

Where Does Your WATER Shed?



Level 3

Sitting In A Watershed



Right now as you read this you are sitting, standing or lying in a watershed. Every body of water on the planet is surrounded by a watershed. Every piece of land on the planet is part of a watershed.

Shed

“Shed” is defined as: to transfer somebody or something to another place. In this case we are talking about water being shed from land. Water is being transferred from land to another place.



H₂O + Shed = Watershed



Water

Agua, acqua, woda, water... no matter where you live or how you say it, every molecule of water is made of two hydrogen atoms and one oxygen atom, and it is vital to our survival. In an emergency, humans can survive for a few weeks without food but only a few days without water.

Watershed

A watershed is an area of land from which precipitation drains into a body of water. **Circle the forms of precipitation you have in your area.**

Sleet **Freezing Rain** **Hail** **Rain** **Drizzle** **snow**

Flowing In A Watershed



Since most of your drinking water flows over it or through it, the land in your watershed is very important. What is the soil like in your watershed? If you can, dig a small hole and take a look at your soil.

Loose soil with a lot of sand and rock particles is porous. When precipitation falls on porous soil, it can soak into the soil and become groundwater. Groundwater is stored in aquifers made of sand, soil and gravel. There is air space between the soil particles that allows the water to move through the soil.

Tightly packed soil with a lot of clay isn't very porous. Clay soil usually holds water on the surface in lakes, ponds or puddles.

Follow the instructions below to cross words off in the diagram. When you are finished the remaining words will form a message reading from left to right and top to bottom.

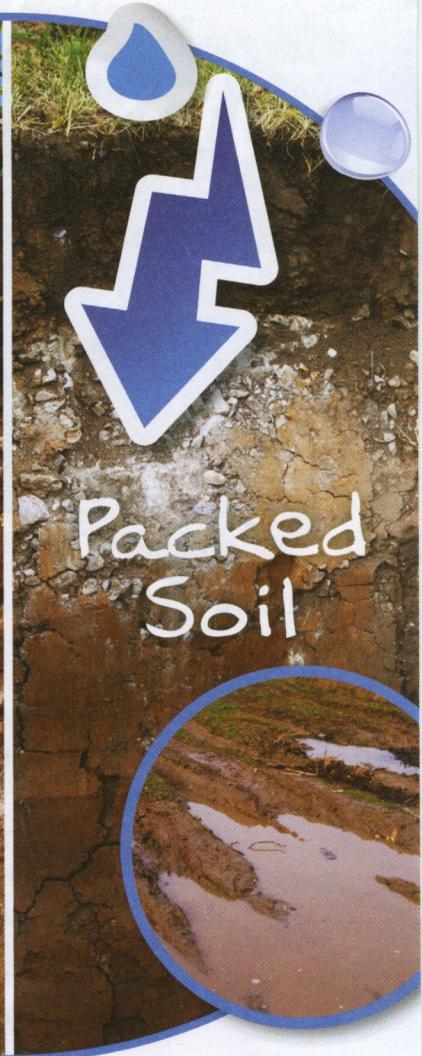
Cross off these words:

- The atoms that make up a water molecule.
- Forms of precipitation.
- Loose soil is _____.
- An underground water supply.
- Bodies of water.
- Words that start with the letter "r."

Write the message you found here:



Loose Soil



Packed Soil

the	hydrogen	snow	aquifer
hail	water	porous	ocean
lake	you	drizzle	drink
recycle	creek	swamp	flows
rain	through	your	oxygen
redo	sleet	reuse	river
stream	watershed	do	renew
your	reduce	part	rethink
to	pond	protect	it

Who lives in my watershed?

