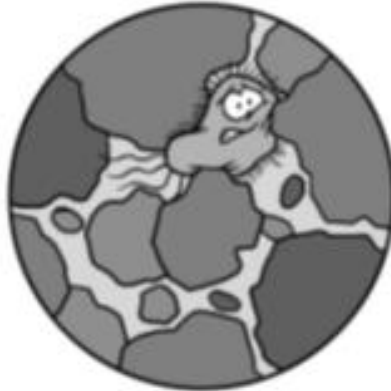

What Happens to the Pathogens and Dirt in the Filter?



Mechanical Trapping

They get trapped in the sand.

The water can flow through the sand, but some dirt and pathogens are too big to fit through.



Predation

They get eaten.

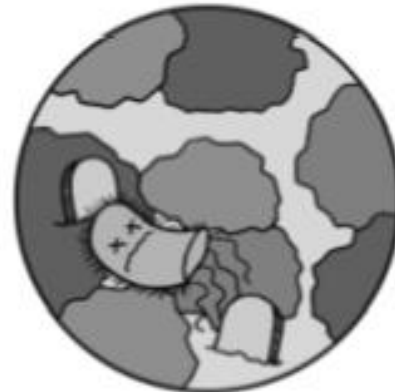
The microbes eat each other inside the filter, especially in the biolayer.



Adsorption

They get stuck to sand.

Some pathogens stick to the sand and can't get away.



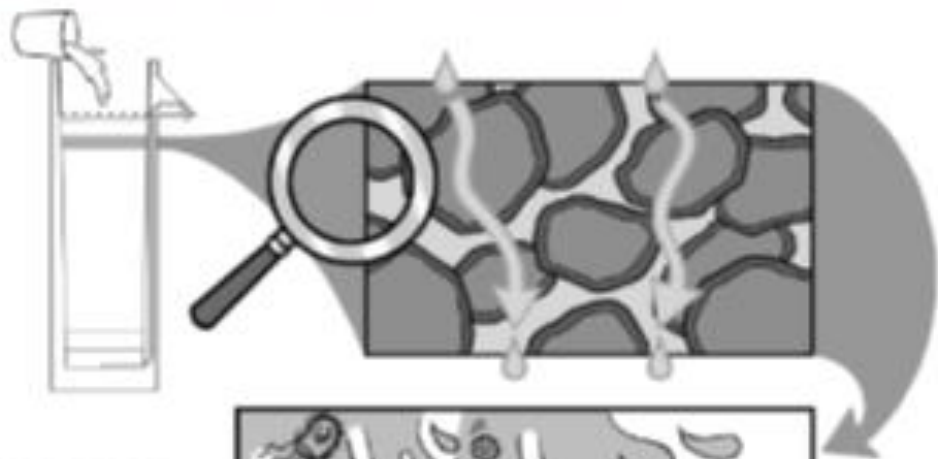
Natural Death

They die.

Some pathogens die because there isn't enough food or air for them inside the BSF.

What Makes the BSF Special? The Biolayer!

In a BSF, small microbes live in the top of the sand. This is called the **BIOLAYER**. The biolayer is very important for making the water safe to drink. The biolayer takes about 30 days to grow.



Day 1

Many microbes live in water. They are too small to see, but they are there! When you pour water into the filter, the microbes start living in the top of the sand.



Day 15

As you keep using the filter, more and more microbes start to live in the sand. The biolayer grows. The microbes get comfortable and start looking for food.



Day 30

After a few weeks, the microbes start to eat each other. Now every time you pour water in, the microbes living in the sand will eat the new microbes in the water, including the pathogens.

