

Water Filter Design Project

Scientist: _____



Water Filter Design Project by Elizabeth Ross is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-nc-sa/4.0/).

*Adapted From Engineering is Elementary unit
Water, Water Everywhere: Designing Water Filters*

Billy's Polluted Home

Draw Billy's home after he went on his adventure.



DESIGN #2

TEST/EVALUATE

Material	Color (Circle ONE answer)	Particles (Pollutants) (Circle ONE answer)	Time (Circle ONE answer)
Design #2	Dark Medium Light Clear	Many Little None	Fast Medium Slow

1. What parts of your water filter worked well? _____

2. What parts of your water filter did not work well? _____

Be an Environmental Engineer!

1. Circle the **material** or **materials** that you predict will work well in a water filter.



Why do you think so? _____

2. Put an X through the **material** or **materials** that you predict will **NOT** work well in a water filter.



Why not? _____

Evaluating Water Filter Materials

Material	Color (Circle ONE answer)	Particles (Pollutants) (Circle ONE answer)	Time (Circle ONE answer)
Cotton Ball	Dark Medium Light Clear	Many Little None	Fast Medium Slow
Sponge	Dark Medium Light Clear	Many Little None	Fast Medium Slow
Newspaper	Dark Medium Light Clear	Many Little None	Fast Medium Slow
Gravel	Dark Medium Light Clear	Many Little None	Fast Medium Slow
Coffee Filter	Dark Medium Light Clear	Many Little None	Fast Medium Slow

IMPROVE

Which area of your water filter are you going to improve or make better?

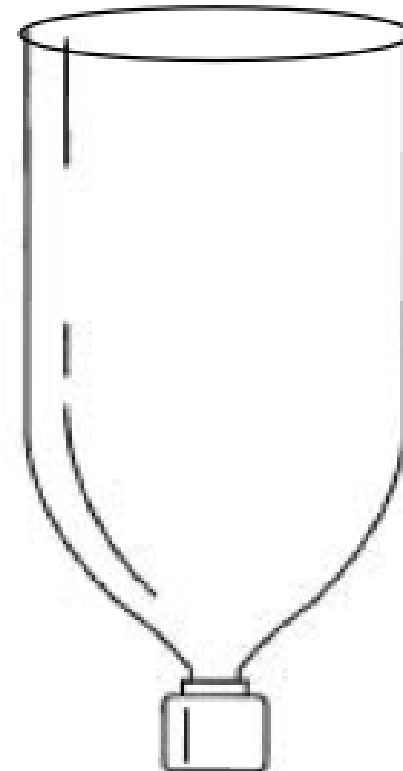
Color Particles Time

Circle the materials you are going to use for your improved design.



Design #2

-Label the parts!



Analyzing Data

Material	Color (Circle ONE answer)	Particles (Pollutants) (Circle ONE answer)	Time (Circle ONE answer)
Design #1	Dark Medium Light Clear	Many Little None	Fast Medium Slow

