



12, 2916 – 5th Avenue
Calgary, Alberta, T2A 6K4, Canada
Phone: + 1 (403) 243-3285, Fax: + 1 (403) 243-6199
E-mail: cawst@cawst.org, Website: www.cawst.org

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This presentation is used with
Lesson Plan 11: How the Biosand
Filter Works in the Biosand Filter for
Project Implementers Trainer
Manual.

Available at

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Pathogen Removal in the Biosand Filter



Learning Expectations

1. Describe the 4 ways that pathogens are removed from the water inside a filter.

Function of the BSF

What does a biosand filter do?

Makes dirty water safer to drink

Function of the BSF

How does the BSF make water safe to drink?

The BSF removes almost all pathogens and dirt from water.

Function of the BSF

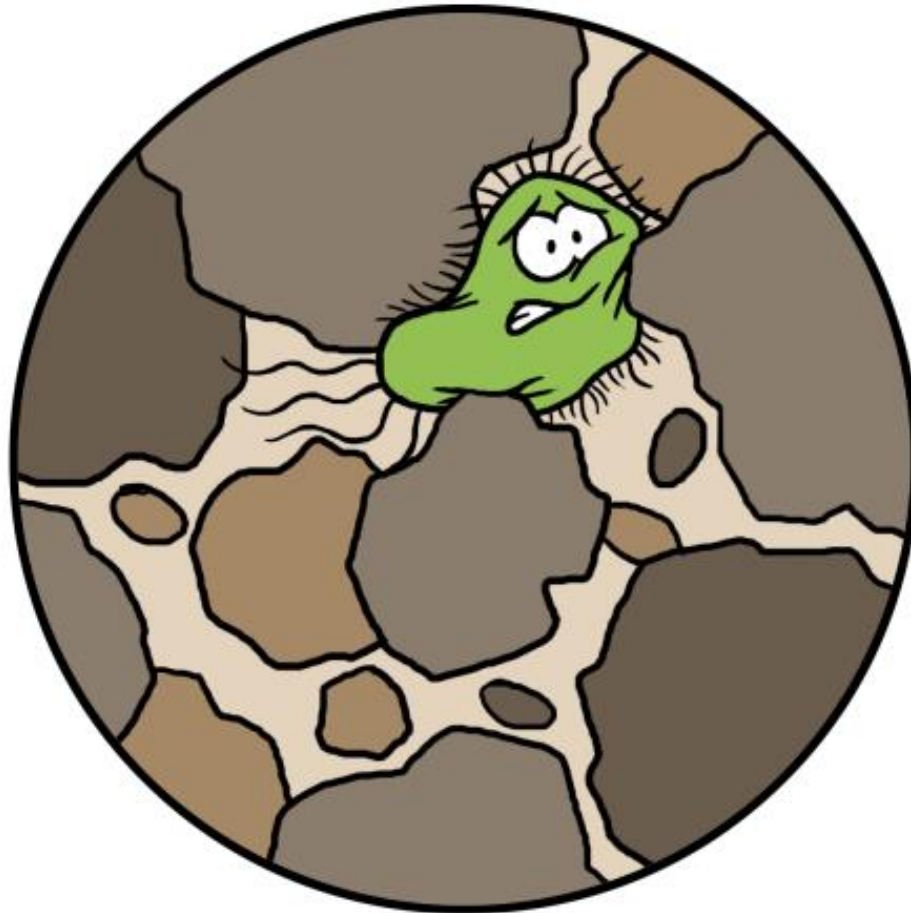
How does the BSF remove pathogens from the water?

Pathogens are removed from the water in 4 ways:

- 1. Trapping (they are too big to get through)*
- 2. Absorption (they stick to sand grains)*
- 3. Predation (they get eaten)*
- 4. Natural Death (they die from suffocation, starvation or old age)*

