **latitude** and **longitude**. Follow the steps to read the latitude and longitude of a point.



1. Point A is on the 30° meridian. It is east of the Greenwich meridian. Therefore its longitude is 30°E.

2. Point A is on the 40° parallel. It is north of the equator. Therefore its latitude is 40°N.

Look at the red lines on the map. They indicate the distance of point A from the equator and the Greenwich meridian. The values of latitude and longitude are called geographic co-ordinates. The **geographic co-ordinates** of point A are 40°N, 30°E.

- Look at the map. What are the geographic co-ordinates of points B, C and D?