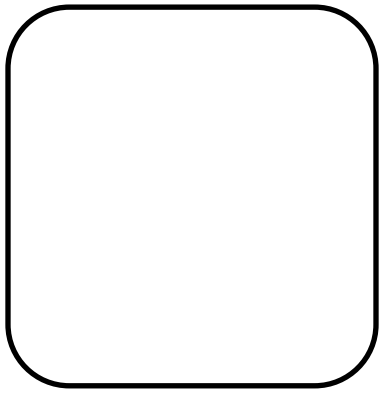
Name _____ Period _____

Clean Water and the Water Cycle

Directions - You will choose items from each category to build water filter to investigate how efficiently a filter cleans polluted (dirty) water. (**WARNING - DO NOT DRINK THE WATER it's from the ditch and you will get sick)**

1. Create a water filter - Choose **only 1** item from the 3 groups on the front desk to create your filter.
Draw and label the layers used to create the filter. →



2. Use a beaker and measure 100 mL of polluted water.

3. Take a pH water strip and place the end into the 100 mL beaker of polluted water and record the pH.
pH of polluted water _____

4. Record observations of polluted water.

a) See (what do you see in the water, color)?

b) Smell (how does it smell)?

NO TASTING

5. Pour the water so that it will travel through the filter and observe as the water flows through the layers.

6. When water has finished filtering, remove the top and throw the materials used to create the filter in the trash can.

7. Pour the filtered water back into the beaker and record how much moved through the filter.
How much of the original 100 mL of water was filtered? _____ mL

8. Use a pH strip to test the acidity of the filtered water and record the acidity level after it was filtered.
Acidity level _____.

9. How well did the water filter you created clean the water?

10. How does the water look compared to the original before you filtered it? (**Do not drink the water at any time**)

11. Create a new water filter making at least 1 change to try and improve the filter. Remember, you can only use 1 item from each of the 3 groups to create a new filter.
Draw and label the layers used to create the filter. →

12. Take a pH water strip and place the end into the 100 mL beaker of polluted water and record the pH.
pH of polluted water _____

13. Record observations of polluted water.

a) See (what do you see in the water, color)?

b) Smell (how does it smell)?

NO TASTING

14. Pour the water so that it will travel through the filter and observe as the water flows through the layers.

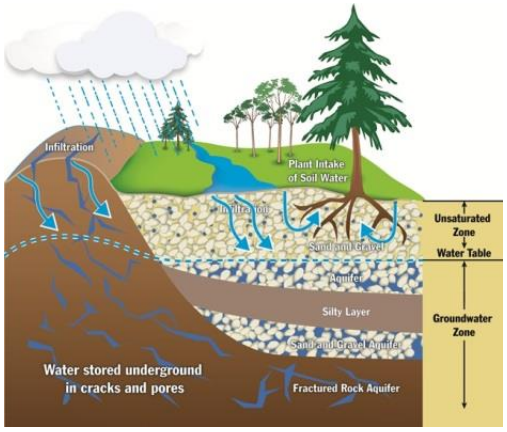
15. When water has finished filtering, remove the top and throw the materials used to create the filter in the trash can.

16. Pour the filtered water back into the beaker and record how much moved through the filter.
How much of the original 100 mL of water was filtered? _____ mL

17. How well did the water filter you created clean the water?

18. How does the water look compared to the original before you filtered it? (**Do not drink the water at any time**)

19. Which filter cleaned the water better? Explain why.



20. How do you think porosity of the materials used affect how well the filter cleaned the water?

21. How do you think permeability affects how well the filter cleaned the water?

22. How does this investigation model how ground water is cleaned in nature?