

Stormwater Activity Guide

www.grandforksgov.com



The City of Grand Forks has developed a Stormwater Activity Guide that can be used to help educate students on how to prevent stormwater pollution. This guide includes a maze, picture comparisons, a quiz, word scrambles, decoding hidden messages, crossword puzzle, word searches and more!

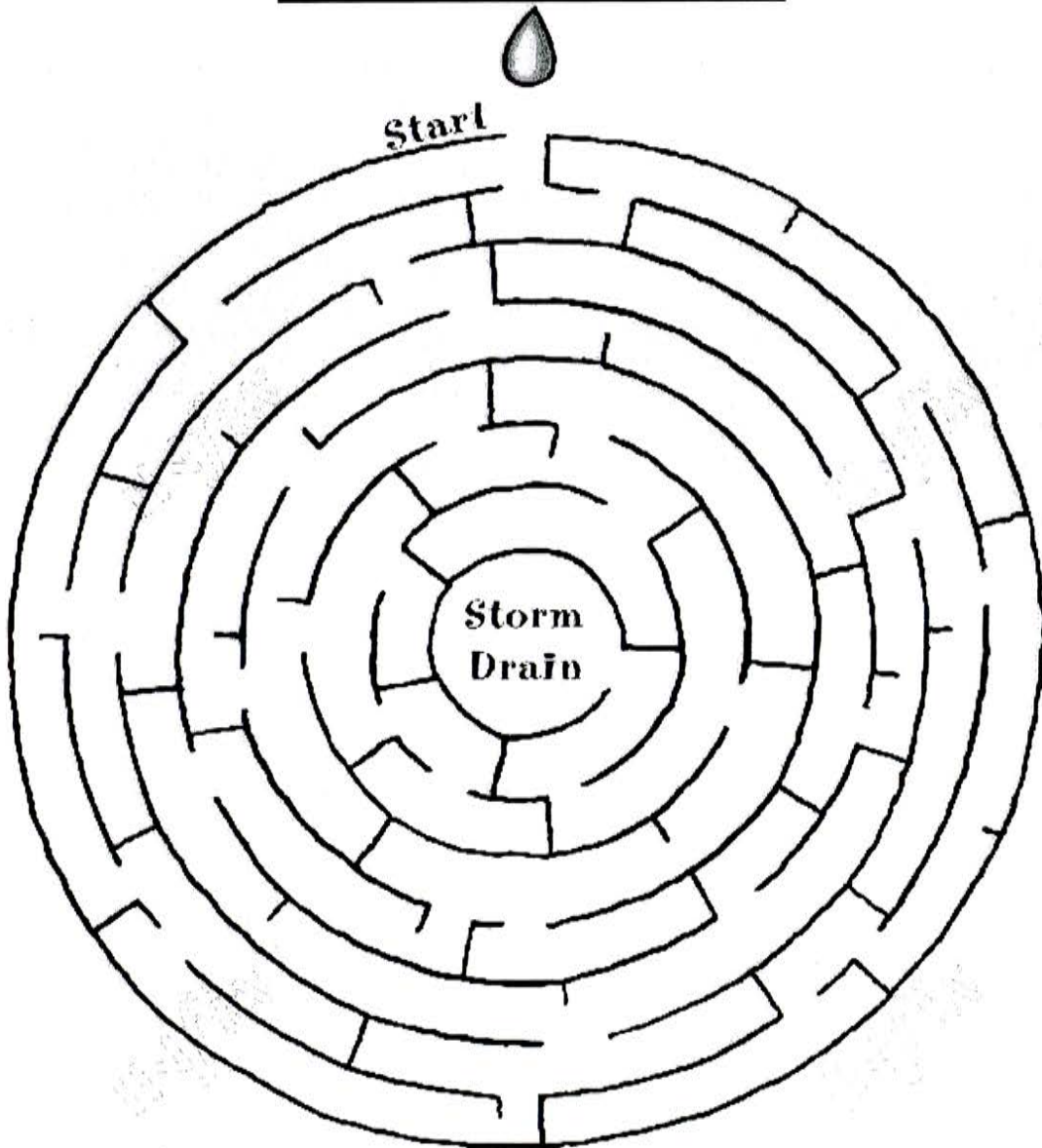
When your student is finished with the packet, please present them with a certificate and encourage them to share this information with their parents, siblings, family, friends, and neighbors.



