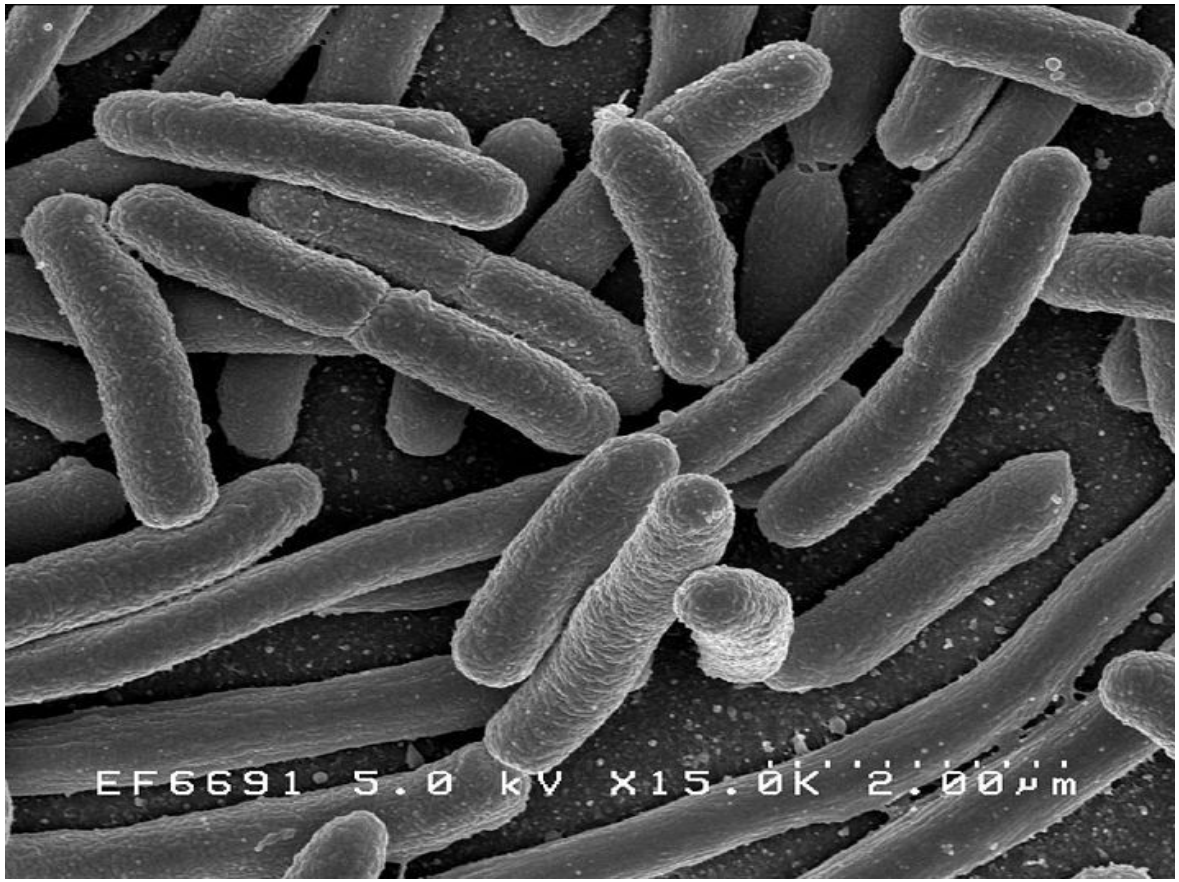
