Can-U-Read

Subject-Verb-Object

Each sentence has a subject and a verb.

Doing verbs can also have an object.

The SUBJECT DOES something to the OBJECT.

You can find the two nouns and the verb that connects them.

I ate a whole pie.

She sees the tree.

We lost the car keys.

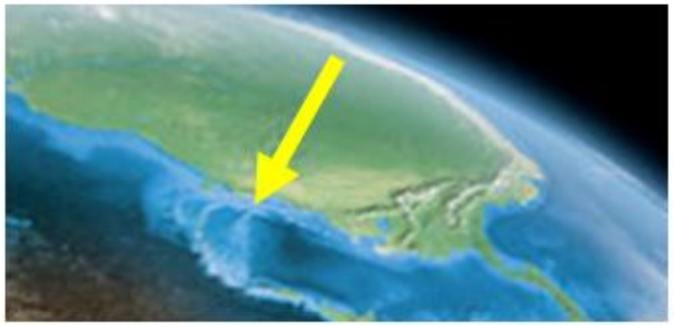
Sometimes we can forget how complicated our world is.

Here I am standing on the beach.

From higher up you can barely see my beach.

And from space it’s not even that big.

What is our world made of anyway?



The beach I am standing on is only the outside of the earth.

This part of the earth where we live is called the crust.

The crust is a very thin layer around the earth.

Farther down the earth is doing something very different.

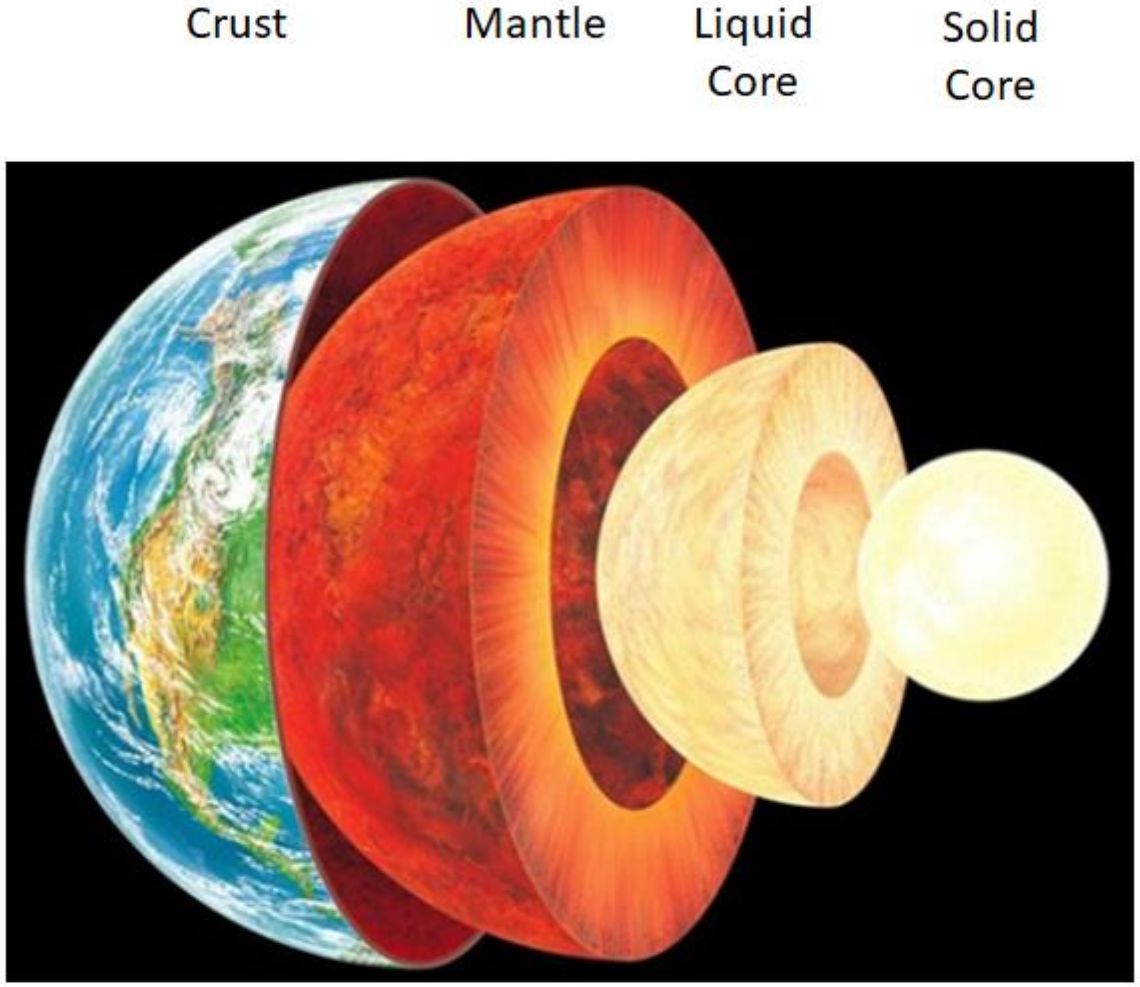
No one has gone into our earth.

