

## Making the Best Water Filter

*Get your friends or family together and see who can make a filter that cleans dirty water the best. This activity works best with two or more people*

### **You will need—for two people—add more if needed:**

- ½ cup sand
- ½ cup gravel
- ½ cup charcoal
- 20-40 cotton balls
- 15-25 pieces of gauze
- 5-10 coffee filters
- 5-10 napkins or paper towels
- Two 8 oz. clear plastic cups—one per person
- Two 7 oz. flexible plastic cups—one per person (poke a pencil-sized hole in the bottom of cup)
- One large pitcher of dirty water (water mixed with potting soil)
- One large spoon (for stirring dirty water)
- Spoons or scoops (one in each container of sand, gravel and charcoal)
- 4-8 extra paper cups

### **Getting Started:**

1. Print a copy of the lab sheet
2. Decide which four materials you think would make a good water filter...and collect them in the paper cups
3. Give each person one clear plastic cup and one flexible cup with hole on bottom
4. Start to make your filter by layering the filter materials into the flexible cup (with the hole)
5. Fill in the top part of the lab sheet detailing the different layers in your filter
6. When you are done making your filter, hold the empty clear cup underneath the layered cup (to catch water)
7. Stir and pour dirty water into the filter.
8. Observe and record their information on the lab sheet.

### **Who had the cleanest filter? Why?**

# Making the BEST water filter

Name: \_\_\_\_\_

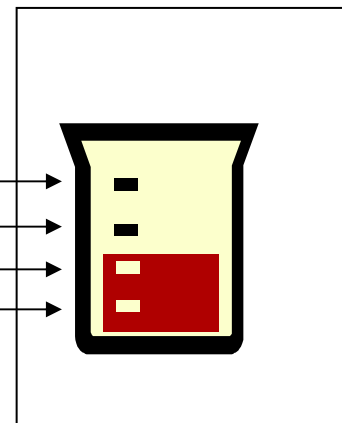
*Lab Sheet*

What materials did you choose for your filter? (Select four)

- sand       gravel       cottonballs (2)       gauze  
 napkin       charcoal       coffee filter

How did you layer your materials?

|        |       |                 |
|--------|-------|-----------------|
| Top    | _____ | 4 <sup>th</sup> |
| Middle | _____ | 3 <sup>rd</sup> |
| Middle | _____ | 2 <sup>nd</sup> |
| Bottom | _____ | 1 <sup>st</sup> |



1. How does your filtered water look? (Check one)  
 clear       cloudy       dirty

2. Which water filter produced the "cleanest" water?  
Team \_\_\_\_\_

3. Which water filter produced the "dirtiest" water?  
Team \_\_\_\_\_

4. If you were to make another water filter, would you make any changes? yes or no

5. If so, what would they be? \_\_\_\_\_

