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CAWST is a Canadian non-profit organization focused on the principle that clean water changes lives. Safe water and basic sanitation are fundamentals necessary to empower the world's poorest people and break the cycle of poverty. CAWST believes that the place to start is to teach people the skills they need to have safe water in their homes.

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 Pause Period and Run
in the Biosand Filter for
Technicians Trainer Manual.

Available at www.cawst.org/resources



The Pause Period and The Run



Learning Expectations

1. Describe how all the parts function while the filter is being used.
2. Describe what is happening in the filter in both phases: the pause period and the run.

Phases of the filter

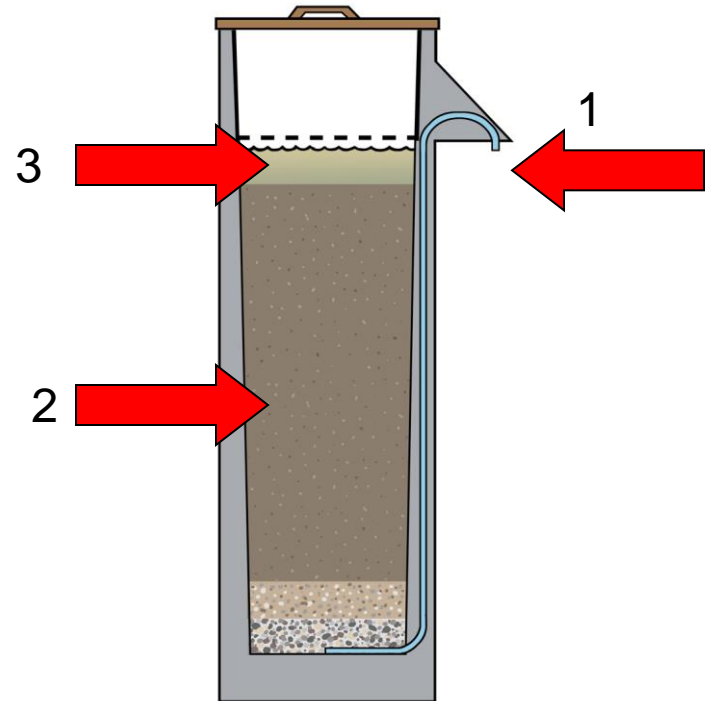
There are two phases of the filter:

1. ***The Pause Period*** – no water is flowing.
2. ***The Run*** – water is flowing.

What is Happening During the Pause Period?

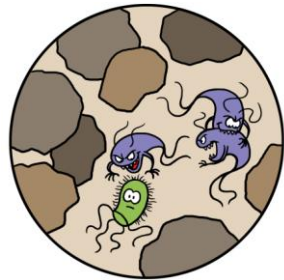
The Pause Period:

1. No water flow
2. The sand is full of water.
3. The standing water level is 5 cm above the top of the sand.

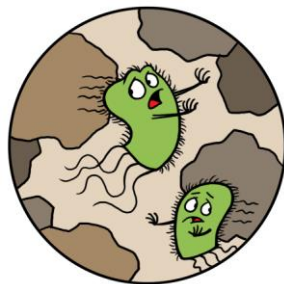


How are Pathogens Removed During the Pause Period?

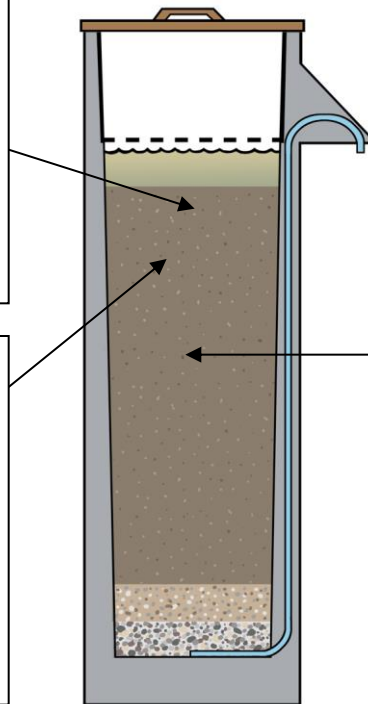
Pathogens are still being removed during the Pause Period:



PREDATION
Microbes in the biolayer eat pathogens.



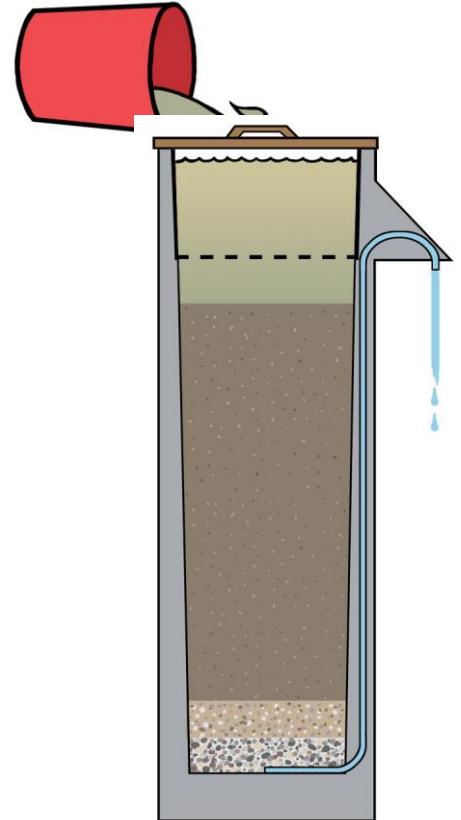
ADSORPTION
Pathogens get stuck to the sand grains.



