

Importance of the Atmosphere

Composition

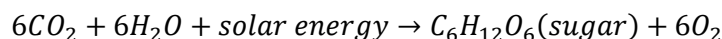
- The atmosphere is composed of 78% Nitrogen Gas, 21% Oxygen Gas, and 1% of other gases.
- The gases in the atmosphere, namely oxygen and carbon dioxide, allow organisms on earth to live.

Study Tip

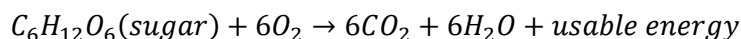
Notice the relationship between the photosynthesis reaction and the respiration reaction. They are opposites.

Photosynthesis and Respiration

- Through photosynthesis plants are able to use carbon dioxide to create sugar for food. The reaction for photosynthesis is:



- Animals undergo a process that allows them to use oxygen in order to convert sugar into usable energy. Plants also undergo this process in order to consume some sugars they produce. The reaction for respiration is:



Other Uses of the Atmosphere

- The atmosphere contains a lot of water vapor and acts as an important reservoir for water.
- It also serves as protection from the sun. This protection comes in the form of **ozone** (O₃) molecules that absorb **ultraviolet (UV) radiation**. Ozone is concentrated in the ozone layer in the lower stratosphere.
- The atmosphere provides a source for sound to travel through, and it also allows birds, insects, and airplanes to fly through.

Concept Check

- What gases make up a large part of the atmosphere?
- What is ozone?
- What gases in the atmosphere are involved in respiration and photosynthesis?