**Review Answers page 51**

**Understanding Concepts**

**1-3 read sample answers from guide**

**2.5**

**The Carbon Cycle**

**Game with interactive movement through the carbon cycle:**

[**http://www.windows.ucar.edu/earth/climate/carbon\_cycle.html**](http://www.windows.ucar.edu/earth/climate/carbon_cycle.html)

**Excellent explanation and activity for the carbon cycle:**

1. [**http://www.ucar.edu/learn/1\_4\_2\_15t.htm#assessment**](http://www.ucar.edu/learn/1_4_2_15t.htm#assessment)
2. [**http://www.enviroliteracy.org/article.php/478.html**](http://www.enviroliteracy.org/article.php/478.html)

**Carbon Cycle is the key element for living things.**

**Each year about 50 – 70 billion tones of carbon from inorganic carbon dioxide are recycled through the process of PHOTOSYNTHESIS**

**Reactant Producers**

**6CO2 + 6H2O + Sun Light 🡪 C6H12O6 + 6O2**

**Carbon Dioxide + water + Light Energy🡪 Sugar (glucose) + oxygen**

**Some of the organic carbon that is created is released back into the environment through the process of RESPIRATION**

**Reactant Producer**

**C6H12O6 + 6O2 🡪 6CO2 + 6H2O**

**Sugar (glucose) + oxygen 🡪 Carbon Dioxide + water**

**Reservoirs for inorganic Carbon time in years stored**

1. **Atmosphere 3**
2. **Soil 25-30**
3. **Oceans 1500**

**Reservoirs for Organic Carbon - Stored in the bodies of all living things**

**Human are changing the Carbon Cycle by**

1. **Releasing organic reservoirs faster than would normally occur in nature by:**
   1. **burning forests**
   2. **mining**
   3. **burning fossil fuels**
2. **Increasing the amount of carbon dioxide in the inorganic reservoir by:**
   1. **Clearing vegetation, for farm land, urban sprawl, development, wood supply…**

**Home work:**

**Complete Understanding Concepts 1-5 page 65 in the text.**

1. **Explain why photosynthesis and cellular respiration are considered to be similar.**
2. **Explain the importance of decomposers in the carbon cycle.**
3. **The oceans are often described as a carbon reservoir. In what way is carbon held within the ocean.**
4. **Explain how the burning of fossil fuels by humans affects the carbon cycle.**
5. **Carbon cycles more quickly through some ecosystems than others.**
   1. **Explain why carbon is cycled more slowly in northern ecosystems than in the tropics.**
   2. **Explain why carbon is cycled more rapidly in grassland communities than in peat bogs and swamps.**