

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. (6th ed., pgs 478-482; 7th ed., pgs 470-474; lecture)

	Earth	
	before life	today
CO₂	98%	0.03%
O₂	trace	21%
Temperature	290°C	13°C

- Explain how and why CO₂ and O₂ changed after life evolved on Earth.
- Where did all of the carbon in the CO₂ 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.