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CAWST transfers knowledge and skills to organizations and individuals in developing countries through education, training and consulting services. This ever expanding network can motivate individual households to take action to meet their own water and sanitation needs.

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This presentation is used with  
Lesson Plan 11: BSF Pathogen  
Removal in the Biosand Filter for  
Technicians Trainer Manual.

Available at

[www.cawst.org/resources](http://www.cawst.org/resources)



# 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 is 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

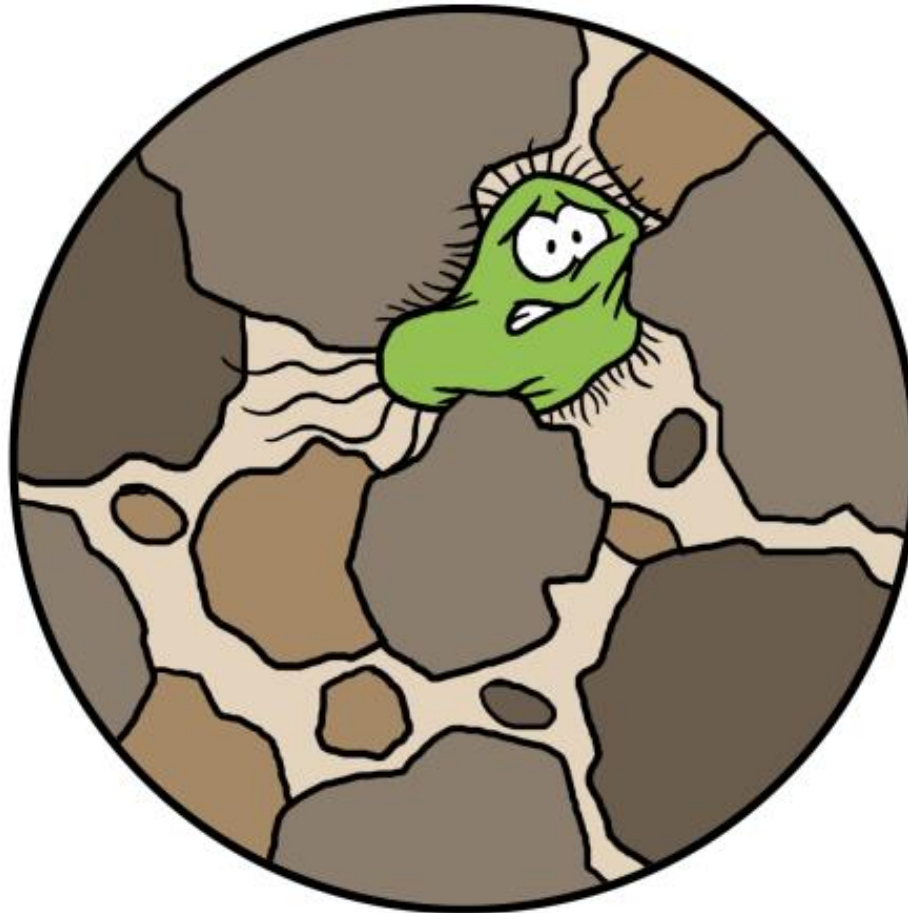
How does the BSF remove pathogens from the water?

*Pathogens are removed from the water in 4 ways:*

- 1. They get trapped in the sand*
- 2. They stick to sand grains*
- 3. They get eaten*
- 4. They die naturally*