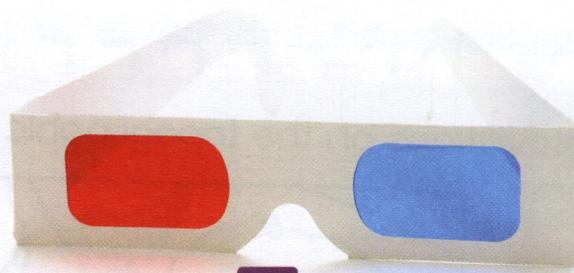
gravity pulls water down

high point boundary

body of water

The location and size of your watershed is determined by the shape – topography – of the land. Water that falls to the ground is pulled by gravity downhill until it reaches a body of water like a lake, river, ocean, pond or stream. The boundaries of a watershed are usually made up of high points of land like mountains, hills or ridges.

A watershed is a little like a sink. It has high sides so the water stays inside it. The water drains out of the sink and into a pipe. Water drains from a watershed into a body of water like a lake or river. When you wash your hands in the sink the water carries the soap you use and the dirt from your hands down the drain into the pipe. If you can imagine the sink made of soil, you can see that water would also soak into the soil and move into groundwater. When water drains from a watershed, it can carry materials from the ground into the lake or river it drains into. This is called runoff.

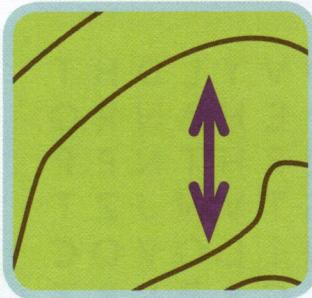


Looking At A Watershed with Topography

A topographical map is a great tool to see how your watershed holds and drains the water you use every day. Topographical maps can show bodies of water, roadways, hills and valleys, communities and even wooded areas. They use contour lines to show the height of the watershed boundaries and the land inside it to help you see how the water flows through your watershed.

Have you ever seen a movie in 3-D? Topographical maps are a way to look at the 3-D surface of land on a flat piece of paper.

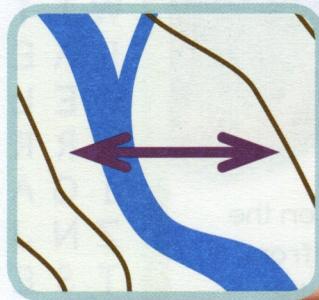
Contour lines on a topographic map represent the vertical



