

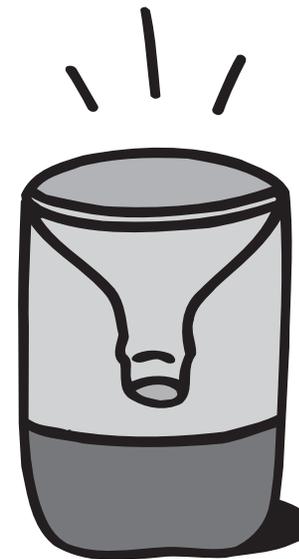
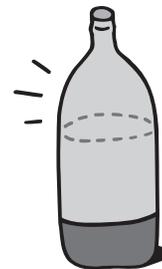


## Can you invent a water filter that cleans dirty water?

— Sent in by Jaban J. of Greene, ME,  
and Cara S. of Maple Plain, MN

# Water Filter

**What You Need** • 2-liter soda bottle cut in half (by an adult!)  
• napkins • gravel • sand • cotton balls  
• paper cup of dirty water (made with dirt, food coloring, cooking oil, and bits of paper and foam peanuts)



**1 Place** the top half of the soda bottle **upside-down** (like a funnel) inside the bottom half. (Make sure the cap is off.) The top half will be the **filter**, and the bottom half will hold the **filtered water**.

**2 Predict** what each material might remove from the dirty water. Then **layer** the filter materials (napkins, sand, gravel, and cotton balls) inside the **top** bottle half.

**3 Pour** the dirty water through the filter. What does the filtered water look like?

**4 Take apart** the filter and **look** at the different layers. Can you tell what each material filtered from the water?

**5 Throw** out the filter materials. Then **wipe** out the bottle and **try it again**. See if you can make the filtered water even cleaner. Try putting materials in **different layers**. Or try using **different amounts** of each material.



Now it's time for you to **experiment**. What happens if you use **different materials** for filtering, such as clay instead of sand? Change **one thing** (that's the variable) and make a **prediction**. Then **test it** and send your result to ZOOM.



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