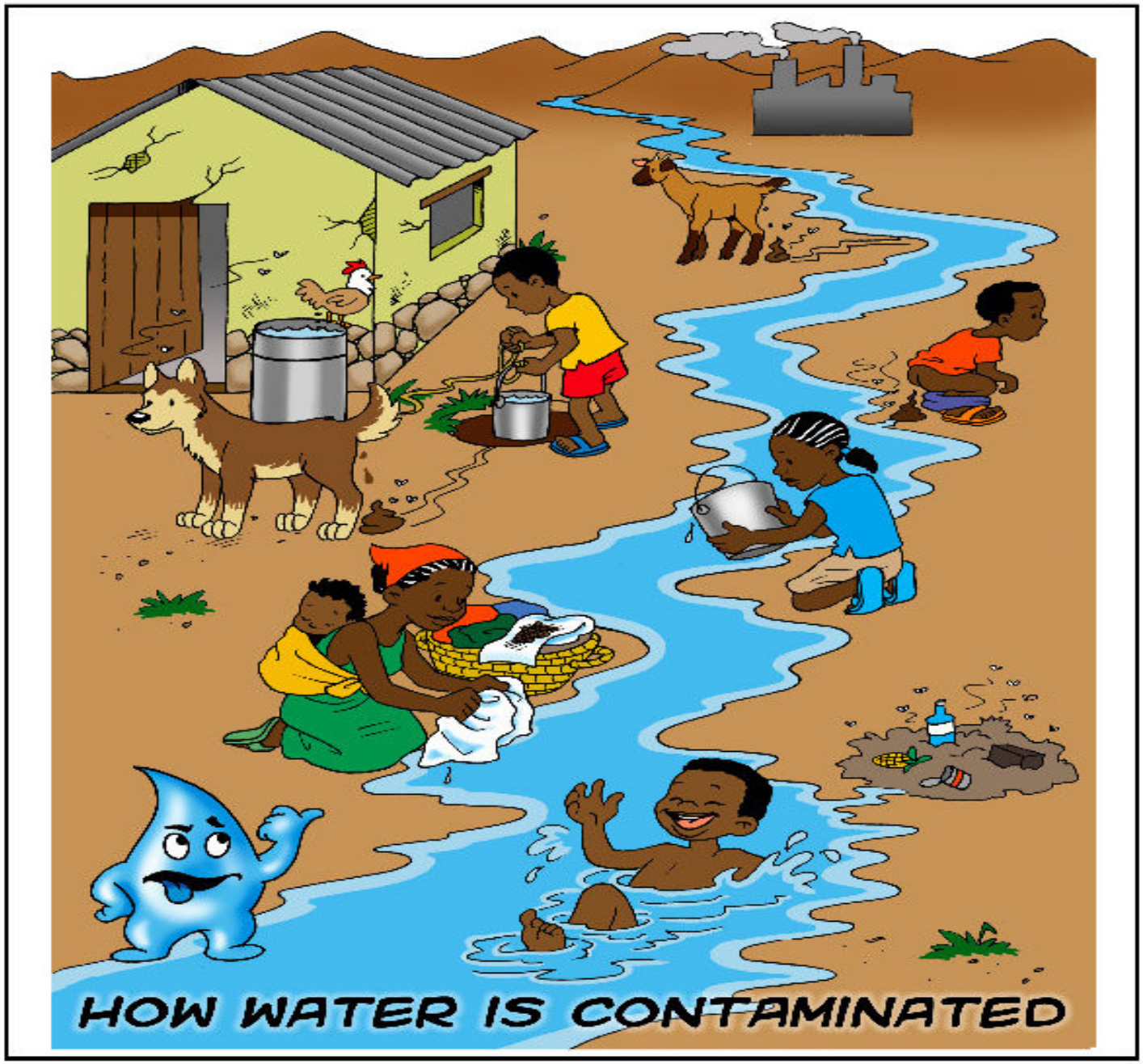
Escherichia coli

