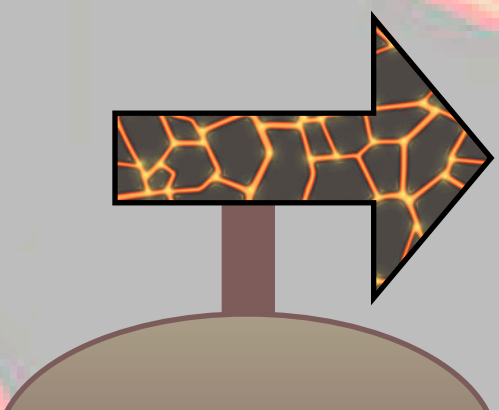


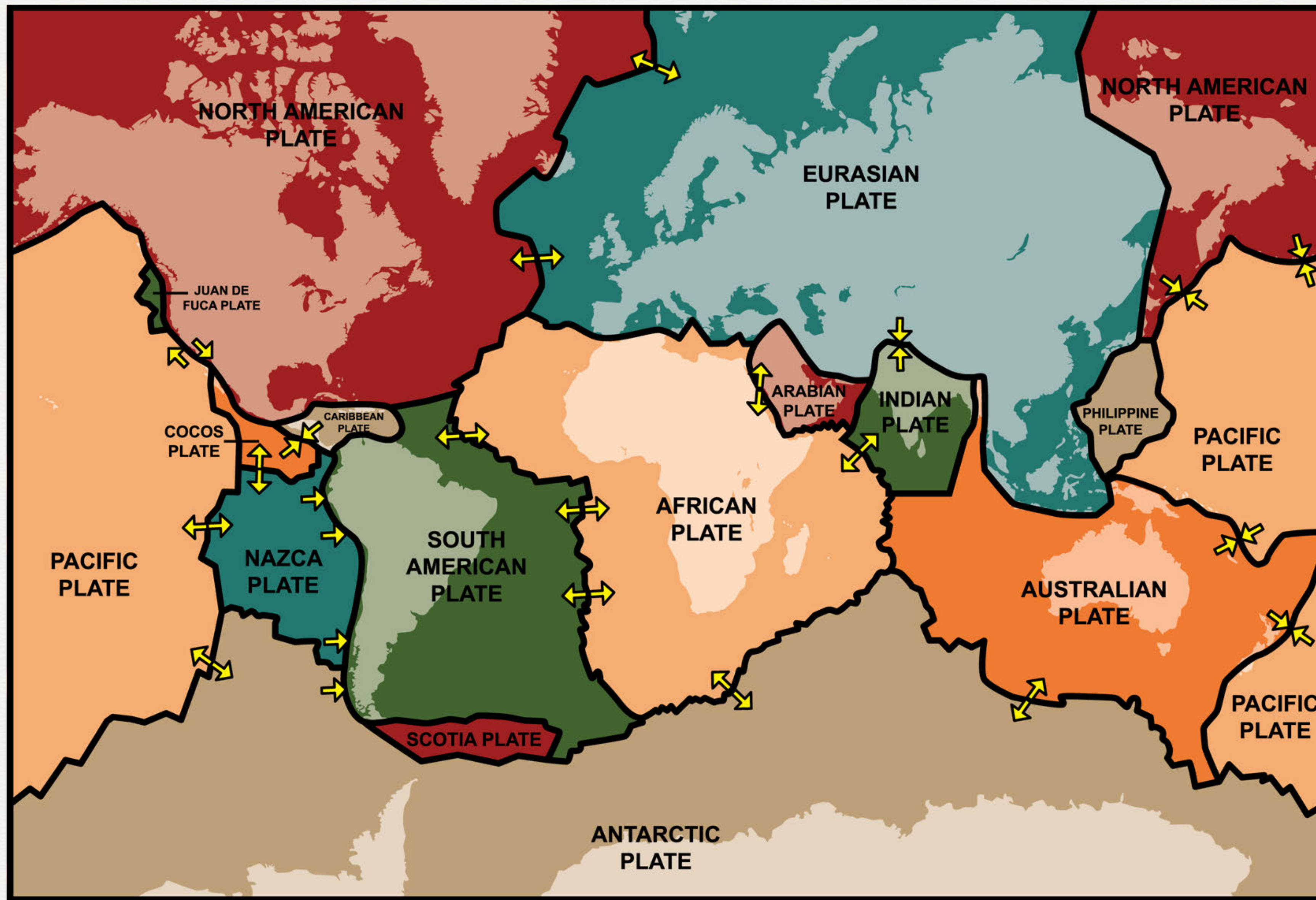
# VOLCANOES

Learning Objective:

To understand what tectonic plates are and what the 'ring of fire' is.