# They get trapped

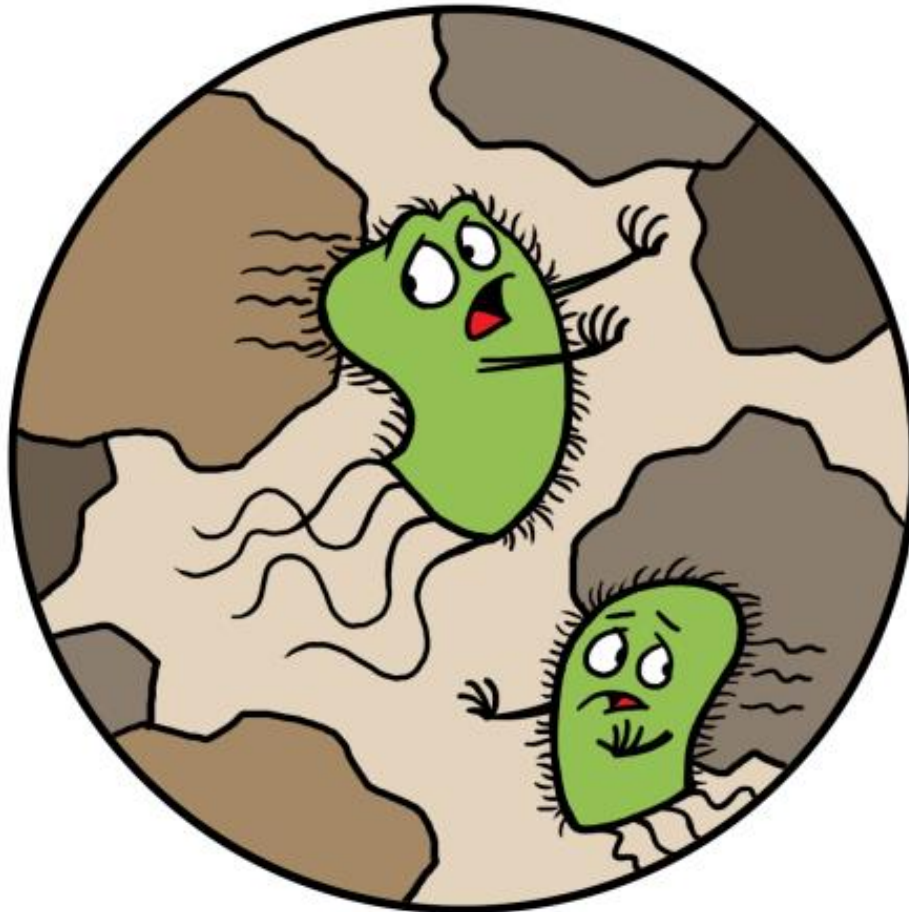
Dirt and large pathogens get trapped between sand grains. They are too big to get through.