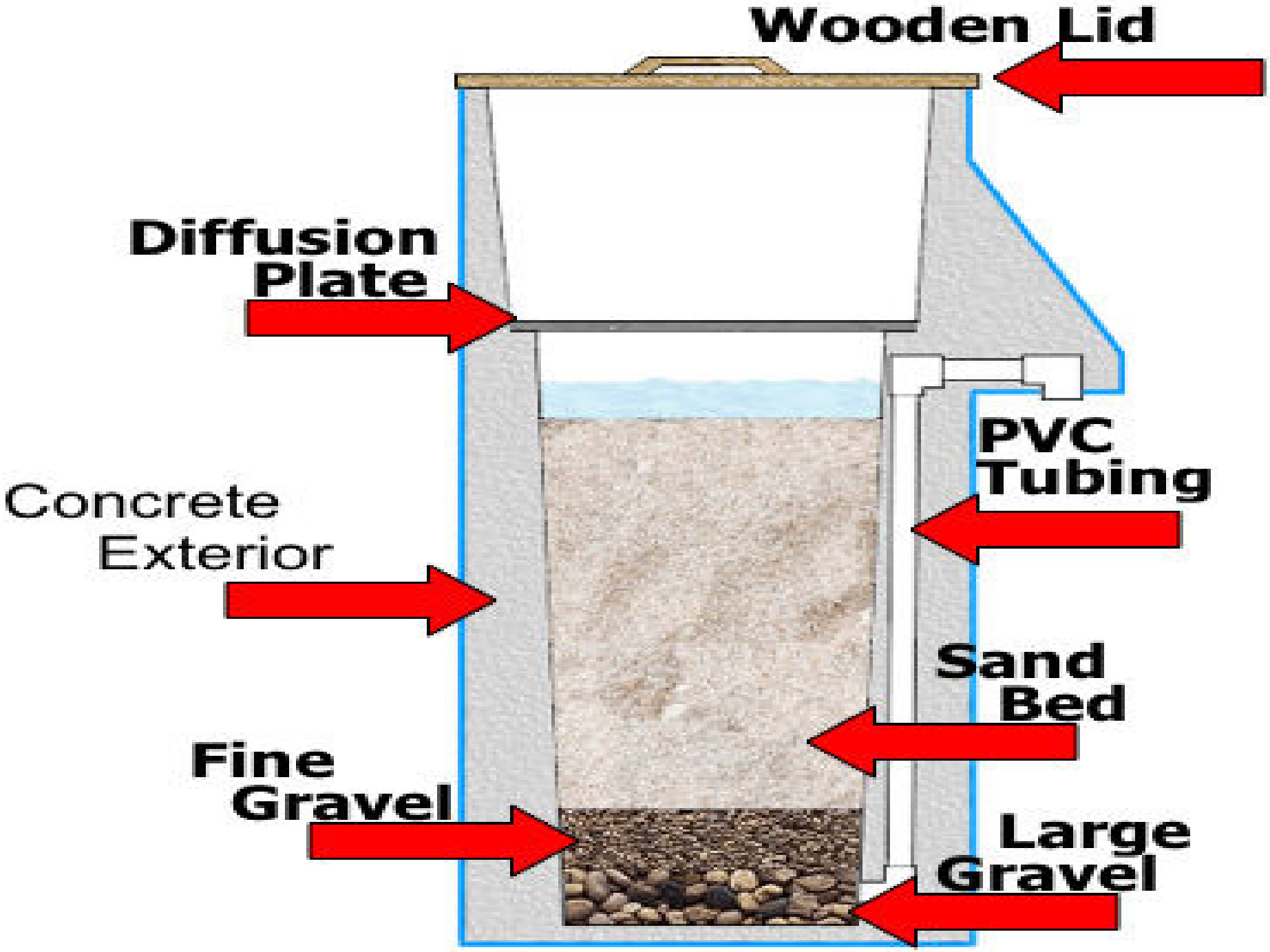


Credit: Rocky Mountain Laboratories, NIAID, NIH
http://en.wikipedia.org/wiki/Image:EscherichiaColi_NIAID.jpg


HOW WATER IS CONTAMINATED

What is a bio-sand filter?

How might we make such a filter?

