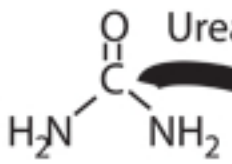
What We Do with Number 1: the Nitrogen Cycle



Urea

We use amino acids from food to make proteins that create muscle, tissue, organs, hormones, enzymes, and urea.

Ammonification

In the pipes, bacteria transform urea into ammonium (NH_4^+).

Nitrification

In the aeration basins, aerobic bacteria transform ammonium into nitrites (NO_2^-) and nitrates (NO_3^-).

Denitrification

In the swirly water, anaerobic bacteria transform nitrate (NO_3^-) into nitrogen gas (N_2), which is 78% of the air we breathe

Nitrogen Fixation

Nitrogen-fixing bacteria living in the legume root nodules fix nitrogen into useful compounds we need to make proteins and nucleic acids (DNA and RNA).