

**Worksheet 19: The Carbon cycle**

1. Before life evolved on Earth, our atmosphere had a very different chemical composition than it does today. Answer the questions based on the data below. (6<sup>th</sup> ed., pgs 478-482; 7<sup>th</sup> ed., pgs 470-474; lecture)

	Earth	
	before life	today
<b>CO<sub>2</sub></b>	98%	0.03%
<b>O<sub>2</sub></b>	trace	21%
<b>Temperature</b>	290°C	13°C

- Explain how and why CO<sub>2</sub> and O<sub>2</sub> changed after life evolved on Earth.
- Where did all of the carbon in the CO<sub>2</sub> go after life evolved on Earth?
- Explain how and why temperature declined after life evolved on Earth.
- How are the processes of photosynthesis and decomposition involved in the carbon cycle?
- Using an illustration to show its potential path through the carbon cycle, trace a carbon atom through at least four different reservoirs. Begin with an atom in an oil reserve off the coast of California. Be sure to explain how your carbon atom could move from one reservoir to another.