Scientists can use tools to see inside.

We know the crust floats on a boiling pool of liquid rock called the mantle.

At the very bottom is a solid metal core.

Between the mantle and the core is a moving, liquid metal core.

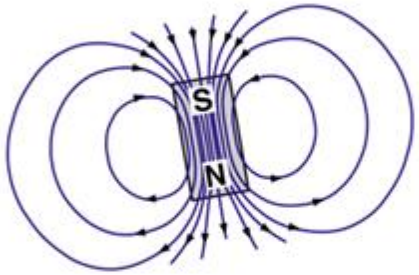


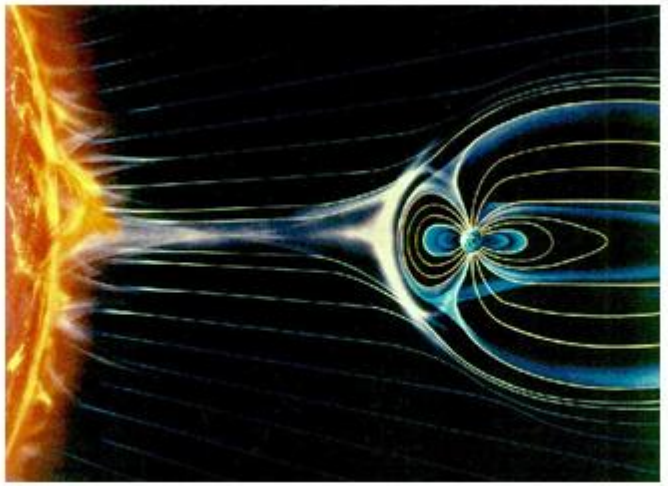
The spinning liquid core does something great for earth.

It acts like a magnet and makes an invisible field around earth.

Just like a magnet creates a field, so does the core.

That field is a magnetic shield around our planet.





We can measure that magnetic shield.

If you use a compass the needle follows the field created by the core.

The sun sends electric particles racing toward earth.

These particles leak through our shield at the poles.

We see the electric particles as they come into our sky.