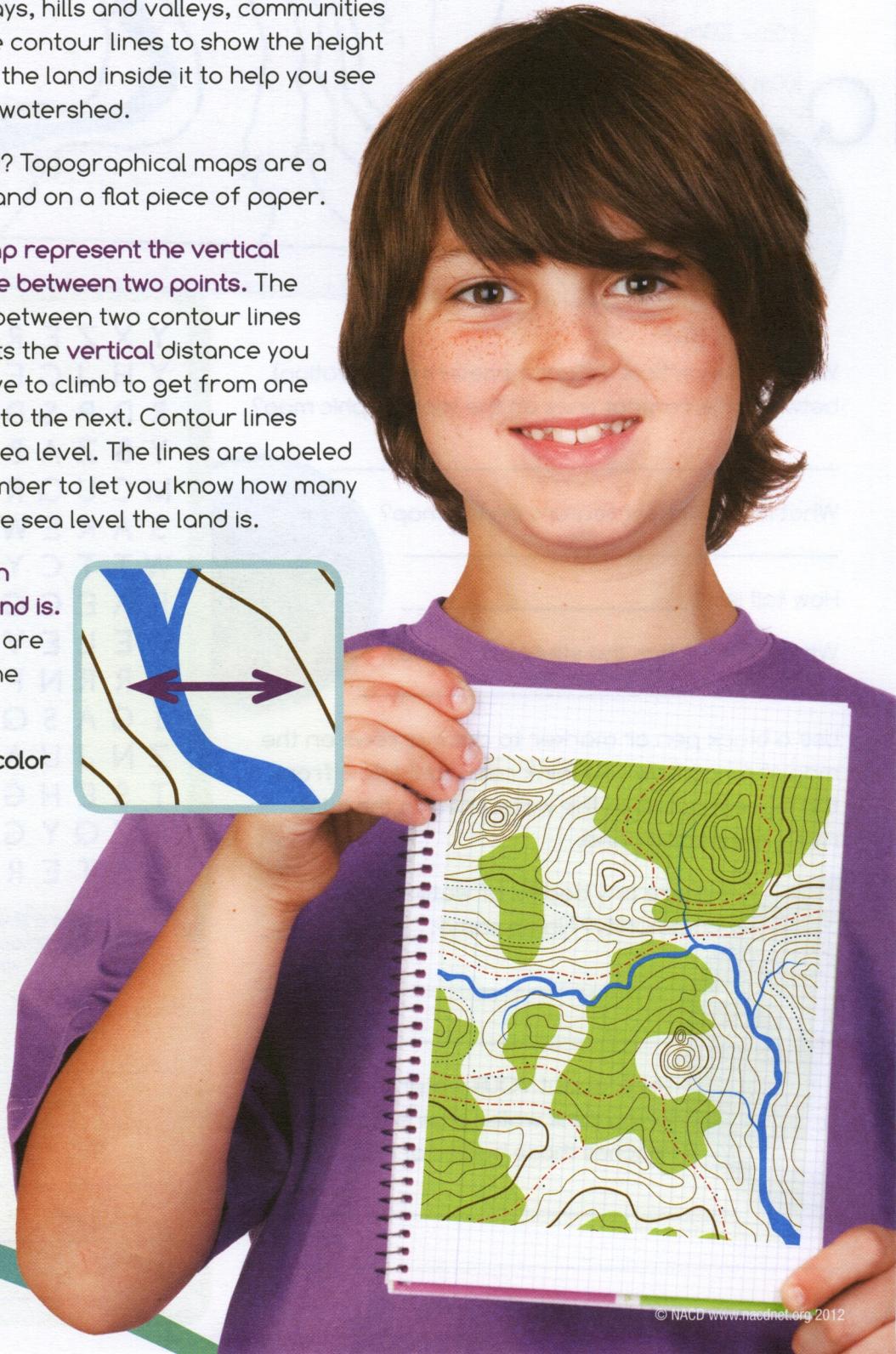
↑↓ distance between two points. The distance between two contour lines represents the **vertical** distance you would have to climb to get from one elevation to the next. Contour lines begin at sea level. The lines are labeled with a number to let you know how many feet above sea level the land is.

The horizontal ↔ distance between contours tells you how steep the land is.

On level ground the contour lines are farther apart. On steep ground the lines are closer together.



Turn the page and help put some color on this map!



Color the elevations on the topographic map using the following guide:

- 40m - 50m purple
- 50m - 60m blue
- 60m - 70m green
- 70m - 80m red
- 80m - 90m orange
- 90m - 100m pink
- 100m - higher yellow



What is the vertical distance (meters of elevation) between the contour lines on the topographic map?

What is the highest feature on the map?

How tall is it? _____

What feature has the steepest slopes?



Use a black pen or marker to draw arrows on the map showing how you think rain would flow from the highest points in the watershed to the lake, river, creek and pond.

Are there any bodies of water in your community? Name some: _____



Think about YOUR watershed. Where do you think water drains from before it reaches those bodies of water?

Y	X	Z	E	R	U	P	T	D	V	Y	L	D	H	T
Y	H	J	C	E	M	S	E	P	E	H	A	N	R	Q
R	D	P	S	D	P	H	J	E	R	H	T	N	P	P
Y	B	Z	A	B	S	F	U	G	T	V	N	J	Z	T
M	C	U	Q	R	B	S	H	N	I	L	O	V	O	C
S	A	K	E	W	G	E	X	T	C	S	Z	L	B	T
W	T	T	C	Y	O	O	I	O	A	N	I	T	D	V
L	A	E	C	G	P	G	P	O	L	I	R	O	S	V
W	E	L	E	V	A	T	I	O	N	A	O	G	C	E
K	R	R	N	P	S	L	F	B	T	R	H	O	P	Q
I	G	A	S	Q	E	R	A	Q	F	D	N	A	G	C
Z	N	J	U	A	M	S	E	V	S	T	H	R	O	K
T	S	E	H	G	I	H	T	T	O	S	O	R	M	M
F	Z	Q	Y	G	B	I	H	U	E	D	Z	W	Z	L
W	A	T	E	R	B	X	R	G	R	M	N	I	V	S

There are 12 words related to our topographical watershed map in the puzzle. Circle them and then write them in the blanks.



