

Solutions

Each answer shows the steps, then the **result**.

2.1

- $6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$ (with light)

2.2

- In the thylakoid membranes of the chloroplast

2.3

- Oxygen

3.1 B

- sugar (glucose)

3.2

(a)

- Inputs: light and water; outputs: oxygen, ATP, and NADPH

(b)

- The light reactions produce the ATP and NADPH that power the Calvin cycle to fix CO_2 into sugar

3.3

- The light reactions split water molecules, and the oxygen atoms released come from that water (not from CO_2 , whose carbon and oxygen go into sugar)