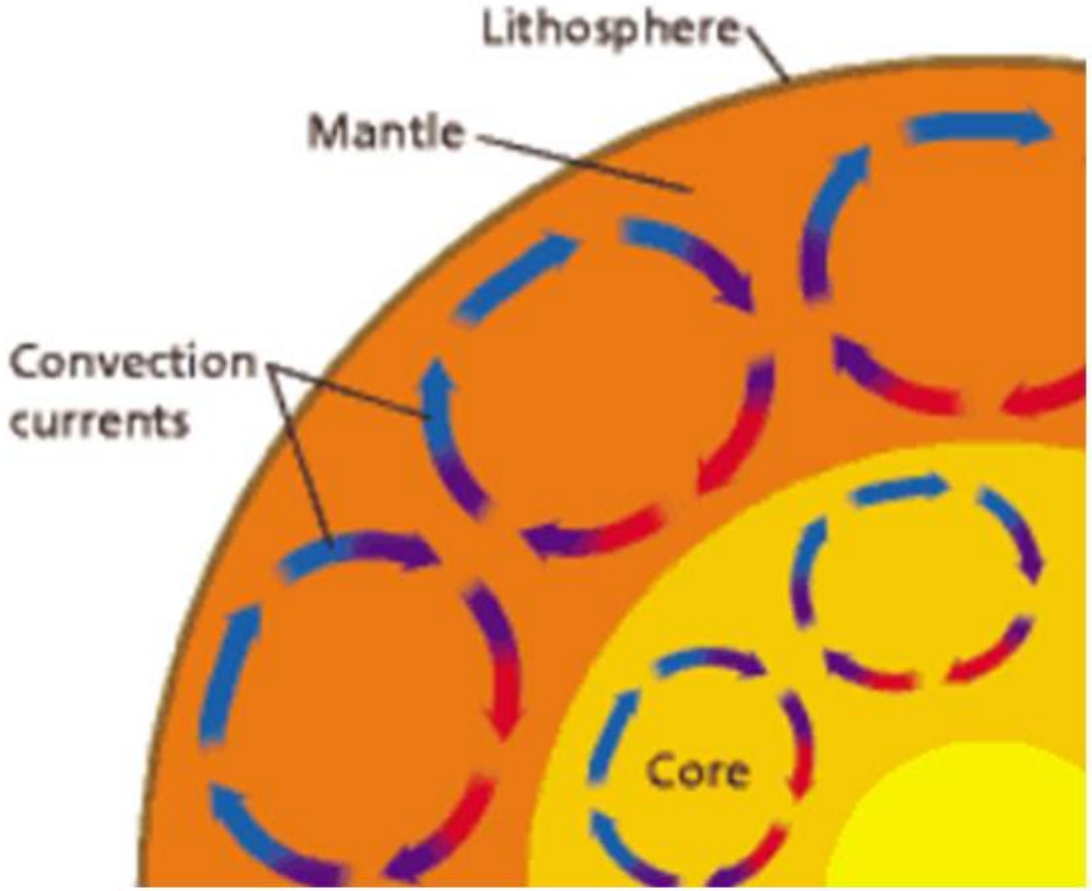
The mantle is even cooler.

It boils under the crust.

That boiling motion moves the crust.

The moving, pulling, and shifting breaks up the crust.

These pieces are hard to see, but we can still find them.



If you count all the volcanoes, you can make a map.

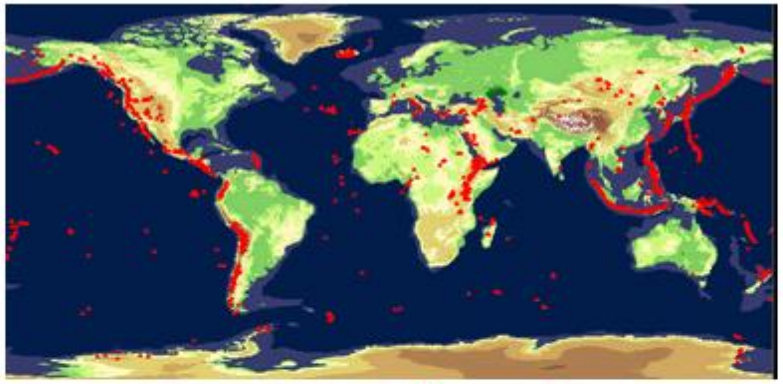
You can also count earthquakes on a map.

The make one big map showing all the breaks in our crust.

The earth is made of giant puzzle pieces!

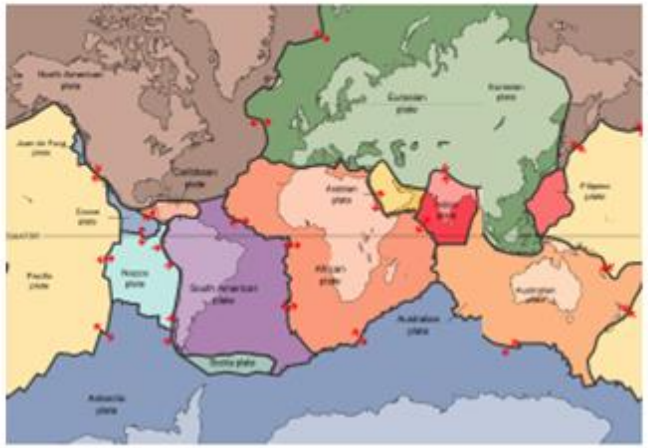
These are called tectonic plates.