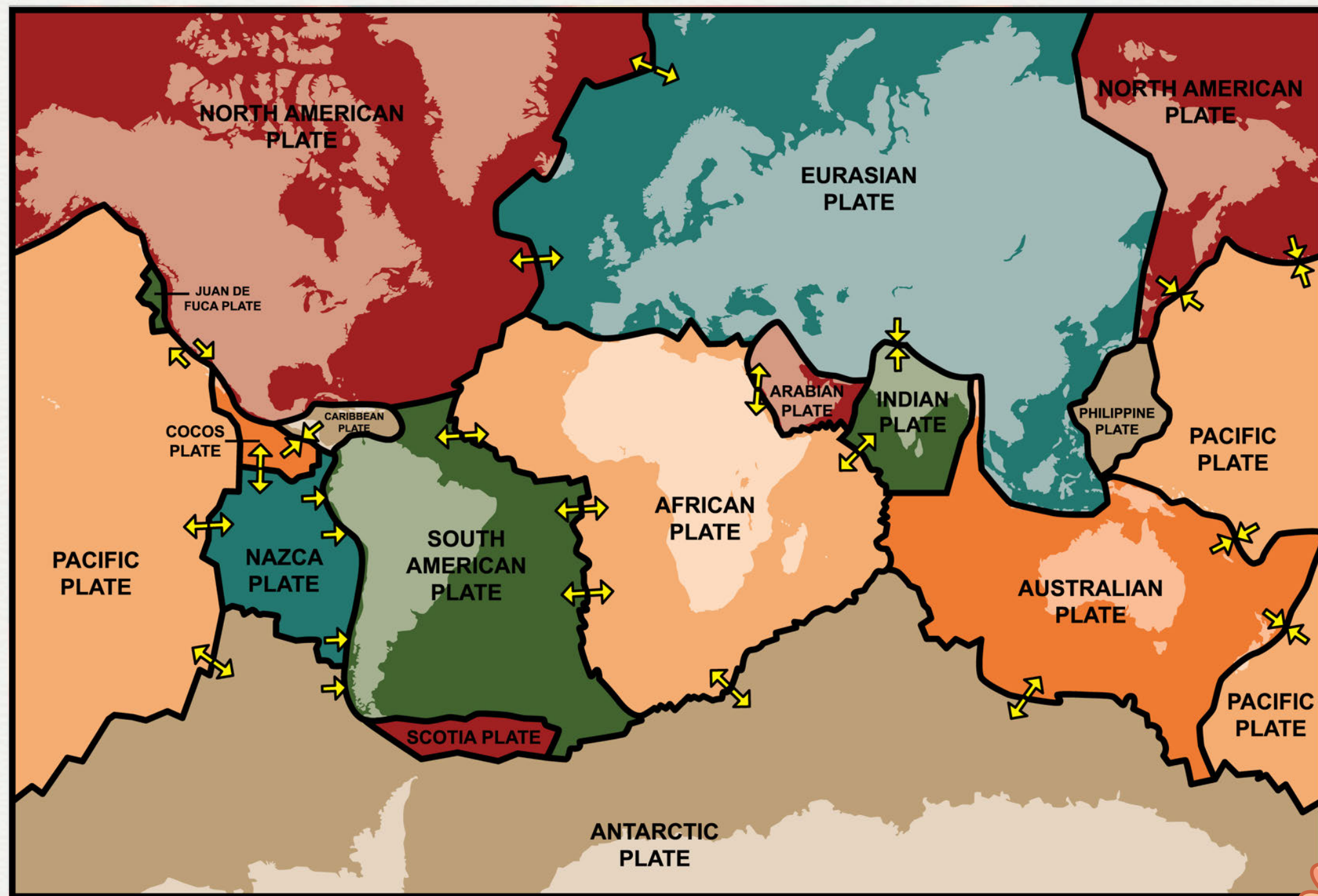




Look at this map. What can you see? What is this map trying to show you? Have you seen it before?





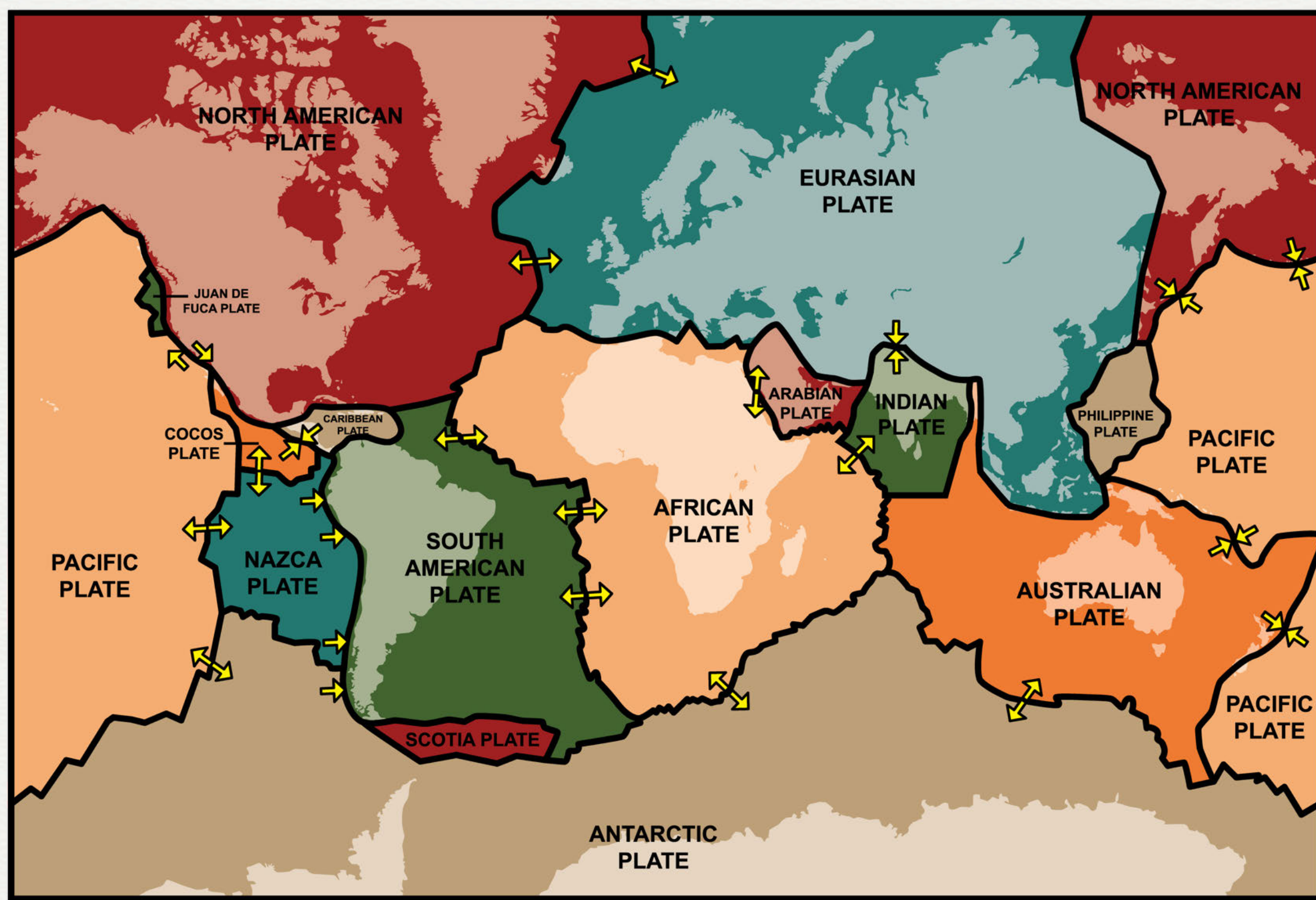


This map is showing us the Earth's tectonic plates. Do you know what tectonic plates are?