Recycled Water in the "Shed"

Watersheds work with the water cycle to recycle water every day all over planet earth. You already know that precipitation flows on or through the watershed and eventually becomes your drinking water. Some of the natural elements found in watersheds (like wetlands and swamps) also work to provide us with clean water by filtering out pollutants. Healthy watersheds and clean water are vital to a healthy you. **How many ways have you used water today? Did you drink water, brush your teeth, or take a shower?** List some of the ways you have used water in the last 24 hours.





YOU Use Water!

You use water in more ways than you may think about. Here are a few:

FOOD Where does your food come from? Not the grocery store! It comes from farms and ranches. Clean water is needed for crops and animals.



CLOTHING Many industries – including the textile and clothing industries – use more water in their manufacturing processes than you would think. Did you know it takes 919 gallons of water to make one pair of blue jeans?



FUN Do you like to go swimming, fishing, snorkeling, surfing or kayaking? You want to do that in clean water!



Unscramble the tiles and put them in their proper order to discover another surprising way you use a LOT of water.

TAK	WEE	!	BUR	ATE	A	R	T	N	4
OO	GER	ROW	,OO	GAL	8,O	LON	F	W	
ES	BET	S O	HAM	O G	IT	O-1			

Watershed Conservation

Only 1% of the water on our planet is suitable for human consumption.

The average U.S. citizen uses approximately 70 gallons of water every day. Here are a few simple actions that you can take to conserve water in your watershed:

- Donate your used blue jeans to Goodwill or a local thrift store.
- Keep a pitcher of water in the refrigerator instead of running the faucet to get cold water to drink.
- Use a broom instead of a hose to clean your driveway and sidewalk to save water and prevent pollutants from washing into storm drains.
- Save 1,000 gallons a month by keeping a daily shower under 5 minutes.
- Pick up litter and pet waste so that it is not washed into nearby bodies of water.
- Check with your local Conservation District for other ideas you can use in your community.



Conserving Natural Resources for Our Future

National Association of Conservation Districts
 National Association of Conservation Districts (NACD)
www.nacdnet.org

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Ask Maxine

I have noticed that after it rains there is a lot of soil on the sidewalk in front of my home. Is this bad for my watershed?

Yes! The soil can be carried into storm drains or through the watershed into lakes, ponds or rivers. Look for bare spots where the soil is exposed in your yard and add some plants. Be sure to use plants native to your area. The plant roots will help hold the soil in place and their leaves will keep rain from hitting the soil directly.



Maxine worked for NACD for 47 years. That's why we always ask Maxine.



Answer Key

Flowing in a Watershed message: The water you drink flows through your watershed. Do your part to protect it.

Topographic map questions: 10 meters, Oak Mountain at 100 meters, Tulip Ridge.

Word Search: CONTOUR, DRAINS, ELEVATION, HIGHEST, HORIZONTAL, METERS, SHAPE, STEEPEST, TOPOGRAPHY, VERTICAL, WATER, WATERSHED

Letter Tile Puzzle: It takes between 4,000-10,000 gallons of water to grow a hamburger!

WATERBIB X G R N M I V S
 F Z O Y G B I H O E D Z W M L
 T S E H G I H O S O R M M
 N Z U A M E V S T H R O K
 I G A S O E R A G O P L N A G C
 K R R N P S L F B R I A H O R O
 W E L E A T I O N A L I A O G O E
 L N E C G P G O L I R O S V
 M T C X O O I O A N I T D V
 S A K E M G E X T I C S Z L B T
 M C U O R S S H N I L L O V O C
 R P S D P H J E R H T N P
 Y B Z A S F E U G T V N J Z T
 T H J C E M S E P R E H A N R Q
 I X Z E R U P T O V Y L V D H T