Volcanoes



Earthquakes

Pieces



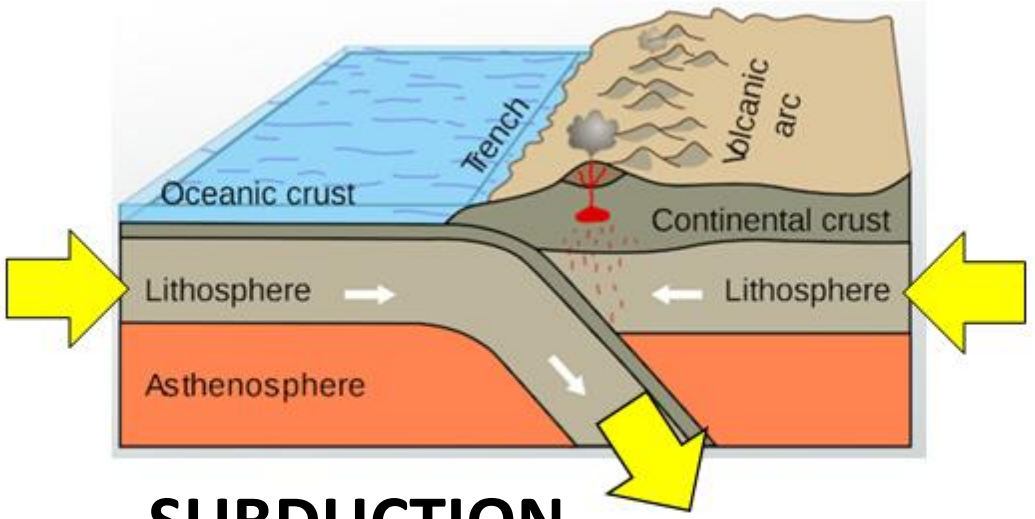
Sometimes these plates push into each other.

One plate pushes the other into the mantle.

The friction between them creates a well of lava.

Volcanoes grow along that line.

See these volcanoes in Washington?



SUBDUCTION

Sometimes neither plate can push the other down.

Now they push together and up!

Big mountains are made by folding the plate edges.

This folded mountain still shows the layers of rock.

See how they have been bent?

CONVERGENCE

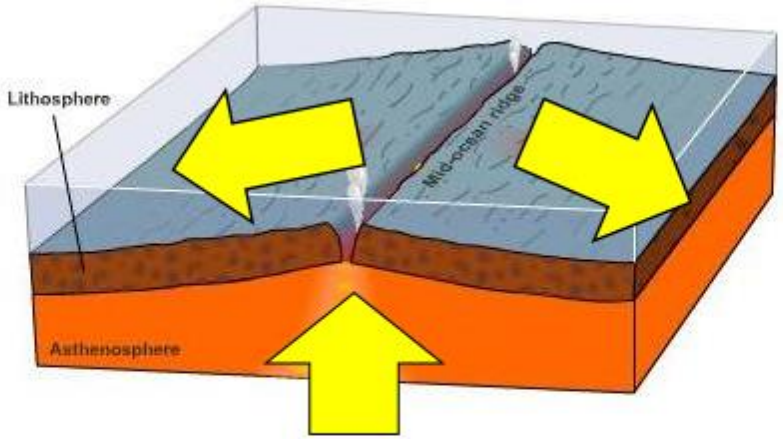
Sometimes plates pull apart.

