**Earth's Cycles**

**https://eo.ucar.edu/kids/green/cycles6.htm**

Our planet is constantly changing.

Natural cycles balance and regulate Earth and its atmosphere.

Human activities can cause changes to these natural cycles.

Life on Earth is well adapted to our planet’s cycles.

In our solar system, Earth is the only planet with air to breathe, liquid water to drink, and temperatures that are just right for life as we know it.

Because our existence depends on our planet and its climate, we need to understand how what we do affects the Earth.

Scientists try to figure out how our planet works by studying Earth’s cycles.

Changes to Earth’s cycles can cause changes in the climates of our planet.

The more we know about these cycles, the more we will understand how humans are affecting them and how that might change the planet.

**The Carbon Cycle**

All living things are made of carbon.

Carbon is also a part of the ocean, air, and even rocks.

Because the Earth is a dynamic place, carbon does not stay still. It is on the move!

In the atmosphere, carbon is attached to some oxygen in a gas called carbon dioxide.

Plants use carbon dioxide and sunlight to make their own food and grow--photosynthesis.

The carbon becomes part of the plant.

Plants that die and are buried may turn into fossil fuels made of carbon like coal and oil over millions of years.

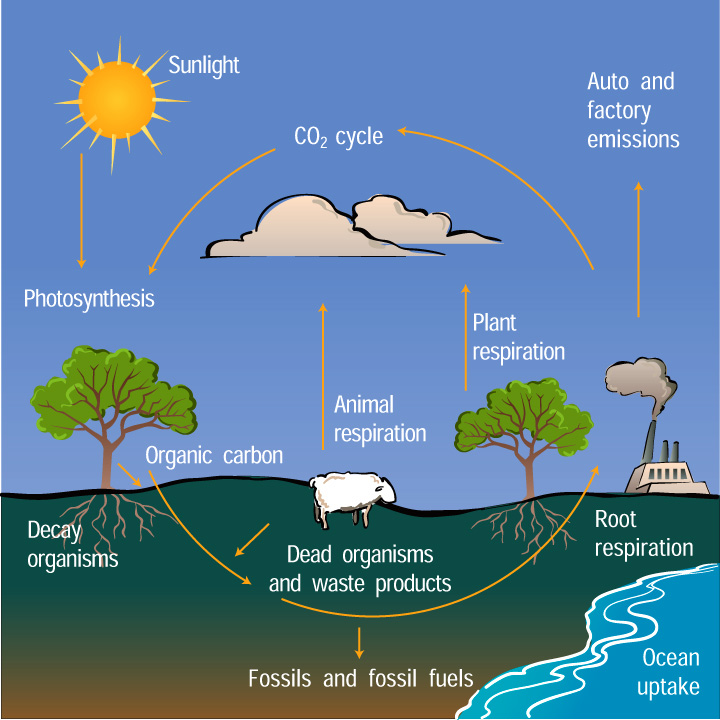
When humans burn fossil fuels, most of the carbon quickly enters the atmosphere as carbon dioxide.

Carbon dioxide is a greenhouse gas and traps heat in the atmosphere--GHE!

Without it and other greenhouse gases, Earth would be a frozen world.

But humans have burned so much fuel that there is about 30% more carbon dioxide in the air today than there was about 150 years ago, and Earth is becoming a warmer place.

In fact, ice cores show us that there is now more carbon dioxide in the atmosphere than there has been in the last 420,000 years.



**Phosphorus Cycle**

**Read more:**[**http://www.lenntech.com/phosphorus-cycle.htm#ixzz48DRrFvaH**](http://www.lenntech.com/phosphorus-cycle.htm#ixzz48DRrFvaH)

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| [Phosphorus](http://www.lenntech.com/Periodic-chart-elements/P-en.htm) is an essential nutrient for plants and animals in the form of ions PO43- and HPO42-.  It is a part of DNA-molecules, of molecules that store energy (ATP and ADP) and of fats of cell membranes.  Phosphorus is also a building block of certain parts of the human and animal body, such as the bones and teeth.  Phosphorus can be found on earth in water, soil and sediments.  Unlike the compounds of [other matter cycles](http://www.lenntech.com/matter-cycles.htm) phosphorus cannot be found in air in the gaseous state.  This is because phosphorus is usually solid at normal temperatures and pressures.  It is mainly cycling through water, soil and sediments.  In the atmosphere phosphorus can mainly be found as very small dust particles.  Phosphorus moves slowly from deposits on land and in sediments, to living organisms, and then much more slowly back into the soil and water sediment.  The phosphorus cycle is the slowest one of the matter cycles.  Phosphorus is most commonly found in rock formations and ocean sediments as phosphate salts.  Phosphate salts that are released from rocks through weathering usually dissolve in soil water and will be absorbed by plants.  Because the quantities of phosphorus in soil are generally small, it is often the limiting factor for plant growth.  That is why humans often apply phosphate fertilizers on farmland.  Phosphates are also limiting factors for plant-growth in marine ecosystems, because they are not very water-soluble.  Animals absorb phosphates by eating plants or plant-eating animals.  Phosphorus cycles through plants and animals much faster than it does through rocks and sediments.  When animals and plants die, phosphates will return to the soils or oceans again during decay.  After that, phosphorus will end up in sediments or rock formations again, remaining there for millions of years.  Eventually, phosphorus is released again through weathering and the cycle starts over.   http://www.lenntech.com/images/phoscycle.gif  For more information on phosphorus, move to the [periodic chart](http://www.lenntech.com/periodic-chart.htm) or directly to the [element phosphorus](http://www.lenntech.com/Periodic-chart-elements/P-en.htm)  Back to main page of [matter cycles](http://www.lenntech.com/matter-cycles.htm)  To the [matter cycles pollution](http://www.lenntech.com/matter-cycles-pollution.htm) page |  |

Read more: <http://www.lenntech.com/phosphorus-cycle.htm#ixzz48DRrFvaH>

