

Water Filtration

What is water purification?

Water purification is the process of cleaning water. Dirty water must undergo this process in order to be safe for consumption. In order to purify water they must be processed through a machine. The machine removes unwanted or otherwise dangerous chemicals. The chemicals are separated from the water leaving only clean water. Obviously this is not a perfect process hence the water usually undergoes purification several times. After the process is complete and has been repeated several times, the water is safe to drink and in prime condition to be used for agricultural purposes. If the water has too high of a mineral content or salt they will be hazardous for both humans and plants.

Procedure:

1. you must first ^{place} ~~put~~ a ~~beaker~~ funnel on a beaker
2. place coffee filter above funnel
3. place carbon on filter
4. pour water on

Materials:

funnel, coffee filter, beaker, active carbon, and water.

Label which procedure you are doing

~~Exp.~~
Procedure 2:

Materials: Funnel, beaker, gravel, sand, coffee filter

1. Place a ~~funnel~~ ^{funnel} with ~~on~~ ^{on} a beaker
2. Place coffee filter in funnel
3. Place gravel and sand on filter
4. Pour water

Procedure 3:

Materials: Pipet, water

1. Insert pipet in water
2. Remove oil

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Chloride Ion

Solution	observation	ion prevention in solution
reference	milky, chalky	yes
control	clear	no
sample #1	foggy, chalky	yes
sample #2	foggy	yes
sample #3	clear	yes

Iron (III) Ion

Solution	observation	ion prevention in solution
reference	bloody red	yes
control	clear	no
sample #1	red-orange	yes
sample #2	red-orange	yes
sample #3	orange	yes

Sulfate Ion

<u>Solution</u>	<u>Observation</u>	<u>ion prevention in solution</u>
reference	chalky white	no yes
control	chalky white	no yes
sample #1	chalky white	no yes
sample #2	chalky white	no yes
sample #3	chalky white	no yes
MD water	chalky white	no yes

Calcium Ion

<u>Solution</u>	<u>Observation</u>	<u>ion prevention in solution</u>
reference	clear	no
control	clear	no
sample #1	foggy	yes
sample #2	foggy	yes
sample #3	clearish	no
MD Water	clear	yes

phosphate #1 & #2

Solution	Observation	ion prevention in solution
reference	yellow red	yes
control	red ---	yes
smpl #1	green-yellow	yes
#2	yellow	yes
#3	green-yellow	yes
MD water	yellow-green	yes

copper

Solution	Observation	ion prevention in solution
reference	clear	yes
control	clear	yes
smpl #1	clear	yes
#2	clear	yes
#3	clear	yes
MD water	clear	yes
	clear	yes

~~Sample #1 = 120 ppm~~

~~Sample #2 = 40 ppm~~

~~Sample #3 = 250 ppm~~

Drinking water Test strip



(Roberts Water)

Filtered Water

1 Calcium test

solution	observation	ion prevention in solution
sample #1 (Filtered)	milky, chalky	yes

2 sulfate Test

solution	observation	ion prevention in solution
sample #1 (Filtered)	no change	no

3 Chloride Test

solution	observation	ion prevention in solution
Sample #1 (Filtered)	milky, chalky	NO

4 Iron(III) Test

solution	observation	ion prevention in solution
<u>Contaminated</u>		

Phosphate #1 & #2

solution	observation	ion prevention in solution
Sample #1 (Filtered)	greenish	NO

ppm = 0.25

Copper

solution	observation	ion prevention in solution
Sample # (Filtered)	clear	yes

0 ppm