Can you see the world behind the coloured plates? Each continent is on a tectonic plate.





A tectonic plate is a massive slab of solid rock.

The Earth's surface is made up of 15 tectonic plates. These plates (slabs of rock) drift around the world up, down and around.

The Earth is always changing as the plates move and collide with one another.



Can you read the names of the Earth's plates?



The Earth's continents  
were formed on top of  
the tectonic plates.

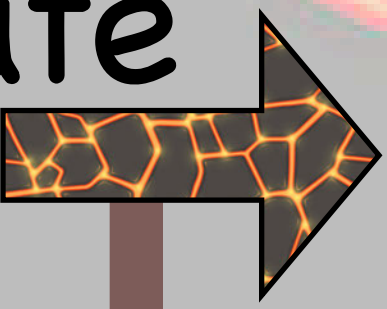
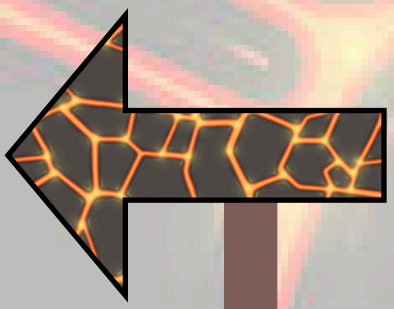
Here are the names of  
the plates.

What do you notice?

Antarctic Plate  
Scotia Plate  
African Plate  
Arabian Plate



Eurasian Plate  
Australian Plate  
Indian Plate  
Philippine Plate  
Pacific Plate  
Juan De Fuca Plate  
Nazca Plate  
Cocos Plate  
North American Plate  
Caribbean Plate  
South American Plate



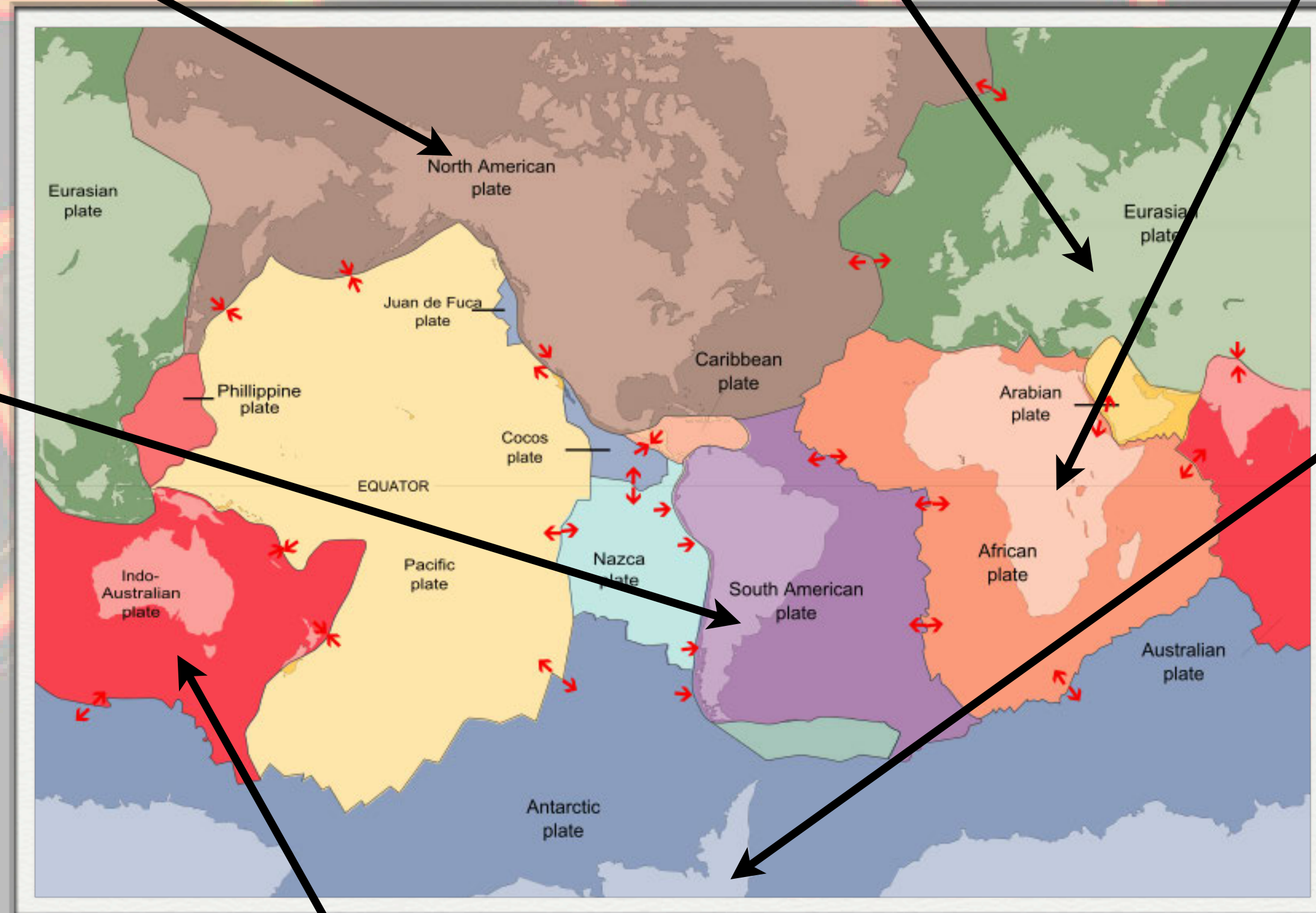
North America  
North American  
Plate

Europe  
Eurasian Plate

Africa  
African Plate

South America  
South American  
Plate

Antarctica  
Antarctic Plate



The names of  
the plates are  
almost the same  
as the  
continents.

