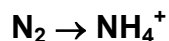


<b>CHAPTER 2</b>	<b>Equations in the Nitrogen Cycle</b>	<b>BLM 2.2.10</b>
<b>OVERHEAD</b>		

Bacteria in soil and water play an essential role in the nitrogen cycle, converting atmospheric nitrogen, which most organisms are unable to use, into usable forms.

Nitrogen gas ( $\text{N}_2$ ) is removed from the atmosphere via nitrogen-fixing bacteria, which convert it to ammonium ( $\text{NH}_4^+$ ), which plants can use.



Ammonium is also produced when decomposers break down organic matter via ammonification. Bacteria convert the ammonium into nitrite ( $\text{NO}_2^-$ ) and then into nitrate ( $\text{NO}_3^-$ ), which plants can also use.



Denitrifying bacteria then convert nitrite or nitrate back into nitrogen gas via denitrification.

