

Name: Key

Chapter 12.1, 12.2, 12.3: Water Pg. 437 - 457

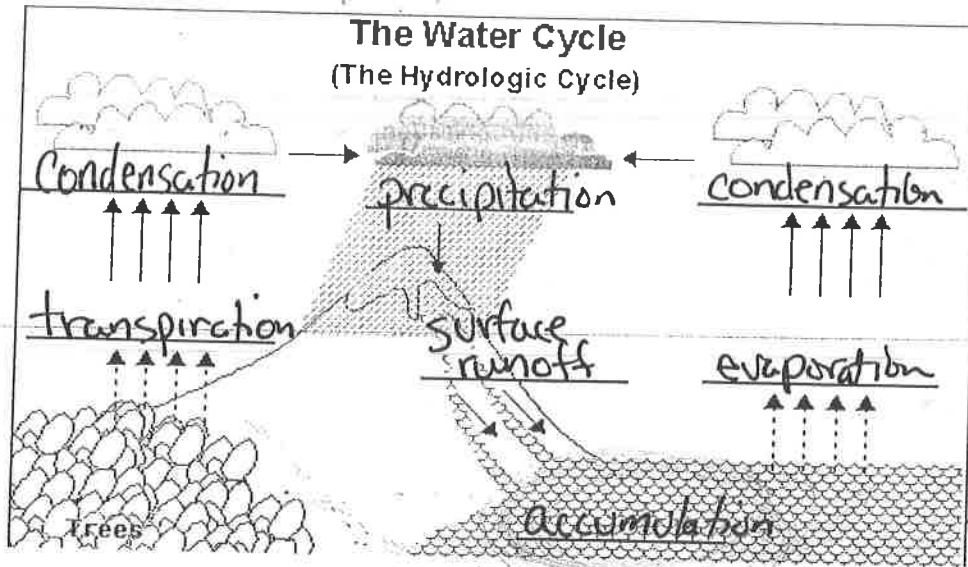
You should be familiar with the following vocabulary words: habitat, groundwater, water cycle, evaporation, transpiration, precipitation, tributary, watershed, divide, reservoir, eutrophication, permeable, impermeable, unsaturated zone, saturated zone, water table, aquifer, artesian well

Use the words above to fill in the following statements:

- 1) Water cycle is continual movement of water among Earth's atmosphere, oceans, and land surface through evaporation, condensation, and precipitation.
- 2) A reservoir is a lake that stores water for human use.
- 3) The layer of rocks and soil above the water table in which the pores contain air as well as water is called the unsaturated zone.
- 4) An artesian well is a well which water rises because of pressure within the aquifer.
- 5) habitat is an environment that provides the things a specific organism needs to live, grow, and reproduce.
- 6) water table is the top of the saturated zone or depth to the groundwater under Earth's surface.
- 7) evaporation is a process by which molecules at the surface of a liquid absorb enough energy to change to a gas.
- 8) A watershed is the land area that supplies water to a river system.
- 9) The saturated zone is an area of permeable rock or soil in which the cracks and pores are totally filled with water.
- 10) A tributary is a stream or river that flows into a larger river.
- 11) A(n) impermeable material such as clay and granite, through which water does not easily pass.
- 12) groundwater is water that fills cracks and spaces in underground soil and rock layers.
- 13) A permeable material contains pores and cracks that water can seep through easily.
- 14) An underground layer of rock or sediment that holds water is called a(n) aquifer.
- 15) transpiration is the process by which water is lost through a plant's leaves.
- 16) precipitation is any form of water that falls from clouds and reaches Earth's surface as rain, snow, sleet, or hail.

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17) Read the definitions below, and then label the water cycle diagram.



Accumulation - the process in which water pools in large bodies (like oceans, seas and lakes).

Condensation - the process in which water vapor (a gas) in the air turns into liquid water. Condensing water forms clouds in the sky. Water drops that form on the outside of a glass of icy water are condensed water. (This term appears twice in the diagram.)