NATURAL DEATH
Pathogens die because they do not have enough food, not enough air, or from old age.

What is happening during the Run?

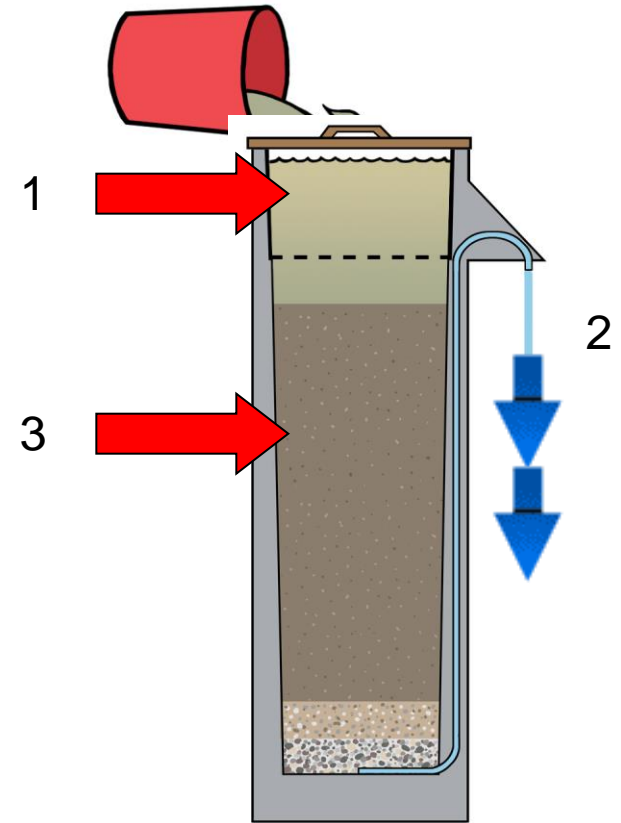
2. The Run – contaminated water is poured in the top. Water starts flowing.
 - *The new water being poured into the filter pushes the water that was already in the sand out of the tube.*
 - *The water coming out of the tube is the water you poured into the filter last time.*



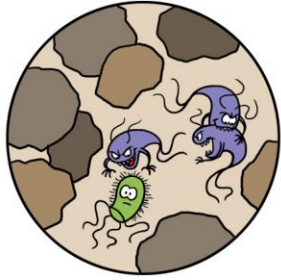
What is happening during the Run?

The Run:

1. Contaminated water is poured in.
2. Filtered water starts flowing out of the outlet tube.
3. Large particles and pathogens get trapped in the sand.



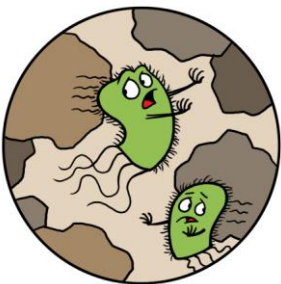
How are pathogens removed during the Run?



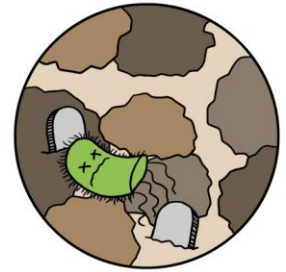
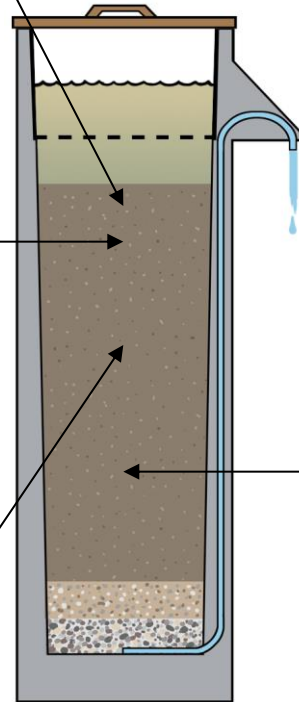
PREDATION
Microbes in the biolayer eat pathogens.



TRAPPING –
Pathogens get trapped in the sand.



ADSORPTION
Pathogens get stuck to the sand grains.



NATURAL DEATH
Pathogens die because they do not have enough food, not enough air, or from old age.

Review

1. Why is water not coming out of the filter during the pause period?
 - *There is no water in the reservoir pushing water out*
 - *The water surface has leveled out at the standing water level*

Review

2. How are pathogens being removed from the water during the run phase?
 1. *Trapping (pathogens can't fit through)*
 2. *Adsorption (pathogens stick to the sand)*
 3. *Predation (pathogens get eaten)*
 4. *Natural Death (pathogens die from lack of food, lack of air or from old age)*