

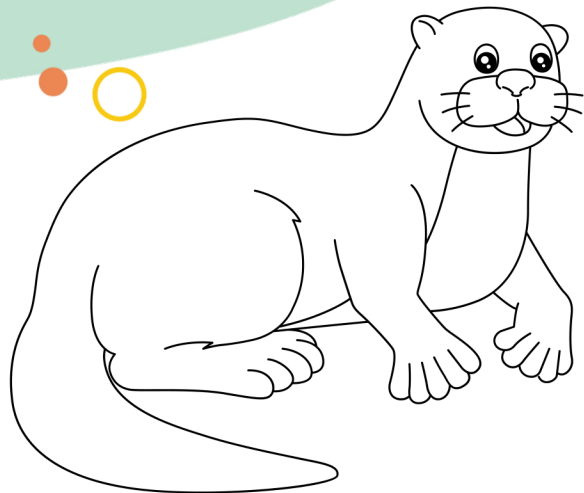
# Watershed Wonders

The Big Sioux River is 419 miles long, stretching from the northeast corner of South Dakota all the way south to North Sioux City. A river's watershed includes not only the river but all the communities whose excess water sheds to the river as well. This means that anyone living within the watershed can impact the health of the river. Complete the activities below to learn more about rivers!



## It's Up to Us!

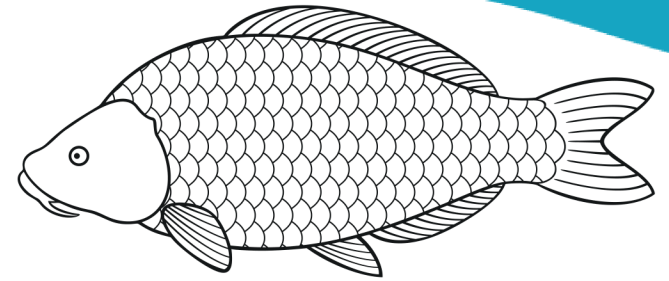
By cleaning up the river, you can help reduce pollution in our waterways. All wildlife needs a safe, healthy, and clean home, just like us.



## Fill in the Blank

Pollution   Animals   Big Sioux   Water

The \_\_\_\_\_ River flows into the Missouri River. Currently, the river contains a lot of \_\_\_\_\_. Many \_\_\_\_\_, including otters and fish, call this \_\_\_\_\_ home.



## Word Search

W	W	T	D	K	C	C	C	E	S
E	A	S	C	T	L	F	H	O	M
T	T	W	K	M	E	E	I	Y	A
A	E	I	A	W	A	U	A	C	N
T	R	M	Y	E	N	E	K	D	M
F	S	U	A	S	U	O	S	S	A
I	H	R	K	P	P	T	R	I	D
S	E	H	F	A	C	T	K	I	T
H	D	C	A	N	O	E	C	A	T
P	F	K	K	S	T	R	E	A	M

Canoe   Clean Up   Fish   Kayak  
Otter   Stream   Swim   Watershed

## Did You Know?

The Big Sioux River watershed is the size of New Jersey!

# Build Your Own Water Filter

In this activity, kids build a simple water filter to see how various materials can remove impurities, like dirt, from water. Experiment with putting the filter materials in different orders to see how water quality is affected. Is the water cleaner when larger rocks, like gravel, are put into the filter first or last?



## Materials

- 2-liter plastic bottle, empty and clean
- Utility knife
- Dirty water (make your own with coffee grounds, crunched-up old leaves, dirt, cooking oil, or tiny pieces of foam)
- Measuring cup
- Spoon
- Stopwatch
- Pencil and paper
- As many of the following filter materials as you can get: activated charcoal, gravel, sand, cotton balls
- Coffee filter (A bandana, old sock, napkin, or paper towel works too)

Your filtered water is *not* clean enough to drink. But a plant will love it!

## Instructions

1. Ask an adult to cut the bottle in half. Then flip the bottle's top half over and put it in the bottom, so the top looks like a funnel. You'll build your filter in the top part.
2. Place the coffee filter (or bandana, sock, etc.) at the bottom of your filter.
3. Add cotton balls, charcoal, gravel, sand, and/or other materials in layers. You can use just one of them or all of them. Think about which order to add them. Bigger filter materials usually catch bigger impurities.
4. Write down which filter materials you used and in what order you layered them.
5. Stir your dirty water and measure out a cup of it.
6. Get your timer ready!
7. Pour a cup of dirty water into your filter. Start the timer as soon as you begin pouring.
8. Time how long it takes for all the water to go through the filter. Then write down how long it took.
9. Carefully scoop out the filter materials, one layer at a time. What did each layer take out of the water?
10. Experiment! Clean the bottle and try again. Put the filter materials in a different order each time, and time each experiment. What do you discover?