

Name \_\_\_\_\_

**Day  
1**

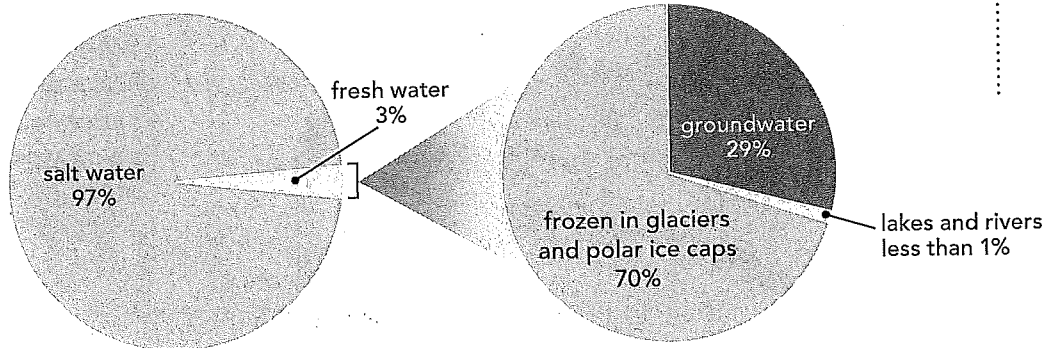
### Weekly Question

## Why don't rivers and lakes soak into the ground?

Remember that less than 3% of all the water on Earth is fresh water, and only a tiny fraction of that is available for us to use. Most of Earth's fresh water occurs as ice in the polar ice caps and in glaciers. These regions are far from where most people live, and water in these areas is not easy to use. Unlike liquid water that can flow through pipelines, frozen water is hard to transport. Because of this, people use fresh water from rivers and lakes near populated areas.

The second-greatest store of fresh water on Earth is in the ground. This type of water is called **groundwater**. Places that don't have access to fresh water from rivers and lakes depend on groundwater for drinking, **irrigation**, manufacturing, and industry.

### A. Look at the diagram and answer the questions.



Water on Earth

Where Fresh Water Is Stored

1. About what percentage of Earth's fresh water is found in groundwater, rivers, and lakes? \_\_\_\_\_
2. Why is most of Earth's fresh water difficult to use? \_\_\_\_\_

### B. Use the vocabulary words to complete the sentences.

1. A farmer uses an \_\_\_\_\_ system to water his crops.
2. The farmer is not near a river, so he uses \_\_\_\_\_ instead.