Evaporation - the process in which liquid water becomes water vapor (a gas). Water vaporizes from the surfaces of oceans and lakes, from the surface of the land, and from melts in snow fields.

Precipitation - the process in which water (in the form of rain, snow, sleet, or hail) falls from clouds in the sky.

Surface Runoff - rain, snow melt, or other water that flows in surface streams, rivers, or canals.

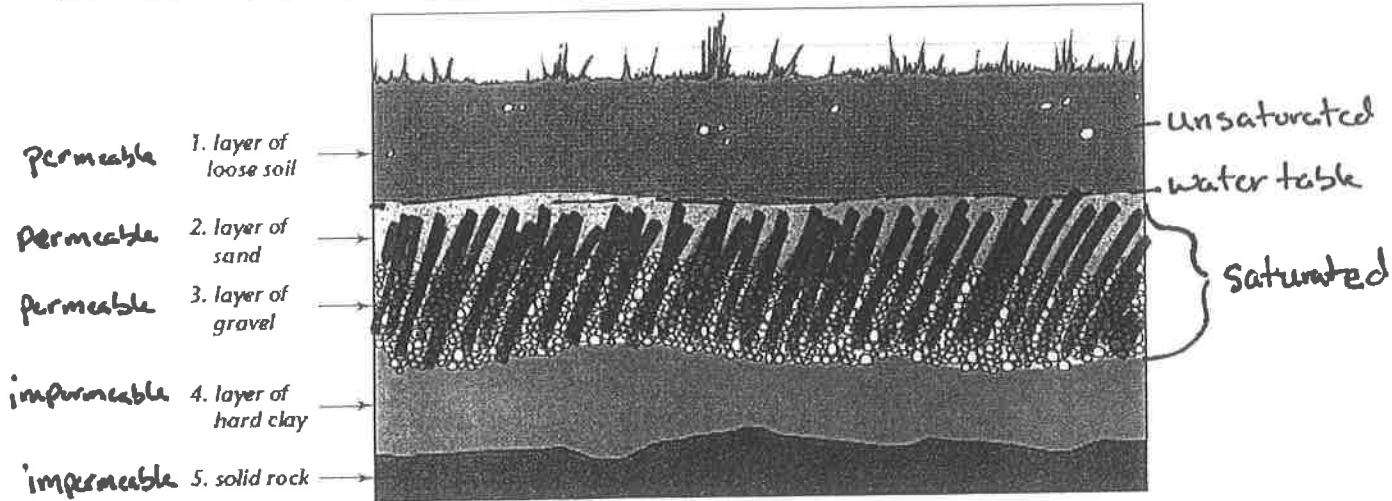
Transpiration - the process in which some water within plants evaporates into the atmosphere. Water is first absorbed by the plant's roots, then later exits by evaporating through pores in the plant.

Directions: Using the diagram above describe the path of your water molecule from a cloud to a river to an ocean and then back to the cloud.

- ① The water molecule will continue to condense until it falls as precipitation in the form of rain.
- ② The droplet will combine w/ other H_2O to runoff the ground until it reaches a river and
- ③ flows to the ocean.
- ④ Eventually The sun will heat the H_2O molecule until it forms a gas through a process of evaporation as it rises it will cool &
- ⑤ condense to form a cloud.