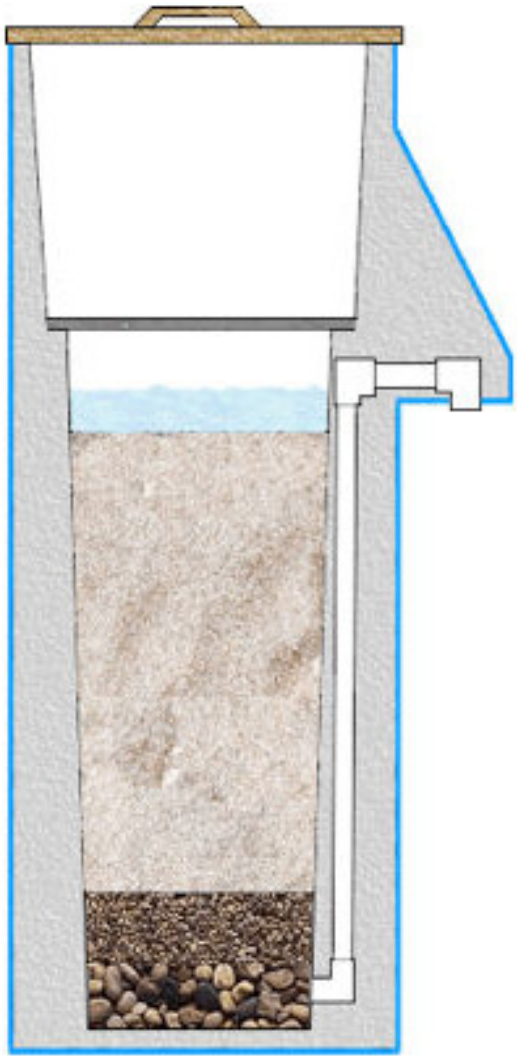

Wooden Lid
Diffusion Plate
PVC Tubing
Concrete Exterior
Sand Bed
Fine Gravel
Large Gravel

Bio-sand Water Filtration

How does it work?

4 Processes of Filtration

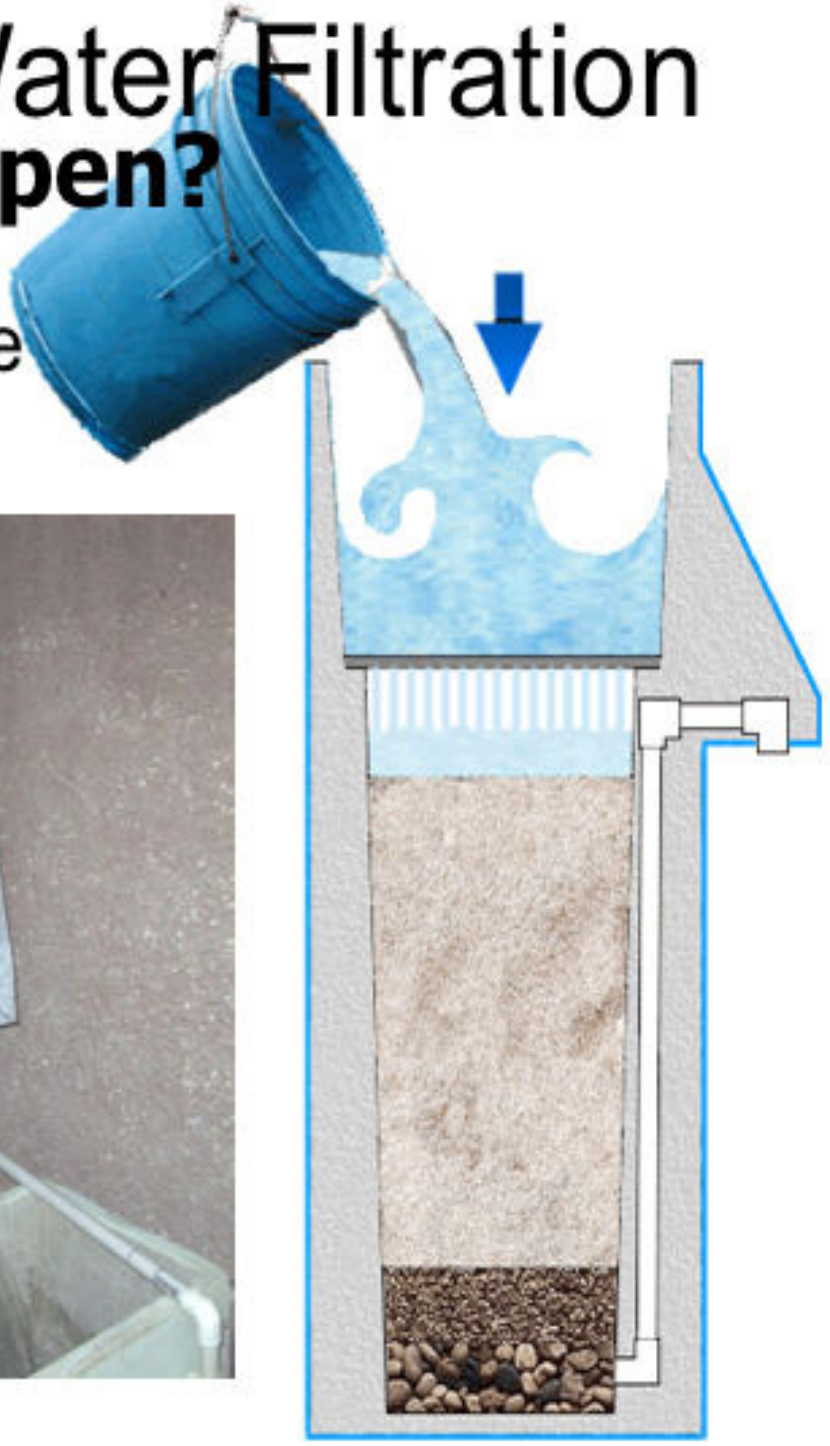
1. **Predation**
2. **Natural Death**
3. **Adsorption**
4. **Mechanical Trapping**