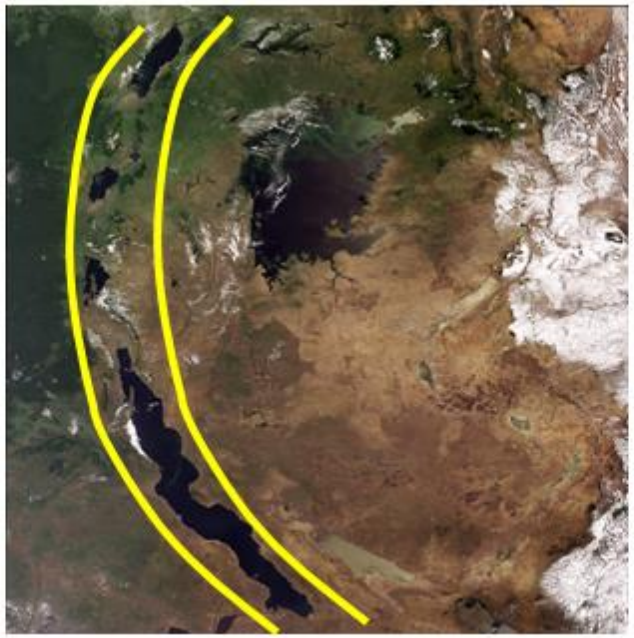
The mantle leaks out and fills in between them.

The valley between the two places is called a rift.

This is the Rift Valley in Africa.

In the future Africa will be ripped apart!





Other plates just move side by side.

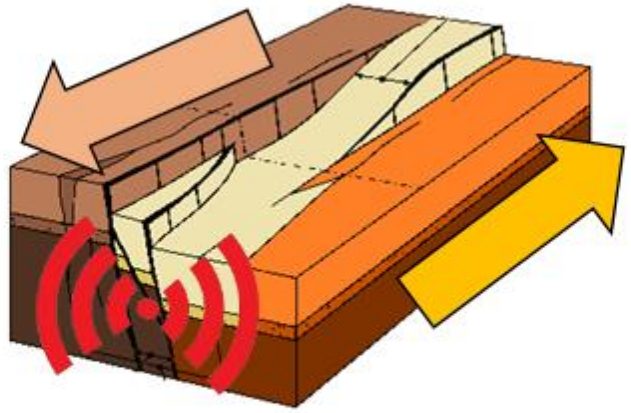
The plates rub against each other.

They stick and pull.

Earthquakes happen this way.

Faults can be really long.

They change the ground under our feet.



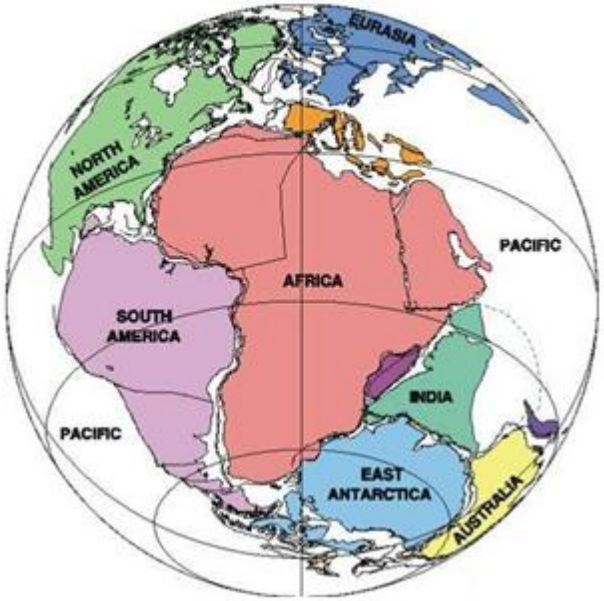
These plates move very slowly, but they do move.

