

SITUATION 1: Car Exhaust

You have a 25-minute drive to school every day. Your neighbor also drives to school. Your neighbor suggests you carpool, but she leaves 10 minutes earlier than you do in the morning and gets home 10 minutes later each evening. Your time is precious! What would you do?

1. Suggest you alternate leaving at her time and your time and carpool every day.
2. Carpool on days that you can get up early to leave when your neighbor leaves.
3. Decide not to carpool.

SITUATION 3: Fertilizer

You're volunteering with your scout group at a local park. There's a lake nearby. You help by picking up sticks so workers can mow the lawn. A worker notices the lawn is not very green or lush and decides to spread extra fertilizer on it. What would you say?

1. Nothing. You're just a kid and he's an adult.
2. "That seems like a lot of fertilizer. How much do you need to make the grass greener?"
3. "Does the fertilizer have phosphorus in it? I've heard that phosphorus can cause algae blooms that harm fish."

SITUATION 2: Animal Farming

You live near a dairy farm and you noticed the cows are free to walk into the river that runs along the edge of the farmer's property. You can see the plants along the river are gone because the cows have trampled them and you can see the shoreline along the river is beginning to erode into the river. What would you do?

1. You talk to your parents about what you see and let them know you are concerned about the erosion and would like to learn more about how to change it.
2. You go online and learn about shoreline restoration and the importance of aquatic plants for water health. You introduce yourself to your neighbor and talk about what you learned.
3. You decide it isn't something you can change and do nothing.

SITUATION 4: Leftover Earthworms

You dig or buy some earthworms to use as bait. When you're done fishing, you have extra worms. What would you do?

1. Put the earthworms in the refrigerator at home and use them the next day.
2. Leave the container of earthworms on the fishing pier for the next person to use as bait.
3. Pour the earthworms into the lake to feed the fish.
4. Dump the earthworms onto the shore to set them free.
5. Throw the whole container of earthworms into the trash.

SITUATION 5: Feeding Ducks & Geese

You feed the ducks and geese that live on the lake. The feces that the geese leave pollute the lake. You have to choose whether or not to keep feeding the birds.

1. You choose not to keep feeding the birds.
2. You choose to keep feeding the birds, but cut down how often you feed them.
3. You keep feeding the birds.

SITUATION 7: Oil Change

Your seventeen-year-old brother is changing the oil in his car. He asks you to get rid of the dirty oil by pouring it down the storm sewer in the street. What would you do?

1. Do as he says so he'll give you a ride in his car.
2. Dump the oil on the gravel driveway—the sewer is too far away and you've heard that oil keeps down the dust from the gravel.
3. Tell him that it's against the law to dump oil and that he should return it to the place he bought it so that it can be recycled.

SITUATION 6: Building Wooden Structures

Your family wants to build a new deck on your house. Your parents are deciding between creosote-treated lumber and other alternatives. You've heard that creosote-treated lumber has chemicals that are harmful to aquatic plants and animals. What would you do?

1. Talk to your family about what you've learned about creosote-treated lumber and the effects it has on aquatic environments.
2. Ask your teacher or another adult to help you learn more about creosote-treated lumber so that you can inform your parents about the impacts of using that kind of wood.
3. Do nothing.
4. Talk to your siblings or another family member about your concerns and ask them to help you talk to your parents about it.

SITUATION 8: Littering

You're fishing with a friend, and you notice that he's kind of messy. He opens a new fishing lure and throws the package on the ground. Then he gets a big tangle and has to cut the line. He rolls up the tangled line and leaves it on the ground. After a while he catches a carp and says it's a garbage fish and throws it up on the bank to die. The two of you are getting ready to go home for the day. What would you do?

1. Don't say anything because you think it will hurt his feelings.
2. Tell your friend to pick up his garbage and put the carp safely back in the water.
3. Open the garbage sack you keep in your tackle box and offer to help him clean up his mess.
4. Come back later and clean up his mess.

SITUATION 9: Pet Waste

You're taking your dog for a walk in your neighborhood. Your dog poops on the sidewalk or on the grass beside the sidewalk. What would you do?

1. Just keep walking.
2. Using a stick or leaves, you move the poop into the street so it can wash down the storm drain.
3. Cover it up with leaves or other debris so that no one sees it.
4. Use the plastic bag you brought along to pick it up and put it in a trash can.