1. Which **material** or **materials** cleaned the water the best?



1. What parts of your water filter worked well? _____

2. What parts of your water filter did not work well? _____

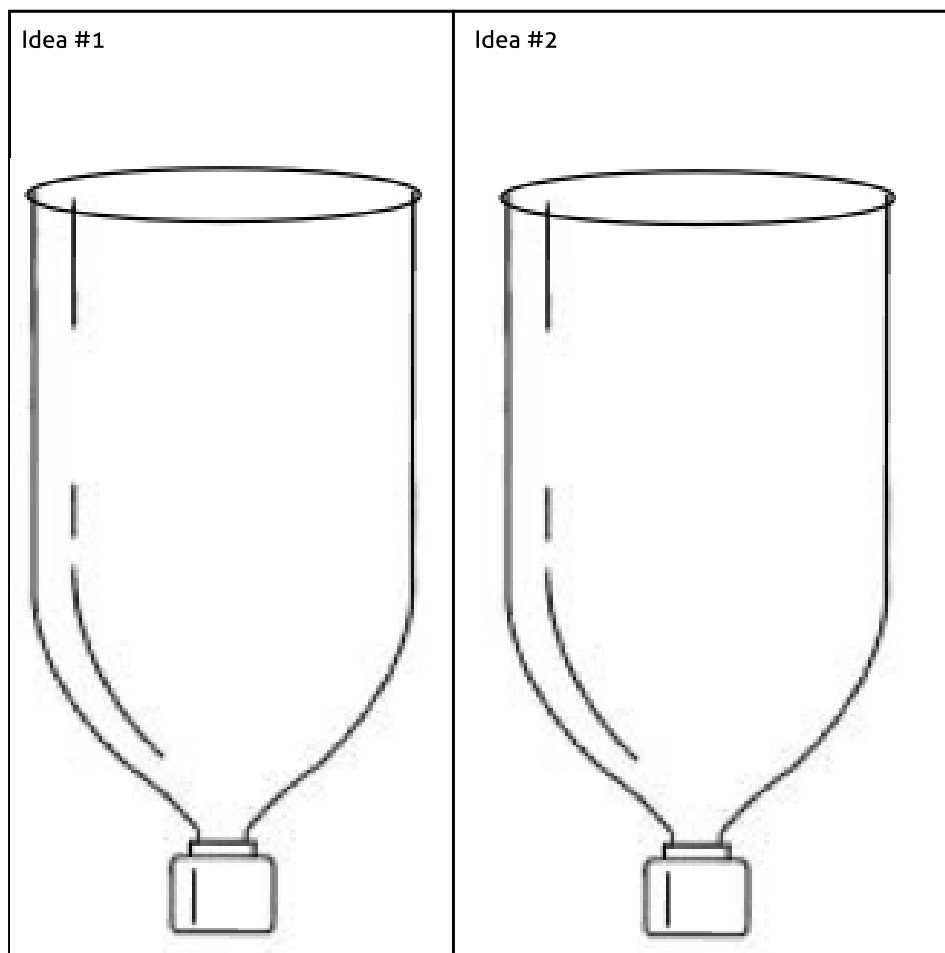
2. Which **material** or **materials** cleaned the water the least?



Designing a Water Filter Engineering Design Process:

IMAGINE

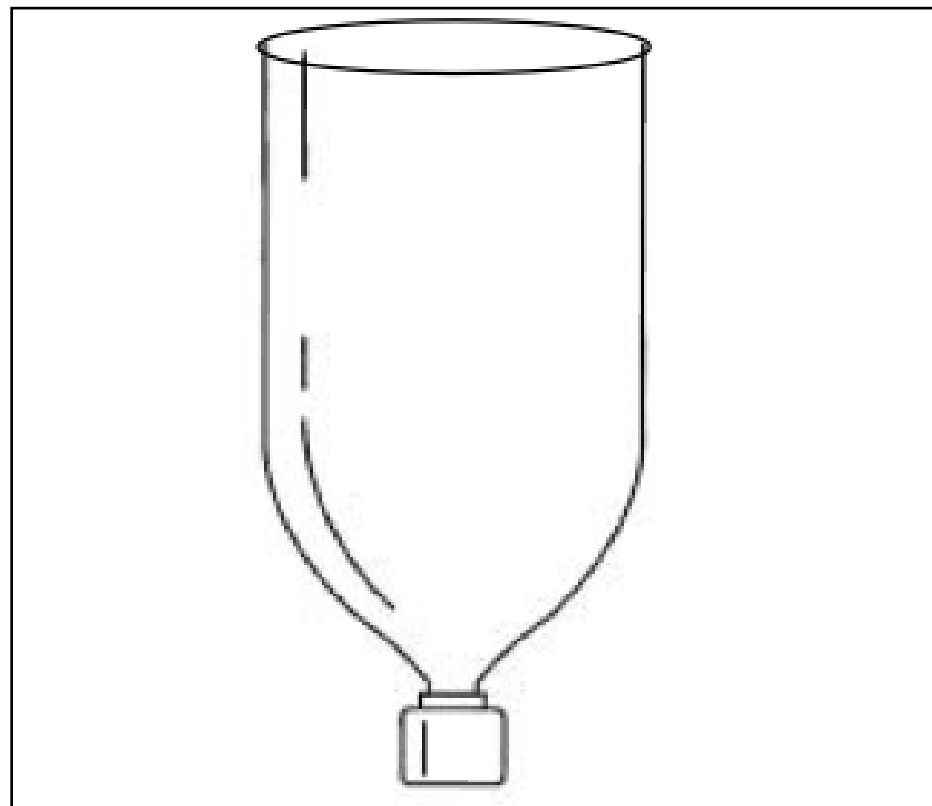
- Brainstorm ideas for how to build a water filter.
- Draw pictures of them in the boxes below.
- Circle the idea that you and your partner think will work the best!



DESIGN #1

PLAN!

Directions: Draw a diagram of your water filter design in the box below. Label the parts!



2. Circle the materials that you will need for your water filter design:

