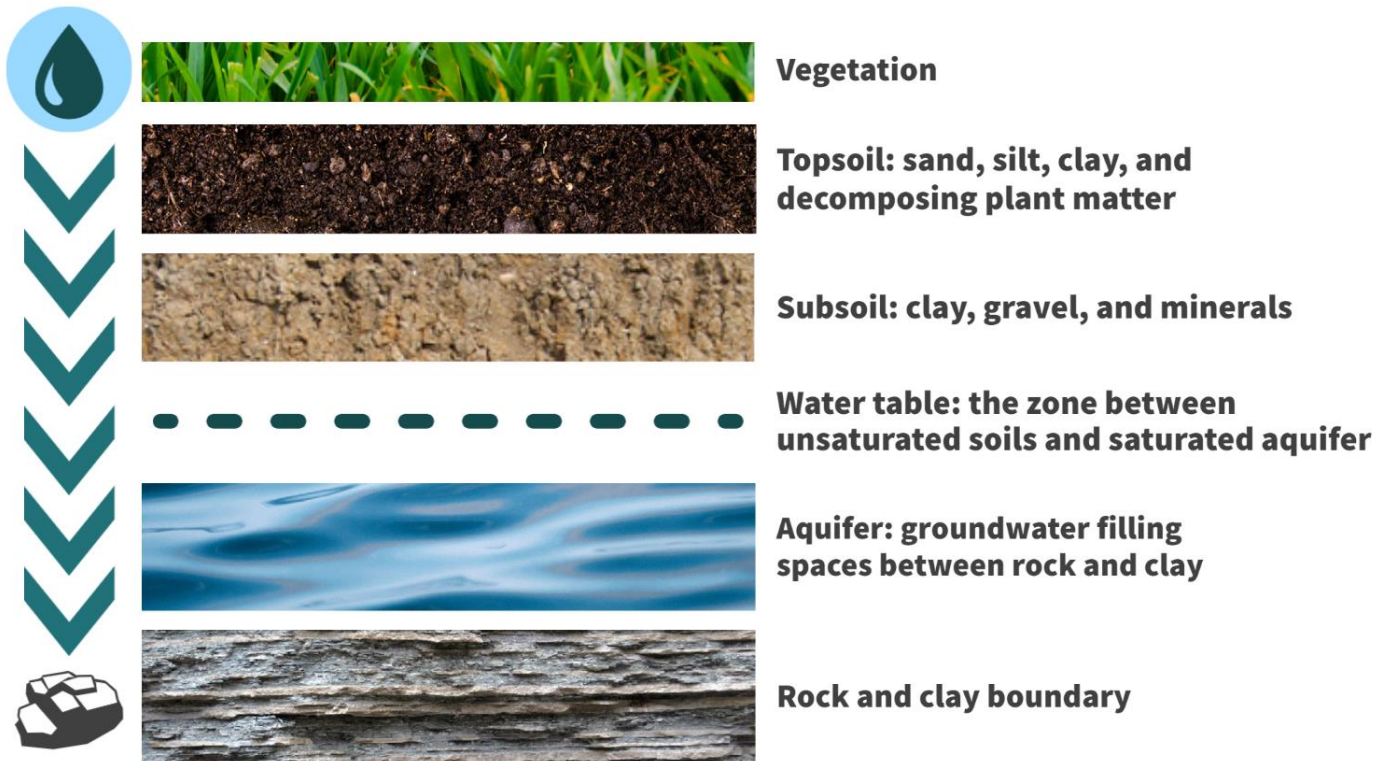




Groundwater's Filtration Journey

The water in our aquifers, where water is stored underground, is much cleaner than when it is on the earth's surface. How is groundwater filtered on its journey? Many layers of soil and sediment work together to clean groundwater before it reaches the *water table*. Build your own "groundwater" filter and experiment with methods of water filtration!



You will need:

- Cup, glass, or jar: a vessel to hold the filtered water
- Funnel
- Coffee filter, bandana, cloth napkin, or paper towel
- Spoon
- Cotton balls
- Filter materials: small rocks, gravel, and sand (if you don't have these in your local environment, check the aquarium section of a local pet store)
- "Dirty" water to be filtered: mix water with soil, coffee grounds, decomposing leaves, or other natural material

Step 1: Place the funnel in the cup or other vessel that will collect your filtered water.

Step 2: Arrange the coffee filter or other material in the funnel to prevent movement of your filtration materials, added in the next step.

Step 3: Add layers of your filtration materials (rocks, gravel, and sand) to the filtration device in any order! Remember that the smaller the particulates in your "dirty" water, the smaller your filtration materials will need to be to catch them!

Step 4: Pour some of the "dirty" water into your funnel filtration device. How many particulates made it through to the cup or vessel beneath the funnel?

Step 4: Use the spoon to remove the filtration materials from the funnel and coffee filter. Replace them in a different order from your first trial, repeat the filtration process, and observe the filtered water that you collect. How is it different from your first filter? See if you can find the best order for filtering the cleanest "groundwater!"



Extra Tip: Even your filtered "groundwater" is not clean enough to drink. When you're finished with your experiments, use it to water a plant in your home or yard!



Our filter (left) was made from sand, gravel, and small rocks.



We filtered water mixed with soil from Gateway Gardens.



The filtered water (left) is much clearer than the dirty water (right)!