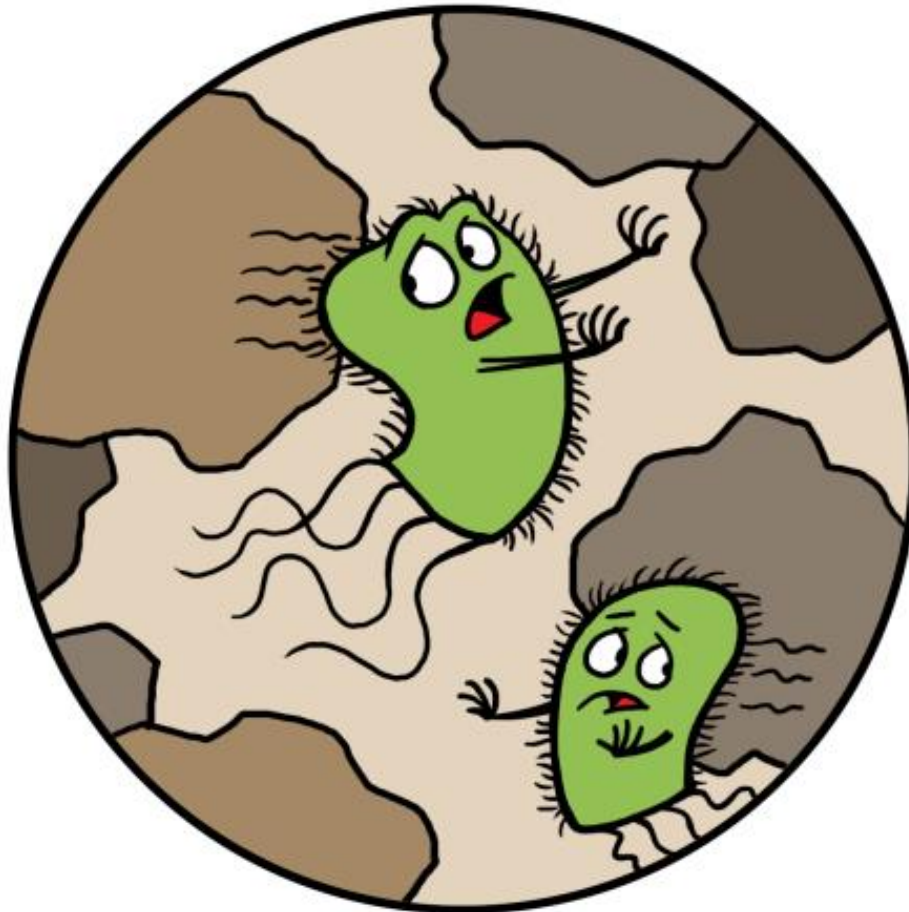
Trapping

Dirt and large pathogens get trapped between sand grains. They are too big to get through.