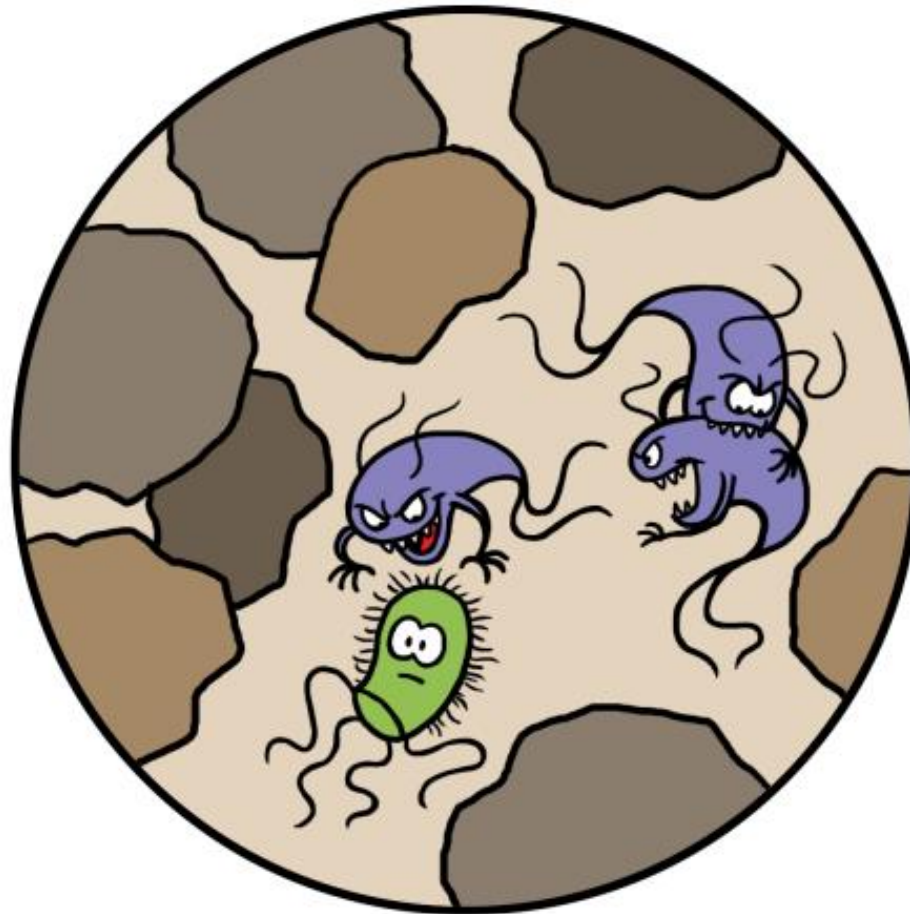
# They get stuck to sand

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



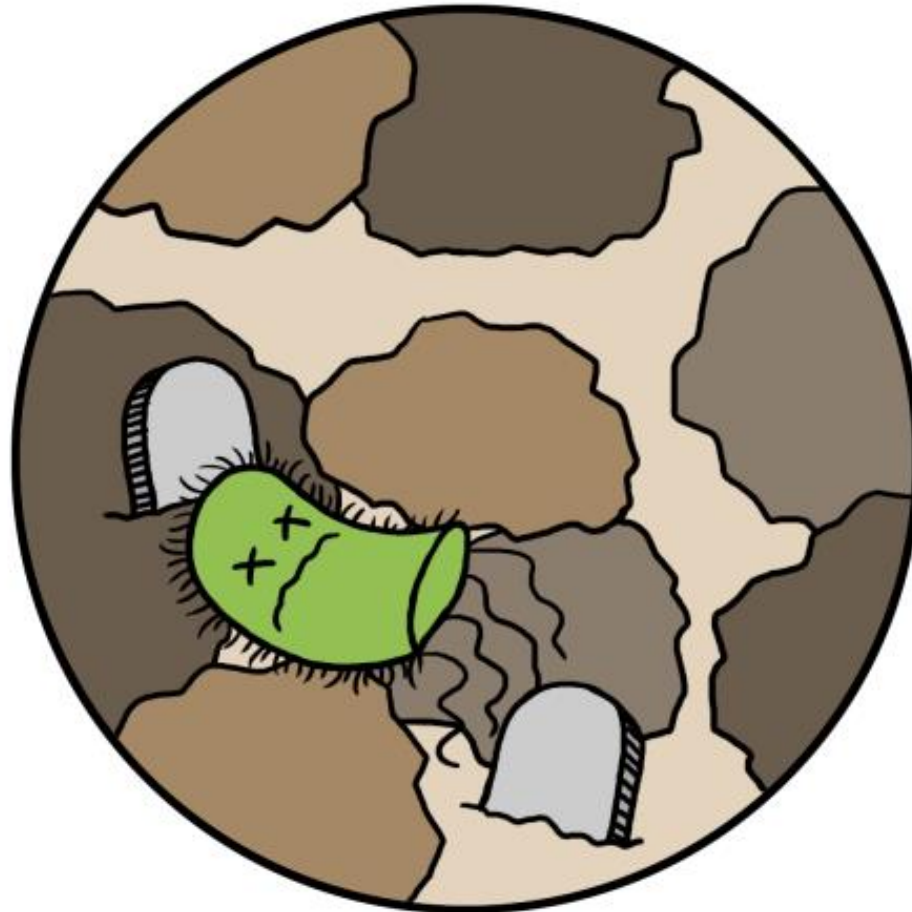
# They get eaten

Microbes in the biolayer eat some pathogens.



# They die naturally

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



# Review

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

- 1. They get trapped in the sand*
- 2. They get stuck to sand*
- 3. They get eaten*
- 4. They die naturally*

# 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 eating pathogens*
- 4. Pathogens dying naturally*