Oceania  
Australian  
Plate





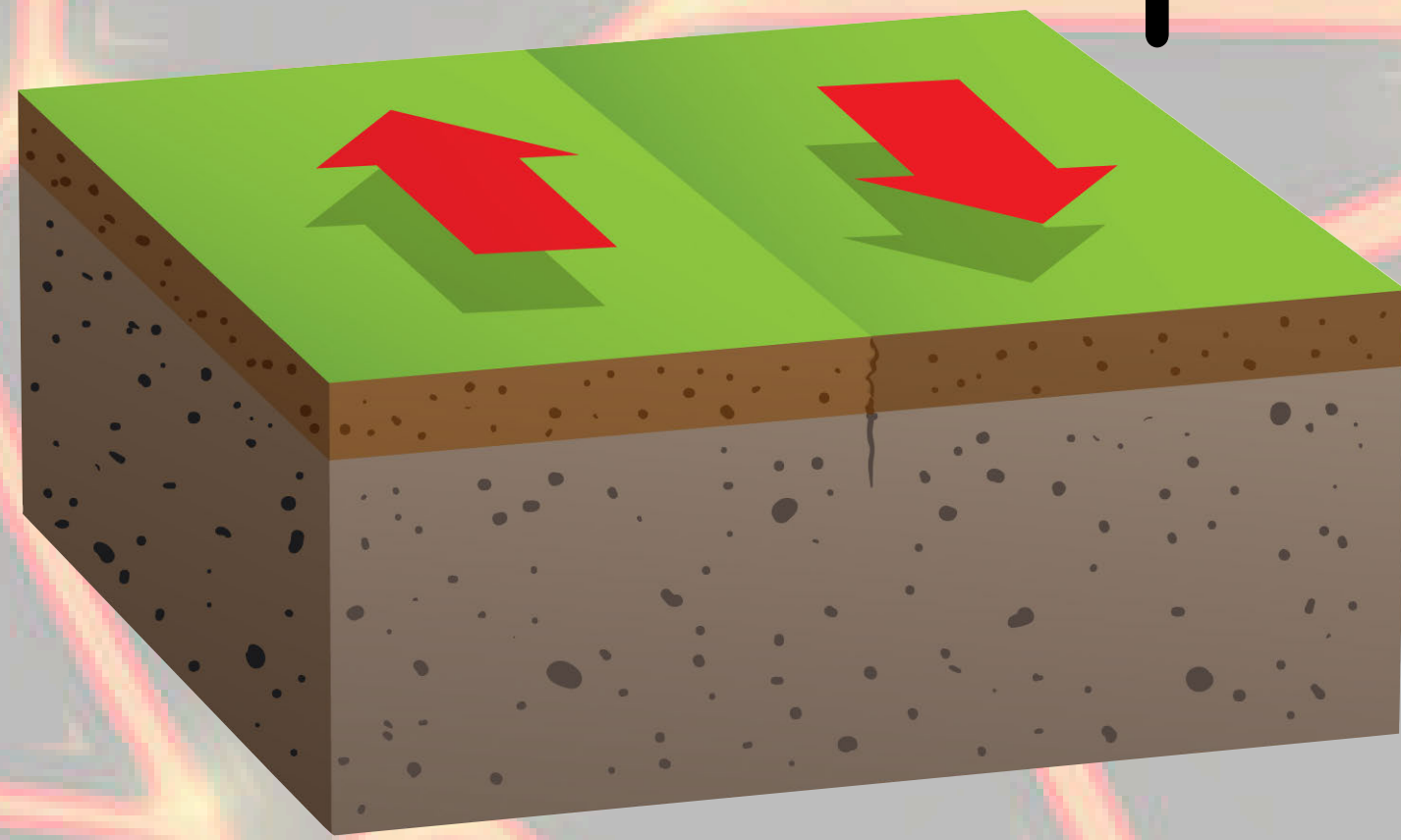
The Earth's tectonic plates are always moving next to each other. Their boundaries are described in three different ways.

Convergent, Divergent and Transform.

Most of the Earth's volcanoes are found at the boundaries of the tectonic plates. Volcanoes are found at convergent and divergent plate boundaries.