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**Big  
Idea 3**



**WEEK 2**

### Vocabulary

#### **groundwater**

GROWND-wah-ter  
fresh water  
that exists  
underground

#### **irrigation**

EER-ih-GAY-shun  
a method of  
supplying dry  
land with water  
artificially

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daily science

# Big Idea 3



WEEK 2

Day 2

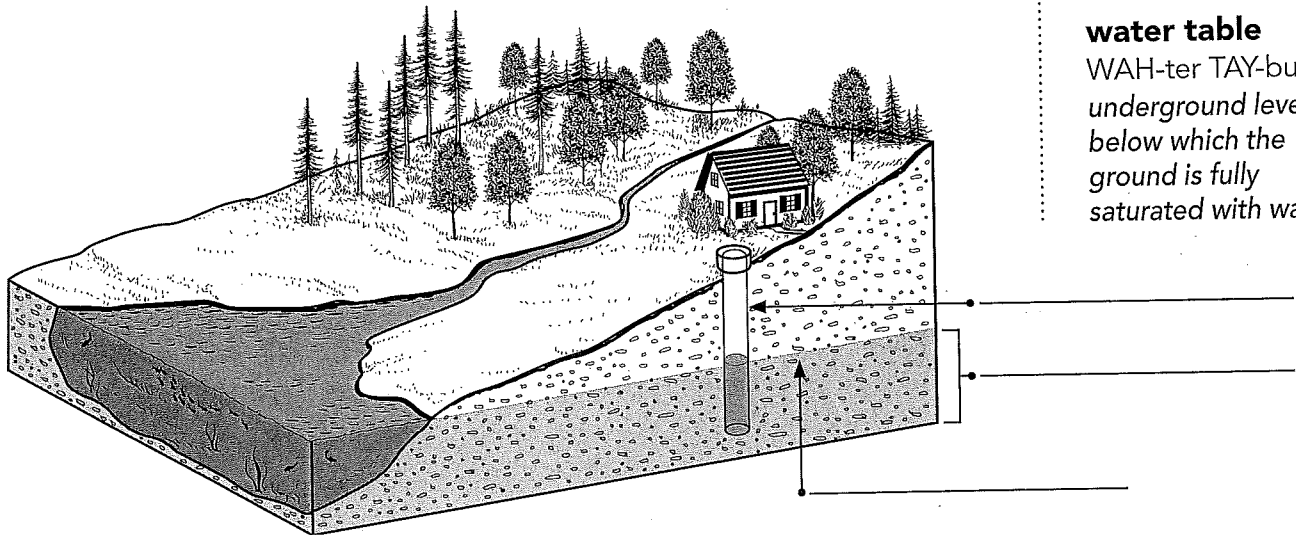
## Weekly Question

# Why don't rivers and lakes soak into the ground?

To understand groundwater, it is important to know that some of the rock and soil that covers Earth is **porous**. Ground that is porous contains spaces within soil and inside rocks that allow for movement of water. When it rains, water soaks into the ground by seeping into these tiny spaces. Water moves downward until it reaches a level where all the spaces are filled with water. This depth is referred to as the top of the **water table**. During dry times, the water table may move lower. During wet seasons, the water table can rise.

The rock or sand layer below the water table that holds a lot of groundwater is called an **aquifer**. People obtain groundwater by drilling wells into aquifers and pumping out the water.

A. Label the *aquifer*, *water table*, and *well*.



## Vocabulary

### aquifer

AH-kwih-fur  
an underground layer of rock or soil that contains water

### porous

POR-us  
able to absorb water

### water table

WAH-ter TAY-bul  
underground level below which the ground is fully saturated with water

B. *Porous* is a word that can apply to other objects or materials besides rock. What are two other things that you think are porous?

1. \_\_\_\_\_ 2. \_\_\_\_\_

C. During periods of extended dryness, water in wells can completely disappear. Explain why this is so.

\_\_\_\_\_

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**Day  
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**Weekly Question**

## Why don't rivers and lakes soak into the ground?

Groundwater in the aquifer is replenished by rainfall in a process called *recharge*. But not all rainfall soaks into the ground. Some rain collects in rivers, lakes, and streams as **surface water**.

So why doesn't all surface water soak into the ground? Beneath some rivers and lakes, the rock layer isn't porous. If there are no pores to soak up the water, then the water simply collects above the ground. In places where the rock is porous, the ground beneath rivers, lakes, or streams is already saturated. So when rain falls, the ground cannot hold any more water, and it builds up on the surface.

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**WEEK 2**

### Vocabulary

#### **surface water**

SIR-fiss WAH-ter  
water that does  
not soak into the  
ground

- A. The diagrams below show two ways surface water can form. Underneath each diagram, write a caption that describes what is happening with the water.

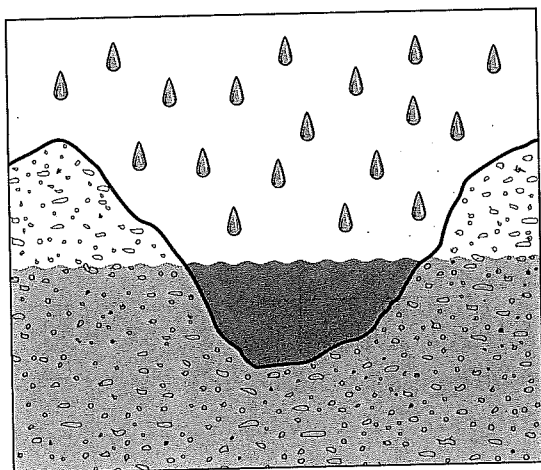


diagram 1

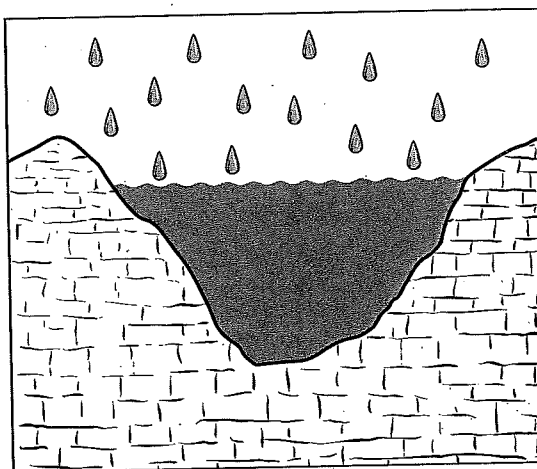


diagram 2

- B. Describe the difference between surface water and groundwater.