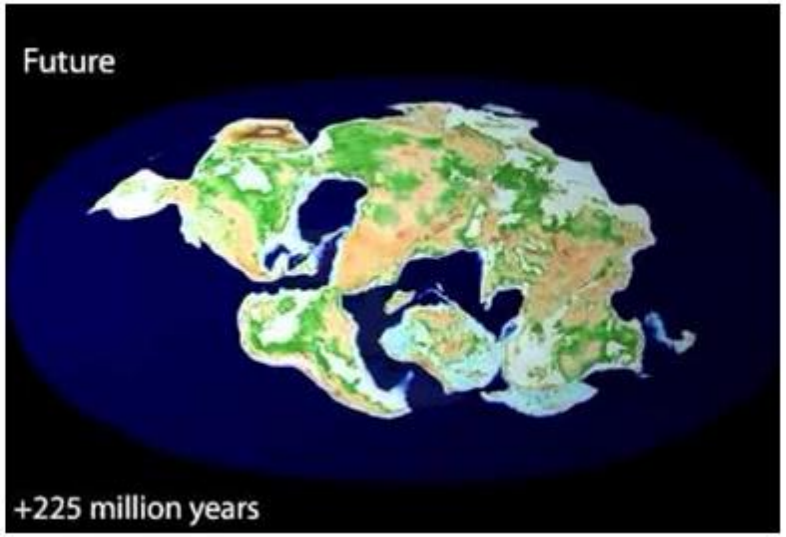
A long time ago all the land was stuck together.

Today we have big oceans between the land.

One day the land will move again.

All this is so slow, it won’t affect you.





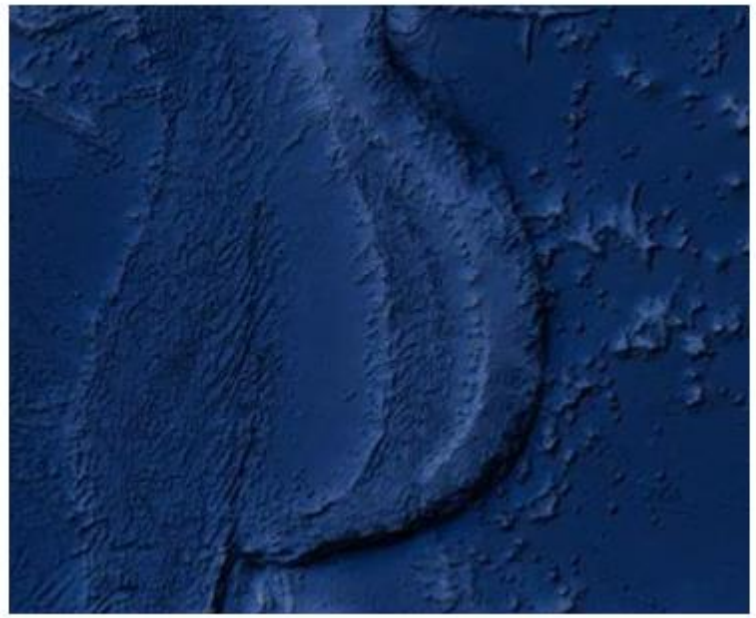
The shape of the earth is important.

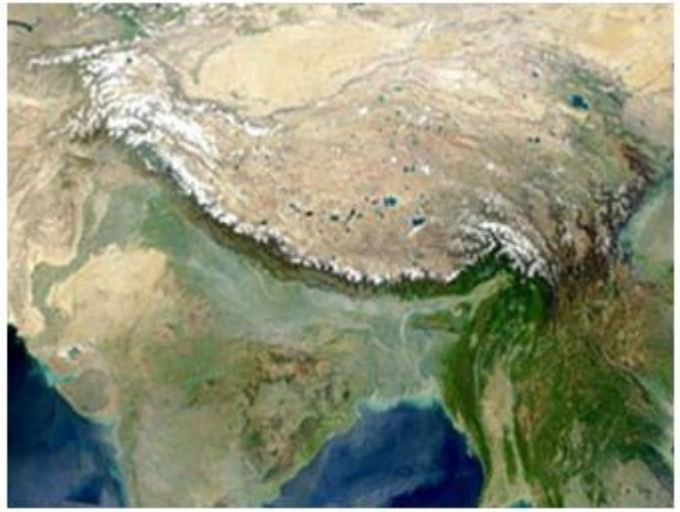
The highest and lowest parts of earth are very different habitats.

The Marianas Trench has some very weird fish.

The Himalayan Mountains have some very hairy animals.

Learning about the earth is part of learning everything else.





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