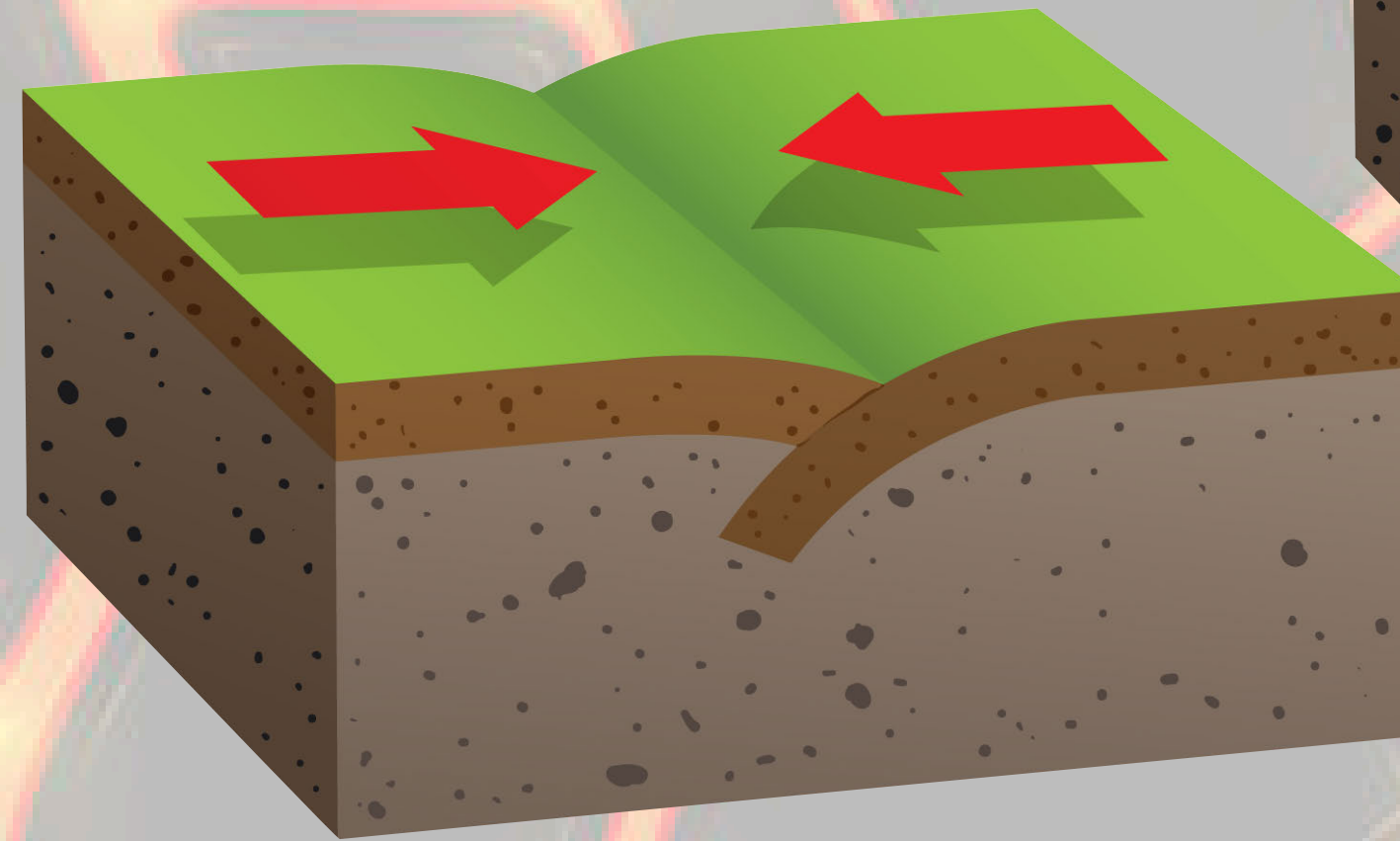


# These diagrams show the three plate movements.



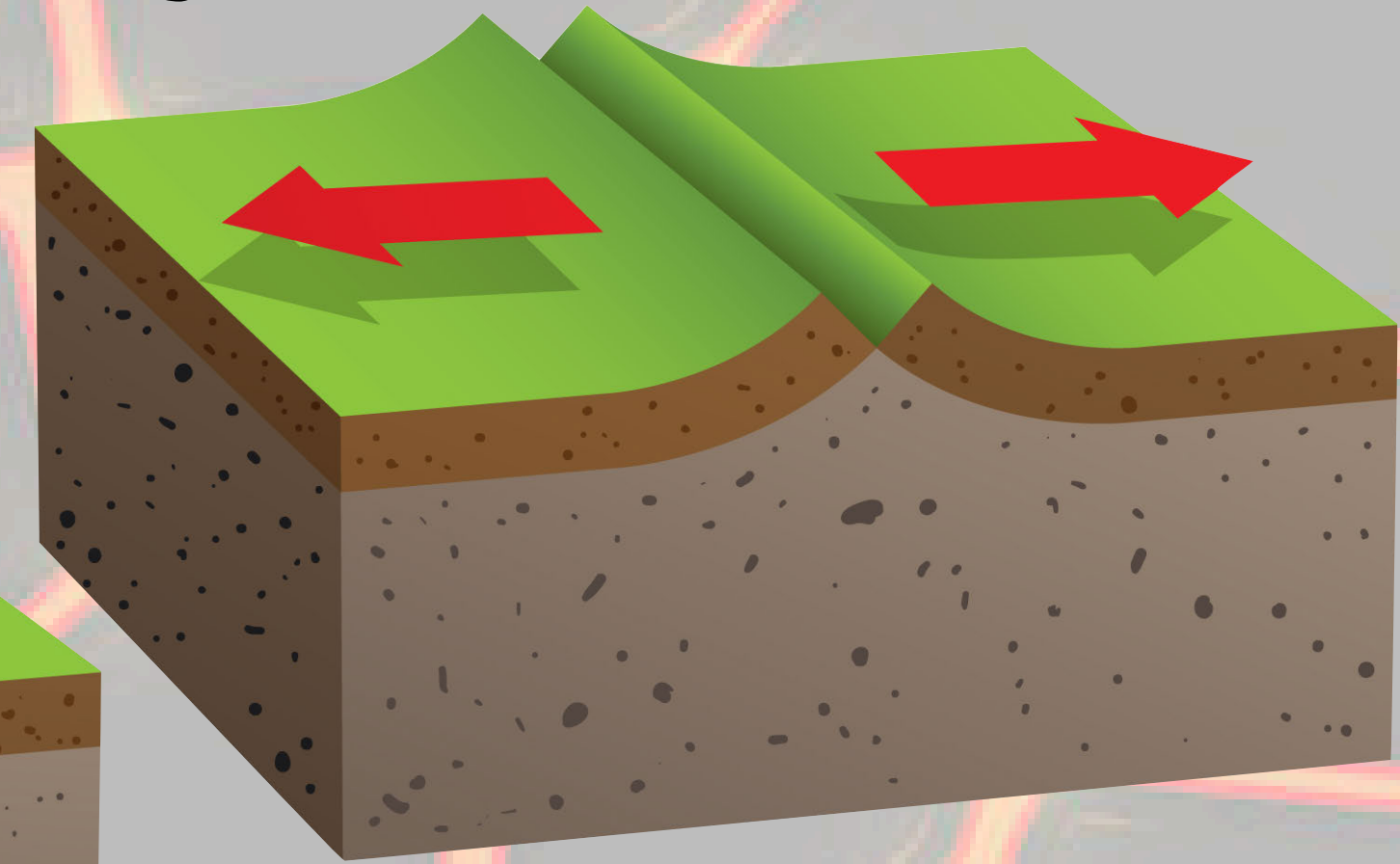
## Transform

The plates slide next to each other, which often causes an earthquake.



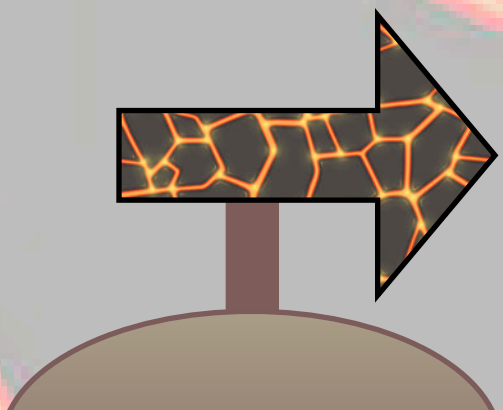
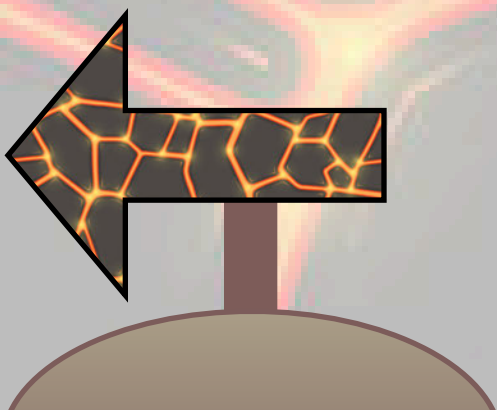
## Convergent

Plates collide and make a mountain, which becomes a volcano.



## Divergent

Plates move away from each other, which causes lava to erupt.







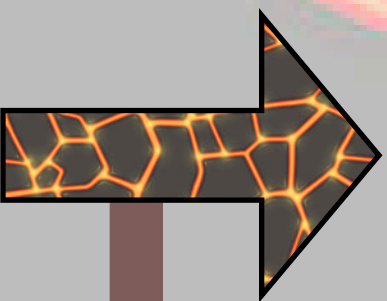
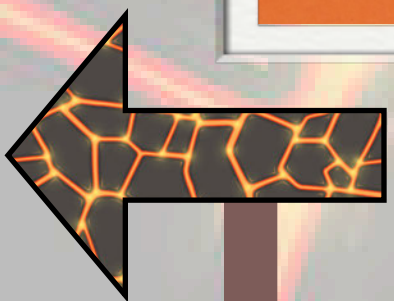
We can use Oreo biscuits to simulate the tectonic plate movements and the formation of volcanoes.  
