

From River to Tap

Trace how an explanatory text organizes a technical process.

CCSS.ELA-Literacy.WHST.9-10.2 "Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB This passage describes one common treatment sequence; plants adapt it to their source water. Underline sequence transitions and number the treatment steps in order. These moves show how an explanatory text guides a reader through a technical process.

How Drinking Water Is Treated

- ① At a typical surface-water treatment plant, the process begins long before water reaches a kitchen tap. Operators draw water from a river, lake, or reservoir and send it through screens. The screens remove large debris such as leaves, sticks, and plastic. Next, workers add carefully measured chemicals called coagulants. These substances help neutralize electrical charges that keep tiny suspended particles apart, allowing them to clump together. In a mixing basin, paddles stir the water quickly at first, spreading the coagulant evenly. The goal is not yet to make water safe to drink, but to prepare the smallest particles for removal.
- ② After the rapid mixing, the water moves into a basin where it is stirred slowly. The small clumps collide and grow into larger, visible pieces called floc. Then the flow enters a settling tank. Because many floc particles are heavier than water, gravity pulls them to the bottom as sludge. Plant staff remove this sludge for further handling. Water near the top travels to filters made of layers such as sand, gravel, and anthracite coal. As water passes through these materials, the filters trap remaining particles that were too small to settle.

- ③ Filtration improves clarity, but clear water can still contain microorganisms that cause disease. Therefore, the plant disinfects the filtered water, often with chlorine, chloramine, ozone, or ultraviolet light. The method and dose depend on the source water and local treatment system. Before distribution, technicians test samples for measures such as turbidity, disinfectant level, and microbial indicators. They also adjust pH or add corrosion-control chemicals when needed to help protect pipes. Finally, pumps send the treated water into storage tanks and distribution mains. Continuous monitoring matters because treatment is a process, not a single step, and water quality must remain safe as conditions change.

2 ANSWER WITH EVIDENCE _____ Use the passage

- ① What is the passage's main purpose? Answer in one sentence.
- _____
- _____
- ② How does paragraph 2 develop the explanation? Name two steps and explain how they are connected.
- _____
- _____
- _____
- ③ Quote one precise technical detail from paragraph 3. What does that detail clarify for the reader?
- _____
- _____
- _____
- ④ Identify two sequence transitions from the passage. Explain what step each transition signals.
- _____
- _____
- _____

Choose a technical, scientific, or historical process different from water treatment. Write a 130-170-word explanatory account in exactly three paragraphs that states the process's purpose, explains at least four steps in order, uses at least two accurate domain-specific terms, and includes three sequence transitions.

Leave a clear break between paragraphs. Check every requirement in the assignment above.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

PART 1 • READ AND MARK

This passage describes one common treatment sequence; plants adapt it to their source water. Underline sequence transitions and number the treatment steps in order. These moves show how an explanatory text guides a reader through a technical process. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What is the passage's main purpose? Answer in one sentence.	The passage explains the sequence of steps used to treat source water before it is distributed as drinking water.
2	How does paragraph 2 develop the explanation? Name two steps and explain how they are connected.	Slow stirring forms larger floc particles, then settling uses gravity to remove much of that floc before filtration traps smaller remaining particles.
3	Quote one precise technical detail from paragraph 3. What does that detail clarify for the reader?	The detail "turbidity" identifies a specific measure technicians test, clarifying that they monitor water clarity and suspended particles.
4	Identify two sequence transitions from the passage. Explain what step each transition signals.	"Then" signals that water enters the settling tank after floc forms, and "Finally" signals that pumps send treated water into storage tanks and distribution mains.

PART 3 · YOUR TURN (SAMPLE ANSWER)

A rooftop solar system converts sunlight into electricity that a building can use. Its photovoltaic cells often contain silicon, a semiconductor. First, photons from sunlight transfer energy to the cells, freeing electrons. An internal electric field directs these charges, producing direct current, or DC, when the circuit is connected.

Next, wires carry the DC electricity from the panels to an inverter. This device changes DC into alternating current, or AC. Then, electrical equipment delivers AC to the building's circuits, where it can power lights and appliances. These connected stages turn incoming sunlight into a useful supply of electrical energy.

Finally, a grid-connected building uses the available solar electricity and may send extra power to the grid, depending on its equipment and local rules. When sunlight is insufficient, the building may draw electricity from the grid or an installed battery. Thus, the panels generate electricity from light, while other equipment controls its delivery and use.

Accept equivalent responses that accurately explain the process and support claims with passage details. For the writing task, look for a clear purpose, logical sequencing, accurate details, precise vocabulary, and the required structure. Require exactly three paragraphs, 130-170 words, at least four ordered steps, two accurate technical terms and three sequence transitions. The sample explains conversion, delivery and use; it is not an installation guide. Background: CDC, How Water Treatment Works ([cdc.gov/drinking-water/about/how-water-treatment-works.html](https://www.cdc.gov/drinking-water/about/how-water-treatment-works.html)); U.S. Department of Energy, How Does Solar Work? and Solar Integration: Inverters and Grid Services Basics ([energy.gov](https://www.energy.gov)).