Bio-sand Water Filtration

How does it happen?

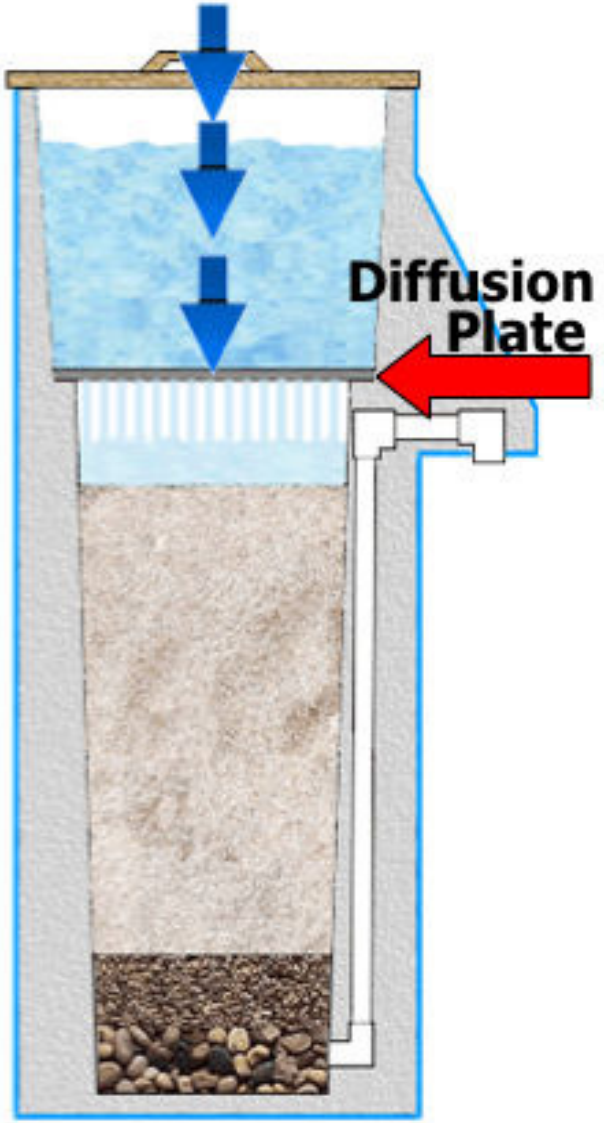
- Water is poured into the top of the Filter.



Bio-sand Water Filtration

How does it happen?

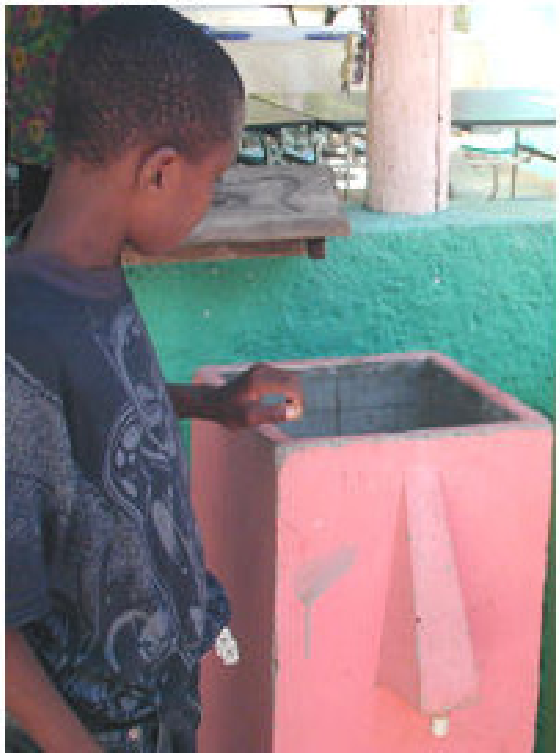
2. The Diffusion Plate slows the force of the water.