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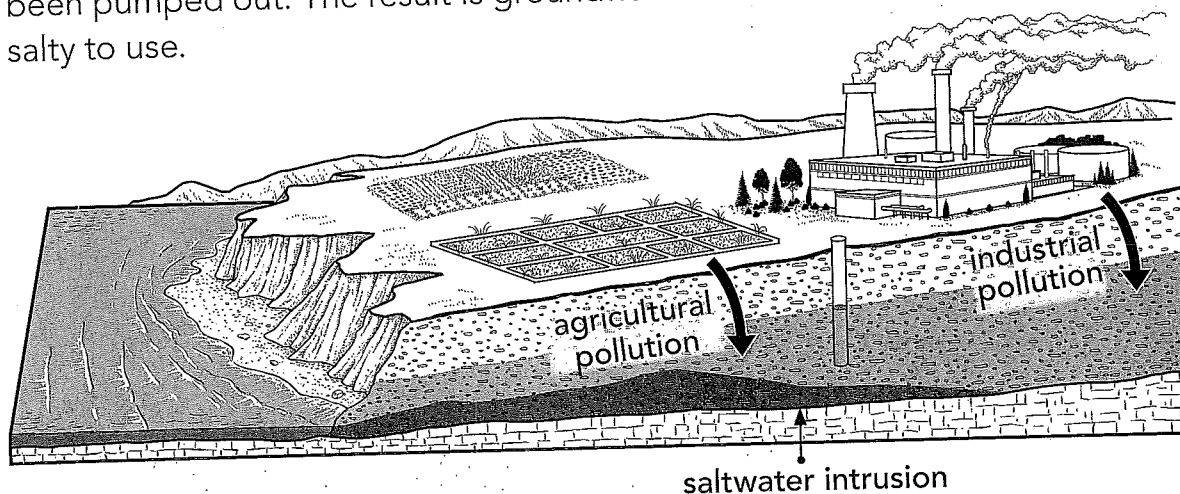
**Day  
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**Weekly Question**

**Why don't rivers and lakes  
soak into the ground?**

There is more fresh water available as groundwater than in all the world's rivers and lakes combined. Yet, the fact that groundwater is stored underground does not protect it from pollution. Fertilizers or other chemicals that are used in farming can dissolve in water, which then seeps into the ground during the irrigation process. Also, waste materials that spill or leak from industrial facilities can get carried into an aquifer by rainwater during recharge.

Overuse is another threat to groundwater. When communities use more groundwater than is replaced by rain or other sources, the water table can drop below the reach of wells. This drop can also cause communities near the ocean to experience saltwater intrusion, or the flow of seawater into an aquifer to replace the fresh water that has been pumped out. The result is groundwater that has become too salty to use.



**A. What are the two main threats to the availability of usable groundwater?**

1. \_\_\_\_\_ 2. \_\_\_\_\_

**B. What are two results of overuse of groundwater?**

1. \_\_\_\_\_  
2. \_\_\_\_\_

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**Day  
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**Weekly Question**

**Why don't rivers and lakes  
soak into the ground?**

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Idea 3**



**WEEK 2**

A. Next to each word, write the letter of its definition.

- |                       |  |
|-----------------------|--|
| 1. ____ aquifer       | a. water under Earth's surface                     |
| 2. ____ groundwater   | b. artificially watering dry land                  |
| 3. ____ porous        | c. a level below which the ground is full of water |
| 4. ____ irrigation    | d. water in rivers and lakes                       |
| 5. ____ surface water | e. a layer of saturated rock                       |
| 6. ____ water table   | f. filled with tiny holes                          |

B. Label the *groundwater*, *surface water*, *porous rock*, *nonporous rock*, and *water table*.

