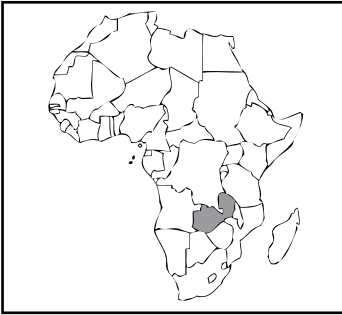


Water Filter Activity

Zambia



Quick Facts

- Zambia is the poorest country in the world. 86% of people live below the poverty line. This is over double the world average.
- The risks of contracting a disease are very high. The most widespread water diseases are:
 - o diarrhea (leads to dehydration, hyperactive secretion and death)
 - o schistosomiasis (coughing, fever and fatigue)
 - o and typhoid fever (causes internal bleeding).
- **Population:** 11,669,534
- **GDP:** \$11.64 billion
- **Literacy:** 89% of the population over 15 can read and write
- **Rainfall:** 500mm (World Average 962.7mm)



Project Brief

You need to build a filter, to clean your water supply. Use the instructions below:

1. Loosely plug neck with cotton wool
2. Secure cheesecloth around neck of bottle, using an elastic band
3. Pour a 1 cm layer of fine sand into the bottle (as illustrated)
4. Add a layer of activated charcoal
5. Add further layers of sand and gravel
6. Remember to pour clean water through your filter to get it working.

You have **40 credits** to build your filter from the resources supplied. The cost of materials is listed below

Material	Description	Cost
Activated Charcoal	Highly porous carbon with large surface area. Carbon based compounds and chlorine adsorbed to surface	30 credits / cup
Cheesecloth	Fine non-water resistant cloth	4 credits / square
Cottonwool	Fine wadding	2 credits / ball
Gravel - Coarse	Act as a sieve, allowing different particle sizes past	5 credits / cup
Gravel - Fine		5 credits / cup
Sand - Coarse		10 credits / cup
Sand - Fine		10 credits / cup
Rubber Band	-	2 credits each
Plastic Bottle	-	10 credits
Capture Cup	Collects water	2 credits