Name _____ Date _____ Period _____

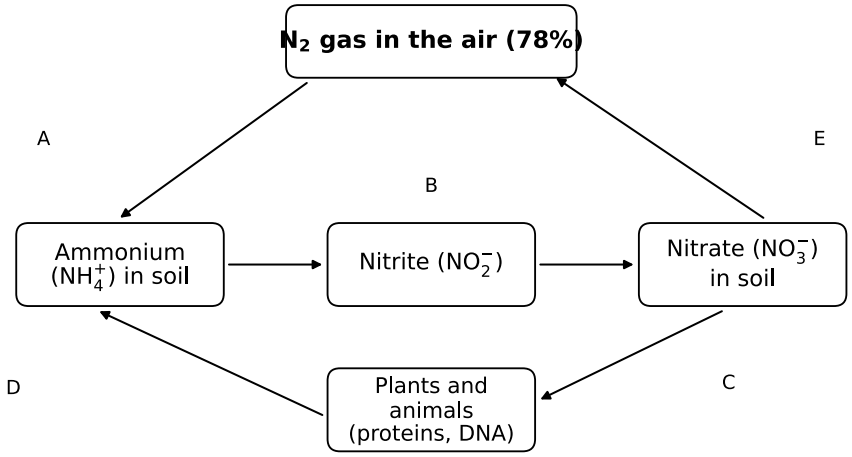
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# The Nitrogen Cycle

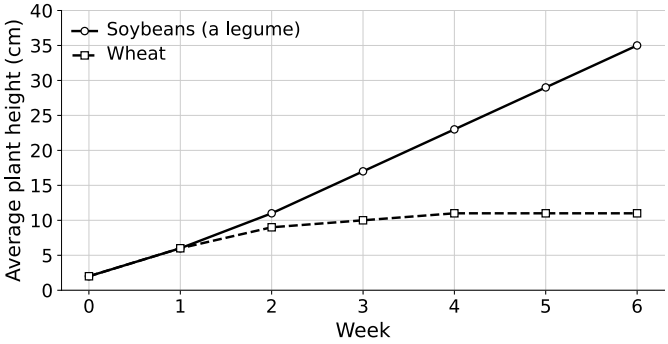
Biology

Answer in complete sentences. Use the graphs and tables as evidence.

**1.** The model shows the nitrogen cycle. Name the process at each lettered arrow, A to E.




**2.** Soybeans (a legume with nitrogen-fixing root nodules) and wheat are grown in sand with no nitrogen fertilizer.




(a) Use the graph to explain why the soybeans kept growing after week 2 but the wheat did not.

(b) Predict what would happen to the soybeans if the bacteria in their nodules were killed.


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**3.** The table shows sample data for corn grown with different amounts of fertilizer.

| **Fertilizer (lb/acre)** | **0** | **50** | **100** | **150** | **200** | **250** |
|---|---|---|---|---|---|---|
| Corn yield (bushels/acre) | 90 | 140 | 170 | 182 | 186 | 187 |
| Nitrate lost (lb/acre) | 10 | 12 | 16 | 25 | 40 | 60 |

(a) How much does the yield increase from 0 to 50 lb? From 200 to 250 lb?

(b) Why might a farmer choose not to use the highest rate?

**4.** After a heavy rain, fertilizer from nearby farms washes into a lake. A few weeks later, many fish in the lake die. Explain the chain of events, starting with the fertilizer and ending with the fish.


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