

Build A Watershed

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If this is April, then it's probably raining and that means spring is here! It also means that debris that collected on our driveways and in the streets over the winter is being washed away into nearby lakes and streams. Now, I've been talking about water quality all winter, so you already know how important it is to keep Minnesota's water clean and not green and slimy. This month, our project is to build a simple watershed.

You'll need:

- **Newspapers**
- **A rectangular cake pan**
- **A piece of cardboard, about 5"x7"**
- **Aluminum foil**
- **Tape**
- **Water**
- **Food coloring**
- **A little dirt**
- **Some grass clippings**

Any time water runs from one place to another it's called a watershed, and we all live in watershed areas. Normally, when it rains, the rainwater falls on the ground and soaks in. When people build neighborhoods, streets and buildings, the rain also falls on what we call "hard surfaces". Those are roofs, driveways, streets, parking lots, and even hard compacted ground. The rainwater can't soak into these hard surfaces, so it runs off, from the highest point to the lowest. If you look around your neighborhood, the highest point is probably the roof of a house and the lowest is the gutter leading to the storm sewer in the street. In between are driveways and lawns. When rain runs off the roof and down the driveway and into the street, it carries anything in its path. That's how leaves, grass clippings, dirt and fertilizer get from our homes to the storm sewer. Once in the sewer, they run into the nearest body of water. These pollutants break down into phosphorus and over feed the plants in the lakes. By mid-summer, the water is covered with slime and tangled with weeds.

To demonstrate this, you can build a simple watershed. After you cover your table with newspaper, you can start. Cover the cardboard with foil and tape it to one end of the cake pan. The other end of the cardboard should be touching the inside bottom of the pan. The cardboard represents your driveway and the inside of the pan represents the nearest lake. Squeeze a few drops of food coloring anywhere on your "driveway"; they represent lawn fertilizer. Now, sprinkle the dirt and grass clippings on your "driveway". Gently, pour the water at the top of your cardboard "driveway" and see what happens.

It should have taken just a few seconds for all the pollution on your "driveway" to end up in your "lake". In real life, it takes a little longer, but not much! When all that stuff reaches the lake it's like phosphorous sludge and it starts overfeeding the plants very quickly.

Fortunately, we can all help fix this problem and it's very easy. When the grown-ups at your house mow the lawn or spread fertilizer, go sweep up any that gets left on the driveway or street. Just sweep it right back into the lawn. In the fall, sweep up all those leaves that fall and add them to your compost pile. Remind your grown-ups to clean the gutters once in a while, too. That's all it takes! Just a simple sweep once a week will make a difference.

April also means that the gardening season is starting and this space will be used for gardening articles all summer. That doesn't mean you should stop exploring water quality or doing plant experiments, it just means you can make up your own and do them outside! Don't forget to come see us in the Children's Garden at the Dakota County Fair, August 6-12. We'll have magnets you can color and take home, beadie fish and a neat frog jumping game, as well as a garden designed to look like water. Don't miss it!