**How?**



The top biscuit represents the Earth's crust and the cream represents the mantle where the magma is.



You can twist the biscuits apart and use the two broken pieces to show the tectonic plate boundaries.





Look at these images to see how to make the plate boundaries with Oreo biscuits.



### **Divergent**

Here, the two broken pieces show the plates moving away from each other.



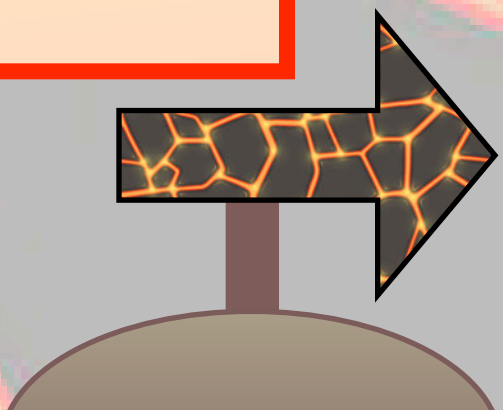
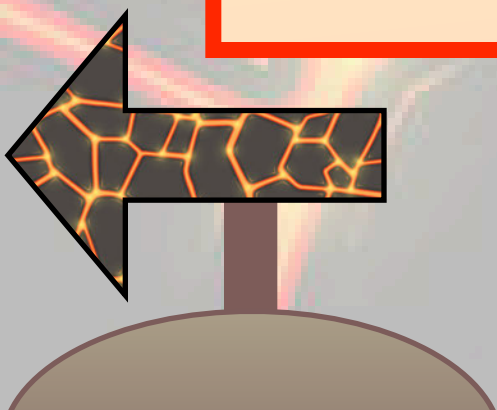
### **Convergent**

Here, the two broken pieces show the plates colliding together.