SITUATION 11: Road Salt

You watch the local highway department put something on the roads in the winter, usually during a snow-storm. You research what your local highway department is using on the road and find out that they are using salt. You are concerned about the salt running off the roads into the storm drains leading into the local lakes & streams. What would you do?

1. Talk to your family about your concerns and ask them to help you learn more about road salt and alternatives to using road salt. Once you've learned more about the alternatives you attend a meeting with the city council to address your concerns.
2. You learn more about road salt and alternatives to using road salt.
3. Do nothing.

SITUATION 10: Flooding

It's been very rainy this season. It seems like it's rained every day. The streams are running very fast and water is running off of the land from the streets, houses, farm fields, construction sites, and riverbanks, washing debris and loose soil on the land into the stream. The stream looks brown in the place where it enters the lake. You wonder how this will affect the fish.

SITUATION 12: Car Wash

Your family car is dirty and you want to wash it on a very nice summer day. What do you do?

1. You wash the car parked in the driveway using any kind of soap you can find.
2. You have the car moved onto the lawn and wash it using any kind of soap you find.
3. You have the car parked on the lawn and wash it using soap that does not contain phosphorous.
4. You take the car to a car wash instead of washing it at home.

DISCUSSION 1: Car Exhaust

If you chose:

1. Put one drop of red food coloring onto the watershed
2. Put three drops of red food coloring onto the watershed
3. Put six drops of red food coloring onto the watershed

Automobile exhaust contributes pollutants like sulfur dioxide, nitrous oxides, and mercury into the atmosphere. These compounds mix with moisture, then return to earth attached to rain or snow. When these pollutants fall or run into lakes and rivers, they cause damage to plants and animals in the aquatic ecosystem.

DISCUSSION 2: Animal Farming

If you chose:

1. Put one shake of soil onto the watershed
2. Put one shake of soil onto the watershed
3. Put six shakes of soil onto the watershed

There are clearly no easy answers in this situation. Although the dairy herd is harming the watershed, shutting down the operation is not an easy solution. The Minnesota Pollution Control Agency handles feedlot complaints and violations and will work with livestock operators to reduce or eliminate environmental damage. One question to ask about a lakeshore feedlot is, "How does pollution from the feedlot compare with pollution from other sources such as septic systems, runoff, and lawn chemicals?"

DISCUSSION 3: Fertilizer

If you chose:

1. Put 3 drops of green food color onto the watershed
2. Put 1 drop of green food color onto the watershed
3. Don't do anything to the watershed

Unneeded or excess fertilizer on grass can wash into lakes or down storm drains and flow into lakes and streams when it rains. Fertilizer may contain phosphorus, a nutrient that plants need, but when too much phosphorus gets into lakes, it can cause algae blooms that can harm for plants and animals, including people. Most fertilizers sold in stores (in small amounts) no longer contain phosphorus. But the large quantities of fertilizers sold to parks, industries, and farms may still contain phosphorus.

DISCUSSION 4: Leftover Earthworms

If you chose:

1. Don't do anything to the watershed
2. Put 3 pieces of string onto the watershed
3. Put 3 pieces of string onto the watershed
4. Put 3 pieces of string onto the watershed
5. Don't do anything to the watershed

Never dump earthworms into a lake. This is littering. It's also illegal! Although it may seem like a good idea to leave the container of earthworms for the next angler, this is littering, too. All earthworms in Minnesota are non-native, invasive species from Europe and Asia. At least fifteen non-native worm species have been introduced so far, and research by University of Minnesota and forest managers has shown that at least seven species are invading Minnesota's hardwood forests, causing the loss of tree seedlings, wildflowers, and ferns.

DISCUSSION 5: Feeding Ducks and Geese

If you chose:

1. Don't do anything to the watershed
2. Add two drops of green food coloring to the watershed
3. Add five drops of green food coloring to the watershed

The wastes from ducks and geese add nutrients that can increase the growth of nuisance weeds or algae. It may take many years to reduce the levels of nutrients that have been added by large numbers of birds (or by cattle and other animals that are allowed to stand in the lake). Enrichment of a lake with too many nutrients is called eutrophication.

