

KEY FACTS

- ★ Nitrogen-fixing bacteria: N_2 (atmosphere) → ammonia/nitrates (in soil or root nodules)
- ★ Nitrifying bacteria: ammonia → nitrites → nitrates (available for plants)
- ★ Plants absorb nitrates → make proteins → eaten by animals → passed along food chain
- ★ Decomposers: dead organisms/excretion → release ammonia (ammonification)
- ★ Denitrifying bacteria: nitrates → N_2 gas (back to atmosphere)
- ★ Legumes (peas, beans, clover): root nodules with Rhizobium bacteria → natural fertiliser

KEY TERMS

Nitrogen fixation	N_2 → ammonia/nitrates — by bacteria or lightning
Nitrification	Ammonia → nitrates — by nitrifying bacteria — available for plants
Denitrification	Nitrates → N_2 — by denitrifying bacteria — returns N to atmosphere

■ EXAM TIP: FOUR types of bacteria: nitrogen-FIXING, NITRIFYING, DENITRIFYING, DECOMPOSERS. Each has a specific job. All four needed for 4-mark nitrogen cycle questions.