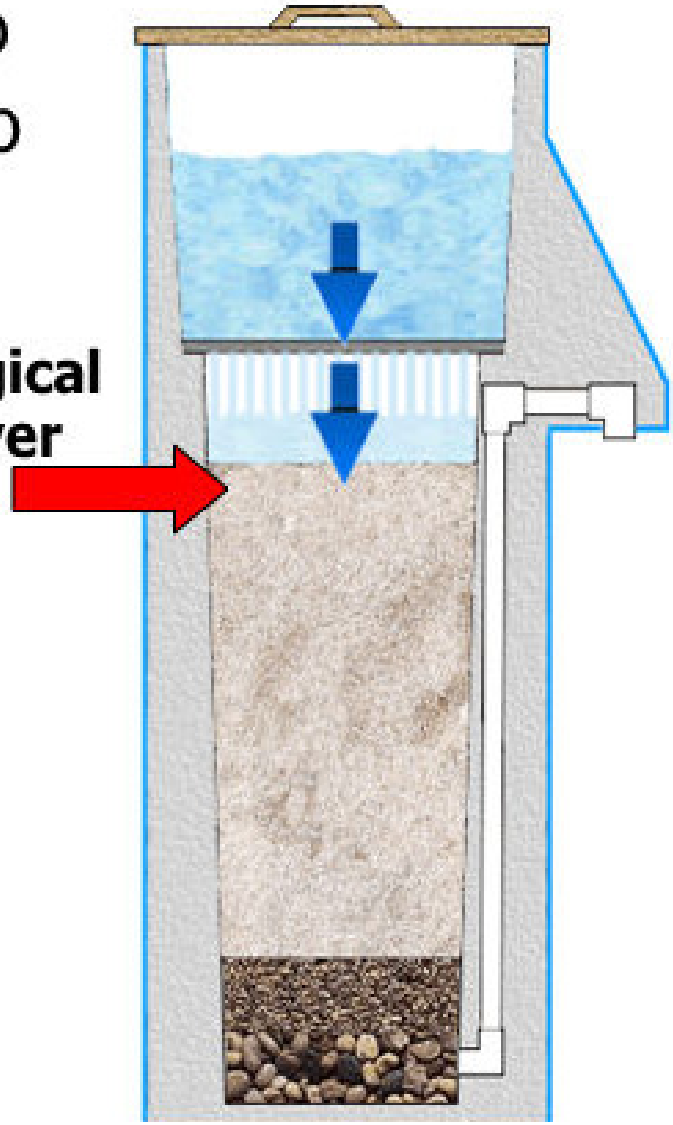


Bio-sand Water Filtration

How does it happen?

