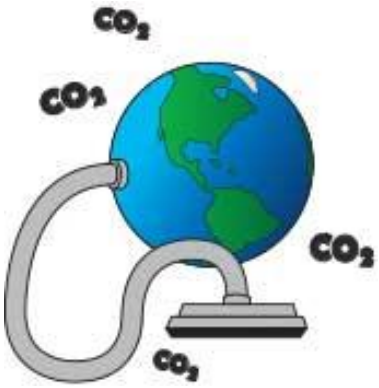
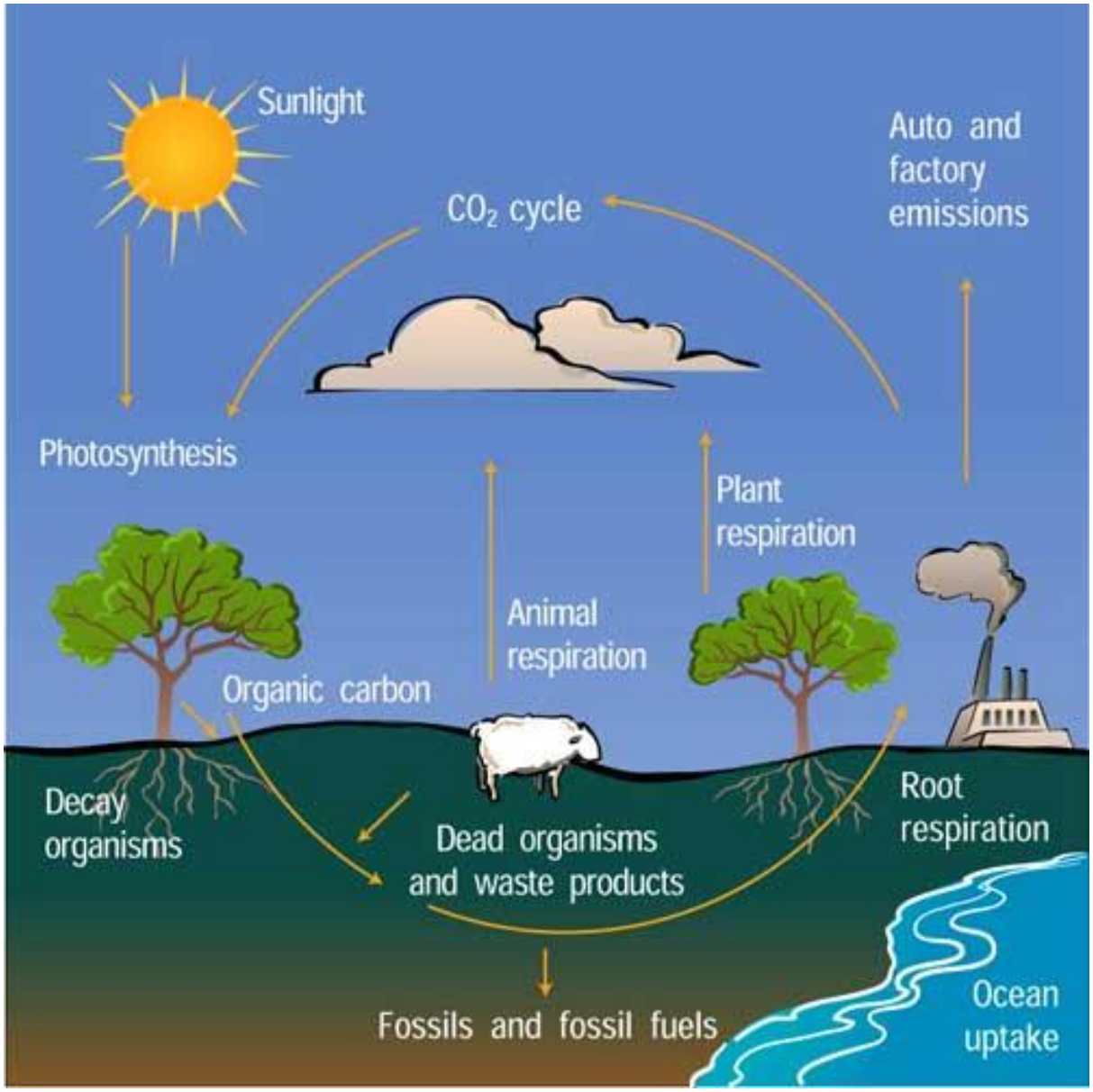
Carbon Cycle

How much CO_2 can Earth suck out of the air?



Earth has a carbon cycle. That means carbon moves around, taking different forms at different times. Carbon stored in plants is returned as CO_2 to the atmosphere when the plants decompose, or when plants burn or their remains (that is, fossil fuels like gasoline, coal, or natural gas) burn. Carbon in the form of CO_2 leaves the atmosphere when the ocean absorbs it. Carbon in the form of CO_2 also leaves the atmosphere when plants use it in making food for themselves and the animals that eat the plants. When animals eat the plants, they store the plants' carbon in their bodies and breathe out some carbon in the form of CO_2 to the atmosphere.



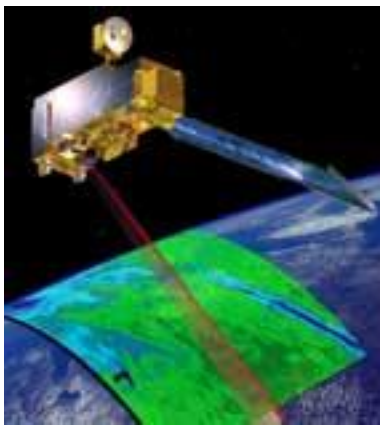
Carbon is always on the move. Plants use carbon dioxide and sunlight to grow. The carbon becomes part of the plant. Plants that die and are buried may turn into fossil fuels like coal and oil over millions of years. When we burn fossil fuels, most of this long-stored carbon quickly enters the atmosphere as carbon dioxide. Image courtesy of the The National Center for Atmospheric Research, Kids Crossing website at http://eo.ucar.edu/kids.

Cold soda holds onto the bubbles much better than warm soda. That's because cold water holds more carbon dioxide than warm water does.

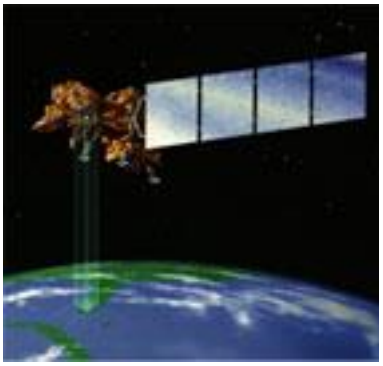
Now, scientists think that, between the ocean and the plants, **Earth naturally takes up about half of the CO_2 that humans produce**. Go, Earth! But as Earth warms up, will the ocean be able to absorb as much CO_2? Scientists are worried about that.

Think about what happens when you open a can of soda. The bubbles in soda are CO_2. If the soda is cold, you hear a little whoosh as a tiny bit of CO_2 escapes. If the soda is warm, the CO_2 might be so eager to escape that you get Old Faithful spewing out of the can. So, as the surface waters of the ocean warms up, the ocean may not be able to absorb and hold as much CO_2 from the atmosphere.

Satellites that study these and other aspects of the carbon cycle are:



Terra



LandSat

Earth Observing 1