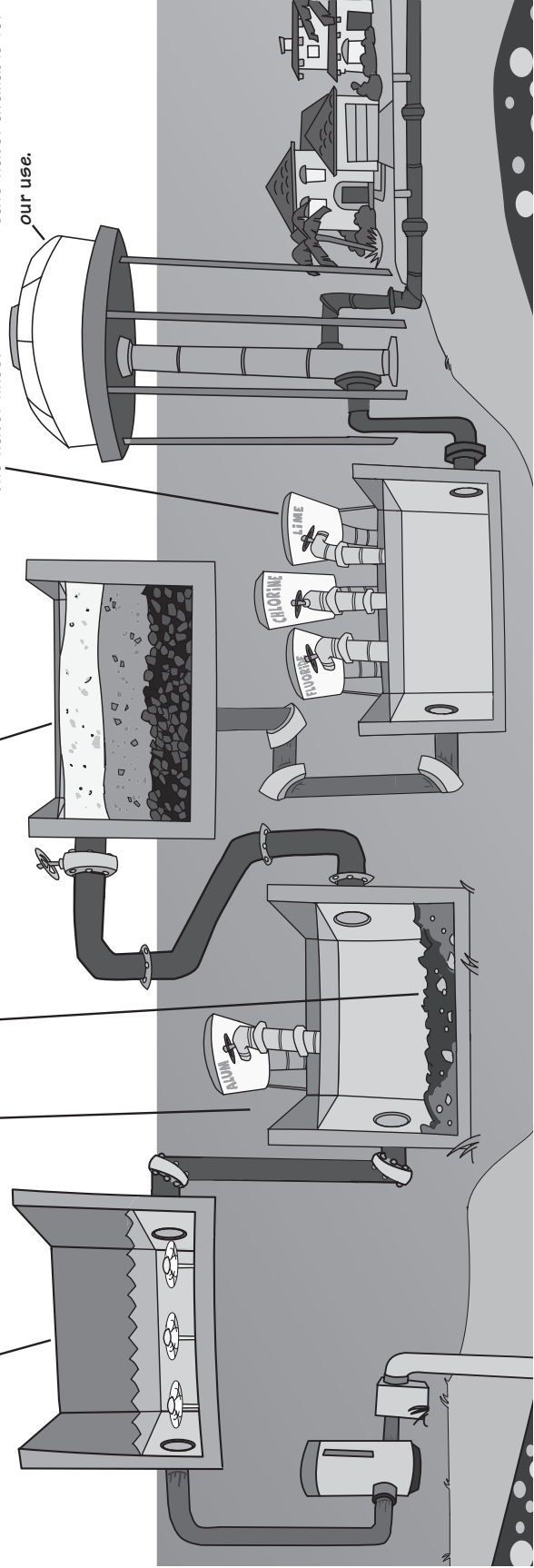


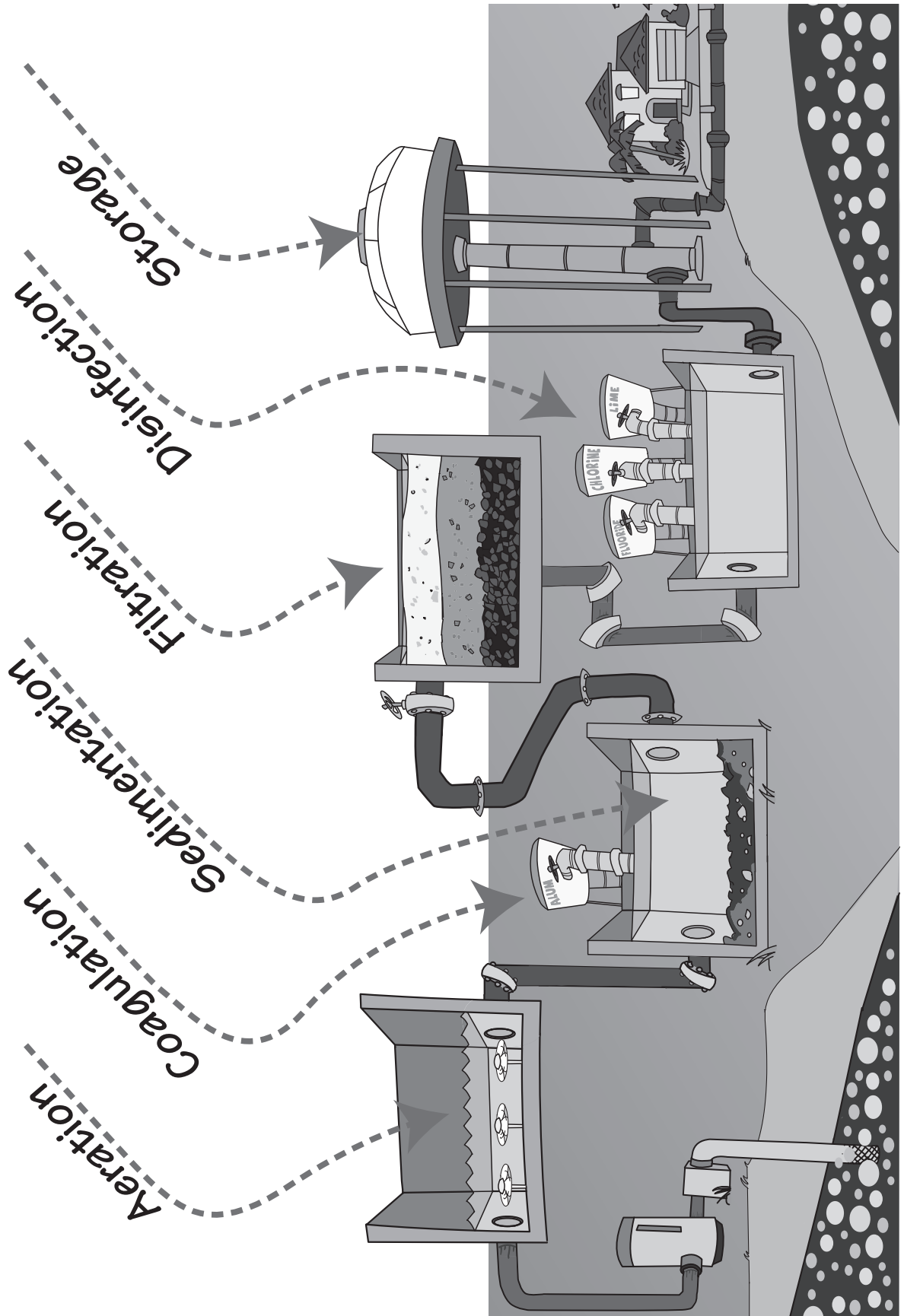
# Water Treatment

Most people who live in or near a city usually get the water they use in their homes from a public water system. These systems pipe water to homes, schools, and businesses after getting it from large underground sources such as aquifers or from surface water. Let's take a look at what must be done to make sure the water is safe for us to use in our homes.

- 1 Aeration is the process during which water is exposed to moving air. This adds oxygen to the water and allows gases trapped in the water to escape.
- 2 Water goes through a process called coagulation. This process causes dirt and other solids to become stuck together through the use of chemicals to make them easier to remove.
- 3 Sedimentation occurs when gravity pulls the particles that are stuck together to the bottom of the tank, where they can be removed.
- 4 Water passes through filters to remove more things from the water. These filters are made of different types of materials, like sand, gravel, and charcoal.
- 5 The water is then disinfected, using chlorine or other disinfectants, to kill harmful microorganisms. This also helps to destroy any harmful bacteria or germs that may have gotten into the water lines.
- 6 After the water is treated, it is pumped into large storage tanks known as mains. When needed, the water is pumped into our homes through pipes. We simply turn on the faucet, and we have safe water available for our use.



# The Challenges – Teacher Resources



## The Challenges – Teacher Resources

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### Student Response Questions

#### Water Treatment

- Short Response

When surface water is used by public water systems, the water must go through an extensive treatment process to provide safe water for our homes, schools, and businesses. Why must this water go through a more complex treatment process than when the water supply comes from a private well?

- Short Response

What role do the layers of sand, gravel, and rock play in filtering water during the treatment process?

- Extended Response

Create a Venn diagram to compare and contrast the treatment of groundwater and surface water in preparing water for use in our homes.

