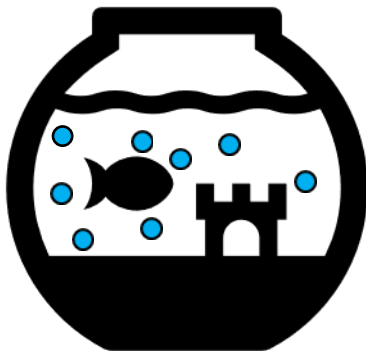


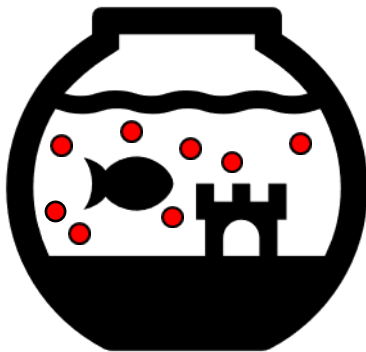
Step 1: **Ammonia** is introduced to the water through fish respiration, fish urine and feces, uneaten fish food, and decaying matter such as dead fish, snails, or plants.

***Ammonia is highly toxic to fish**



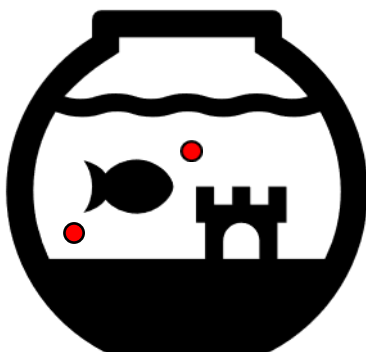
Step 2: Beneficial nitrifying bacteria (Nitrosomonas) in your filter convert **ammonia** (NH_4) to **nitrites** (NO_2).

***Nitrites are highly toxic to fish**



Step 3: Beneficial nitrifying bacteria (Nitrospira and Nitrobacter) in your filter convert **nitrites** (NO_2) to **nitrates** (NO_3).

***Nitrates are toxic to fish at high levels**



Step 4: **Nitrates** reduced by plants, algae, and water changes.

***Nitrates are tolerated by fish at low levels**