

1. List two human activities that add nitrates or ammonium to the soil.

Agricultural waste and the addition of artificial fertilizer

2. List two non-human activities that add nitrates or ammonium to the soil.

Lightning, volcanic activity, nitrogen-fixing bacteria

3. List three non-human activities that remove nitrates or ammonium from the soil.

Denitrification, runoff, plant growth

4. Why do plants need nitrates and ammonium?

To produce amino acids (for protein) DNA, ATP

5. Animals continuously excrete urea, which contains nitrogen. Animals do not eat fertilizer, so where do they get their nitrogen?

From plants or other animals

6. When industry creates fertilizer, they not only participate in the nitrogen cycle but also make an undesirable contribution to the carbon cycle. How?

Usually it takes energy to produce fertilizer. If that energy is released by burning fossil fuels, carbon dioxide will be released.