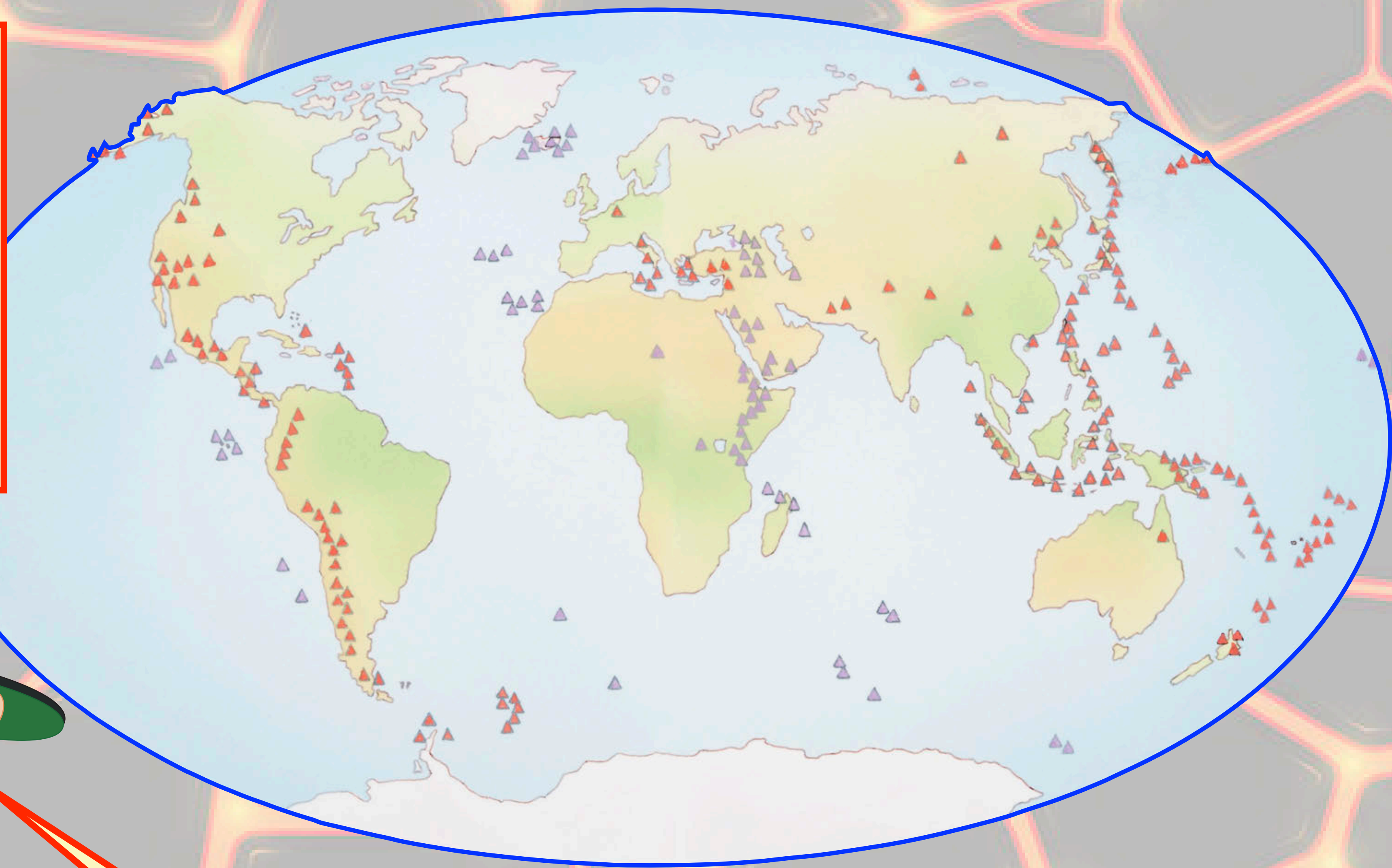
### **Transform**

Here, the two broken pieces show the plates sliding next to each other.





Volcanoes are all around the world. Can you see them on this map? There is a pattern here. Can you see it?



Most of the world's active volcanoes are found in the same areas. This is because of the tectonic plate boundaries in these areas.