DISCUSSION 6: Building Wooden Structures

If you chose:

1. Don't do anything to the watershed
2. Don't do anything to the watershed
3. Add three drops of red food coloring onto the watershed
4. Don't do anything to the watershed

The chemicals used to treat lumber to make it resist rotting can be harmful for plants and animals in our lakes. Using untreated wood like cedar or redwood, metal, or plastic materials is more expensive, but better for the lake.

DISCUSSION 7: Oil Change

If you chose:

1. Put 3 drops of molasses onto the watershed
2. Put 1 drop of molasses onto the watershed
3. Don't do anything to the watershed

Anything placed in a storm sewer will end up in a lake or river. Oil dumped on land can also be washed into the water when it rains. Once in the water, oil can kill fish and other animals. It's illegal to dump used motor oil into lakes, sewers, wetlands, or on the ground. All used motor oil should be taken to a gas station or other place-of-purchase for recycling.

DISCUSSION 8: Littering

If you chose:

1. Add three shakes of sprinkles to the watershed
2. Add two shakes of sprinkles to the watershed
3. Don't do anything to the watershed
4. Don't do anything to the watershed

Littering is illegal. Besides, it's nicer to fish at an unlittered site. Litter (fishing line, food wrappers, and bait containers) can blow into the lake and harm fish and other animals. If people think all anglers litter all the time, they might want to close down your fishing area—so please don't litter.

Litter can also be washed into lakes and streams through storm drains during rainstorms and in the spring when snow melts. Leaving litter on the ground is not only harmful to your local watershed, it is unsightly too.

DISCUSSION 9: Pet Waste

If you chose:

1. Put 3 drops of molasses onto the watershed
2. Put 3 drops of molasses onto the watershed
3. Put 3 drops of molasses onto the watershed
4. Don't do anything to the watershed

When pet waste washes into lakes or streams, it decays. This uses up oxygen. Sometimes ammonia is released. Low oxygen levels and ammonia, combined with warm temperatures, can kill fish. Pet waste also contains nutrients that stimulate weed and algae growth. Most importantly, pet waste can transmit diseases making water unsafe for swimming or drinking. When pet waste isn't properly disposed of, human health is at risk, too. Pets, children who play outside, and adults who do gardening are most at risk for infection caused by some of the bacteria and parasites found in pet waste. Flies can also spread diseases from animal waste.

DISCUSSION 10: Flooding

Put 6 shakes of soil, three drops of green food coloring, three drops of red food coloring, and two shakes of sprinkles onto the watershed.

You can't control nature. Big rains often cause soil erosion that can harm fish and other aquatic life. It's important to retain or restore buffers of trees, shrubs, and native grasses near waterways—they prevent erosion and runoff from entering lakes, rivers, and streams.

Turf grasses used for lawns have extremely shallow root systems, so they don't effectively prevent erosion. The deep roots of native trees, shrubs, and grasses resist erosion, soak up a lot of water, and hold the soil in place.

Anything left on the ground and on the streets will wash into storm drains and be deposited directly into your lakes and streams without being treated.

DISCUSSION 11: Road Salt

If you chose:

1. Put one shake of salt onto the watershed
2. Put two shakes of salt onto the watershed
3. Put four shakes of salt onto the watershed

Although salting our highways does make them safer for winter travel, the salt can run off and enter our lakes and rivers where it can be harmful to plants and animals. We don't want to have more accidents, but we need to consider our environment. There are alternatives to salt. Minnesota is experimenting with an environmentally safer road deicer called urea. It is expensive but pollutes less than salt.

Learning about road salt alternatives is an excellent step towards helping our waters stay cleaner. Voicing your concerns and taking action in your local neighborhood will help create beneficial changes, though they may not happen immediately.

DISCUSSION 12: Car Wash

If you chose:

1. Put 3 drops of green food color and 1 drop of red food color onto the watershed
2. Put 1 drop of green food color onto the watershed
3. Don't do anything to the watershed
4. Don't do anything to the watershed

Many household soaps contain phosphorus which cause algae blooms when excess phosphorus ends up in our lakes and streams. Washing your car on a hard surface like your driveway can allow soap, dirt, and any chemicals that were on your car to flow down your driveway into storm drains and ditches and end up in our streams untreated.

Commercial car washes often recycle their water and the water that is not reused goes through the water treatment center before being released back into the watershed.