24)

Answer questions 5-10 using the figure below



5. Which layers are permeable?

6. Which layers are impermeable?

7. Use a blue pencil or marker to add groundwater to the diagram. Put it in a logical place.

8. Label the saturated zone

9. Label the water table.

10. Label the unsaturated zone.

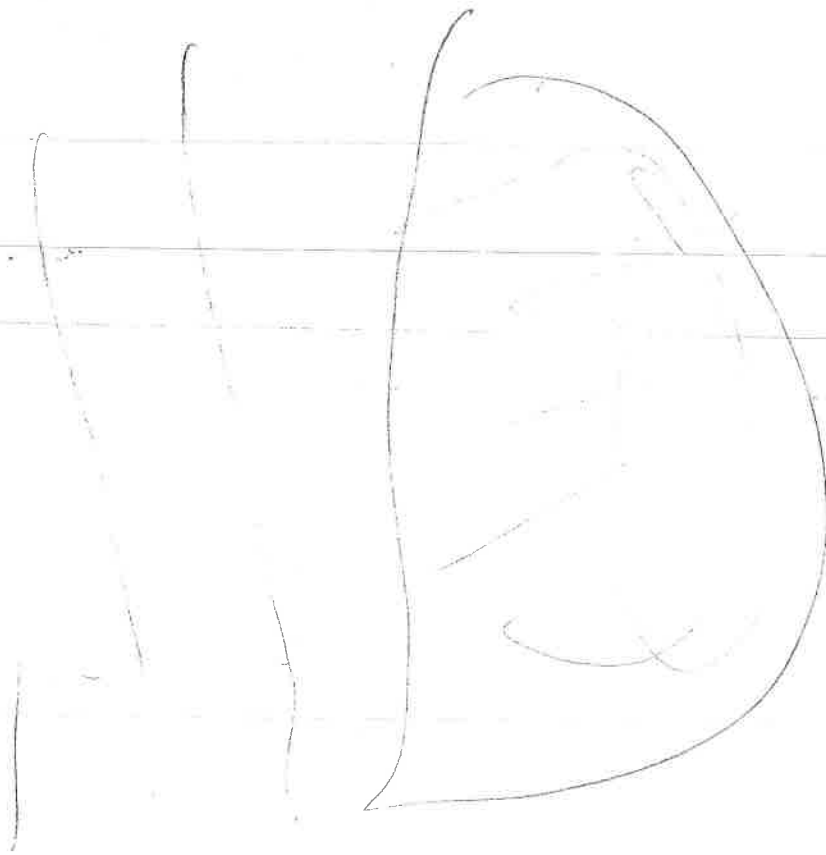
Lexie Warren

- Justin Shields

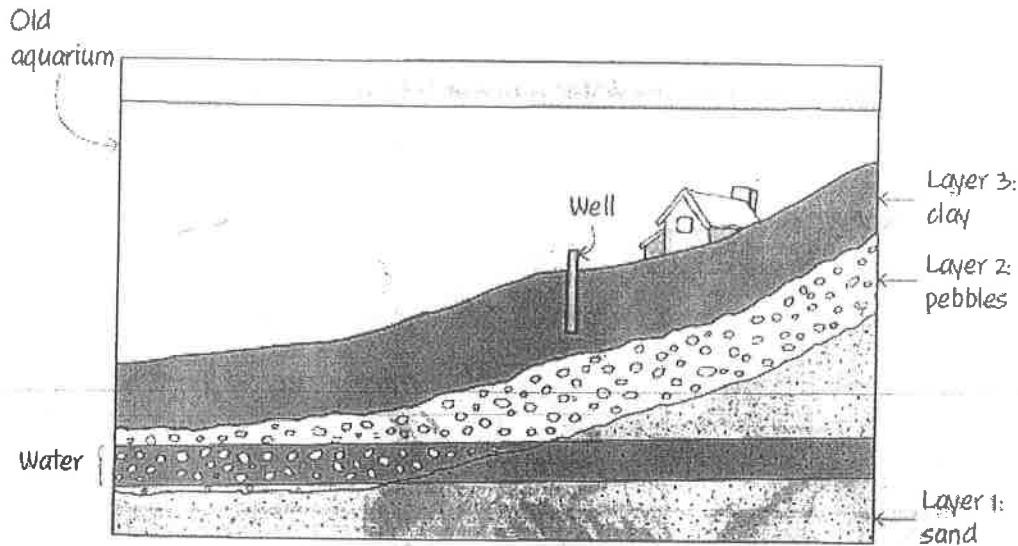
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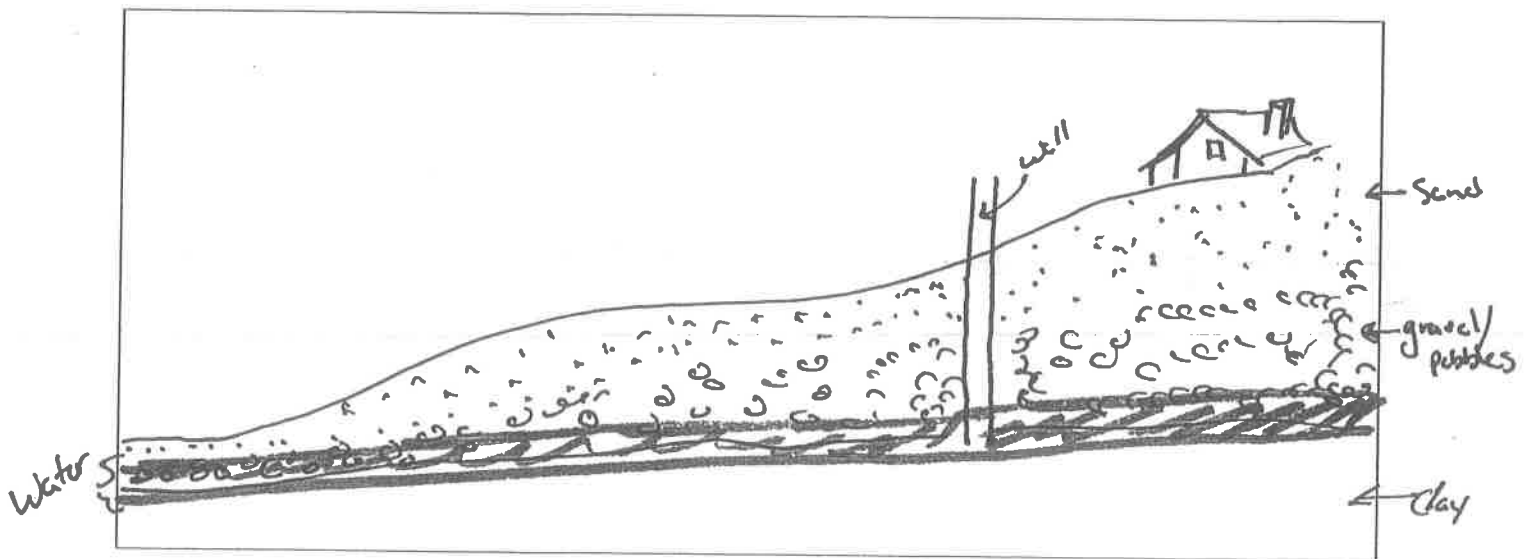


20) Study the layers in the diagram. How would Layer 3 affect runoff? Since layer 3 is clay which is impermeable to water, runoff would flow over the land & not infiltrate the soil.

21) Would water collect where it is shown on the diagram? Explain your answer No, sand is permeable so the water would infiltrate it and not sit on it.

22) Would the well shown on the plan work in real life? Explain. No, The bottom of the well must be in a saturated area.

23) Redraw the plan for the model, showing any changes you would make. Include the underground layers, the well, and the water table. Label the layers to show the materials you would use if you were building the model.



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Directions: On the map below shade in the all the unusable water with a red colored pencil and shade in the useable surface water with a blue colored pencil. Then answer the questions that follow.



18) Explain why the areas shaded in red are unusable water? Red = salt water which is not useable for human use.

19) Is the area shaded in blue the only source of useable water in the US? Explain where other useable water is found? No !! Groundwater

Directions - Below is a model of an aquifer a student made. Study the model and then answer the questions that follow in the spaces provided.