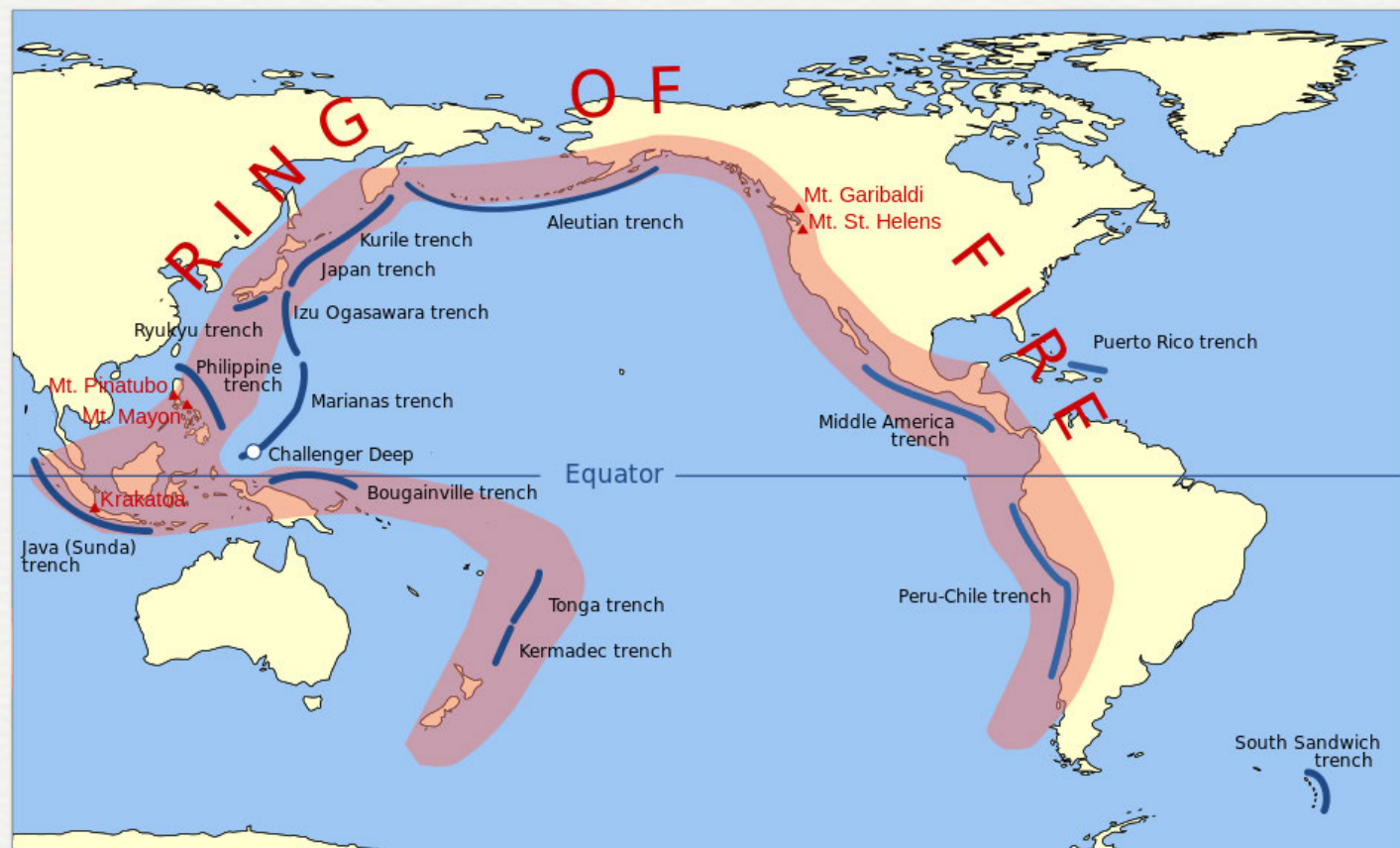
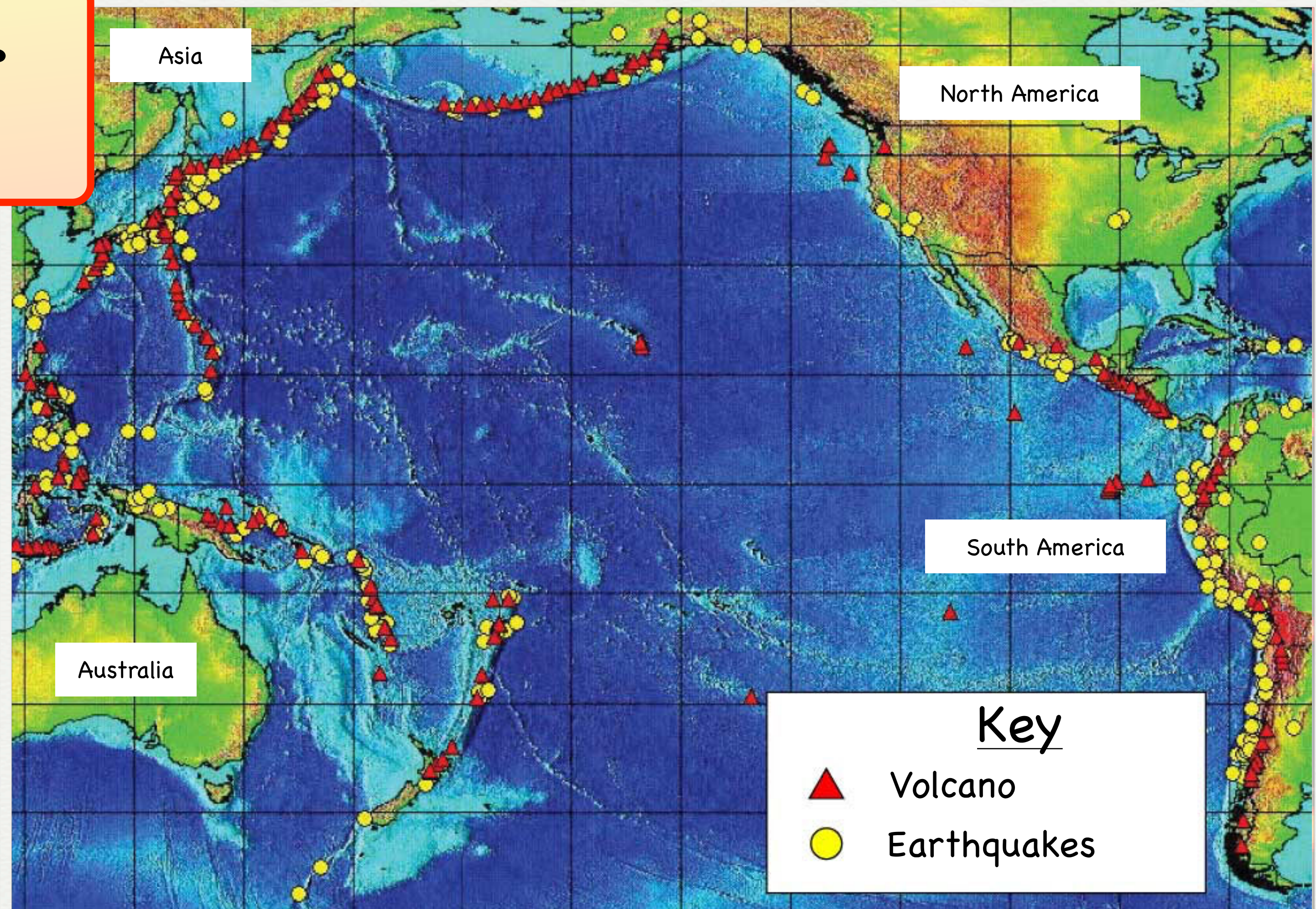
Do you know  
what the 'ring  
of fire' is?  
Think, pair,  
share!





# KEY FACT

I'm happy the United Kingdom is not in this area!



The ring of fire is a horseshoe-shaped area in the Pacific Ocean where most of the Earth's volcanoes and earthquakes occur. It is where most of the major plate boundaries are found.



# Plenary

Who needs to know about the 'ring of fire' and the Earth's tectonic plates?

Why do these people need to know about these things?



I think .....



However I  
think .....