3. Water then travels slowly into the biological layer at the top of the sand.

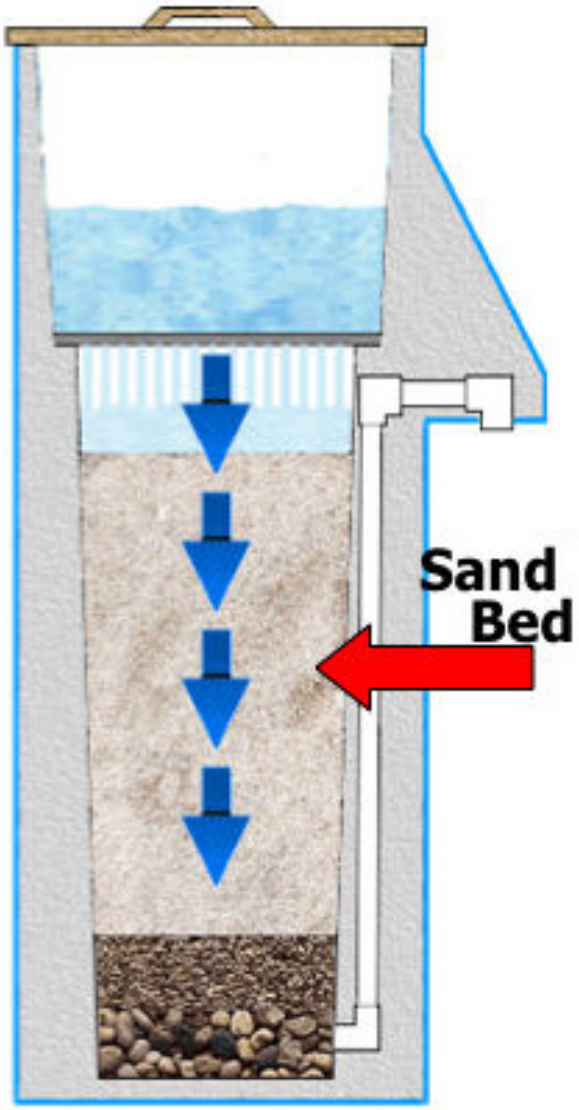




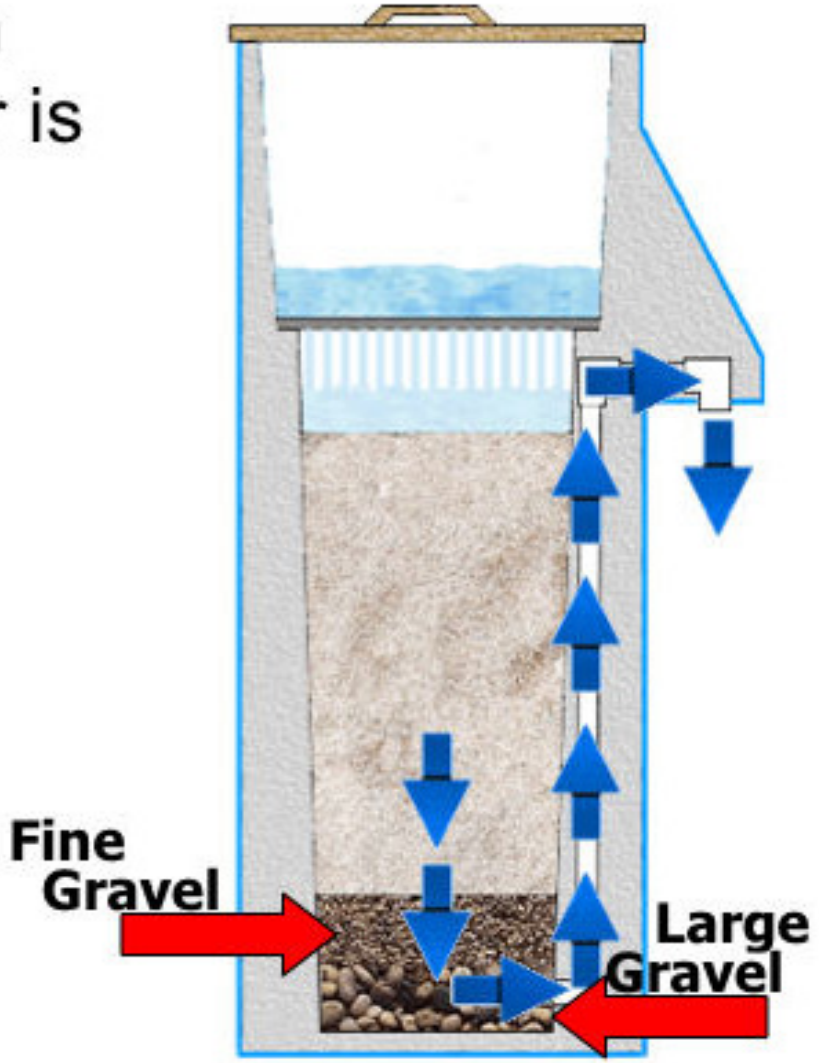
Bio-sand Water Filtration

How does it happen?

4. Water continues slowly through the sand bed.



Bio-sand Water Filtration

How does it happen?

5. After passing through both levels of gravel, the water is propelled up and out.