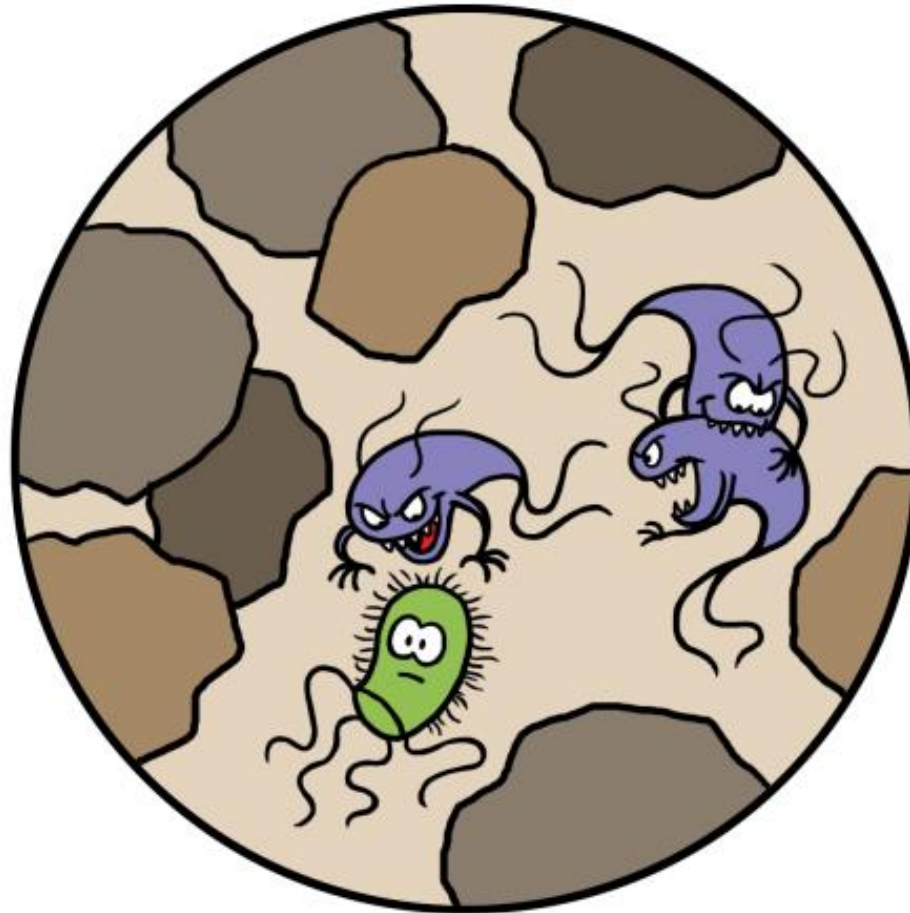
Adsorption

Some pathogens will stick to the sand and dirt inside the filter.



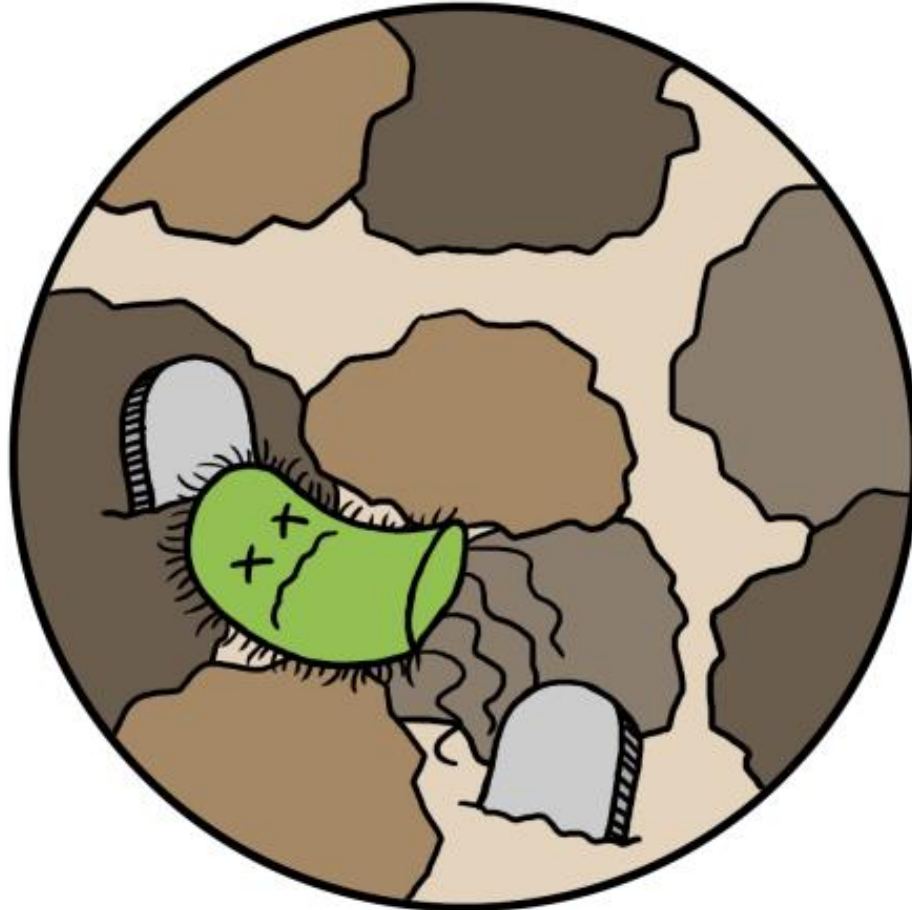
Predation

Microbes in the biolayer eat some pathogens.



Natural Death

Some pathogens die naturally inside the filter. They may die because they do not have enough oxygen or food, or from old age.



Review

What are the 4 ways pathogens are removed from the water inside a filter?

- 1. Trapping (they are too big to get through)*
- 2. Adsorption (they get stuck to sand)*
- 3. Predation (they get eaten)*
- 4. Natural Death (they die from suffocation, starvation or old age)*

Review

Create an action for each of the ways the filter removes pathogens:

- 1. Pathogens get trapped in the sand*
- 2. Pathogens stick to sand grains*
- 3. Microbes eat pathogens*
- 4. Pathogens die naturally*