STORMWATER

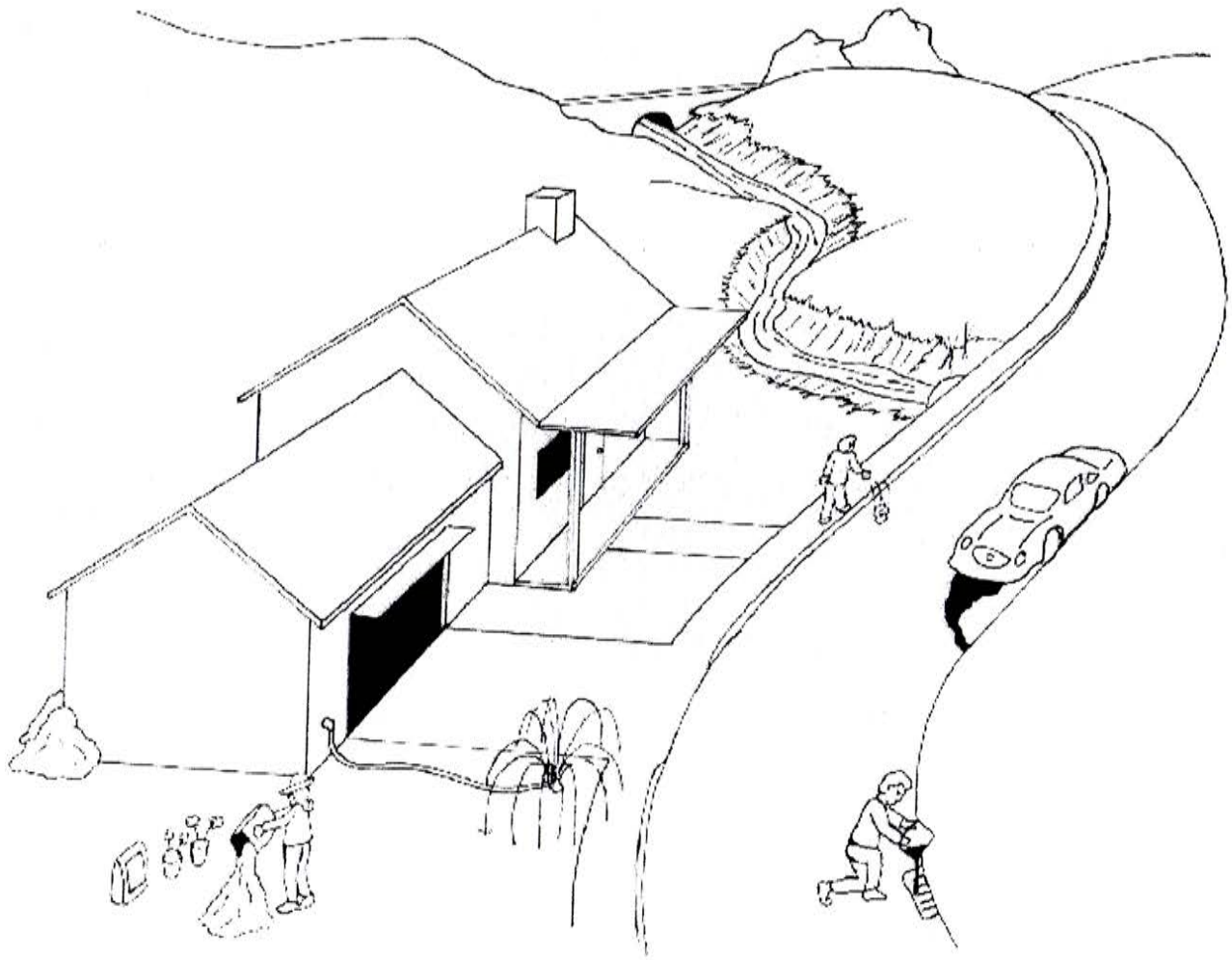
Cities and towns have more stormwater runoff than areas in rural areas because they have more concrete so the water can't soak into the ground.

Lead the water droplet through the maze and into the storm drain.

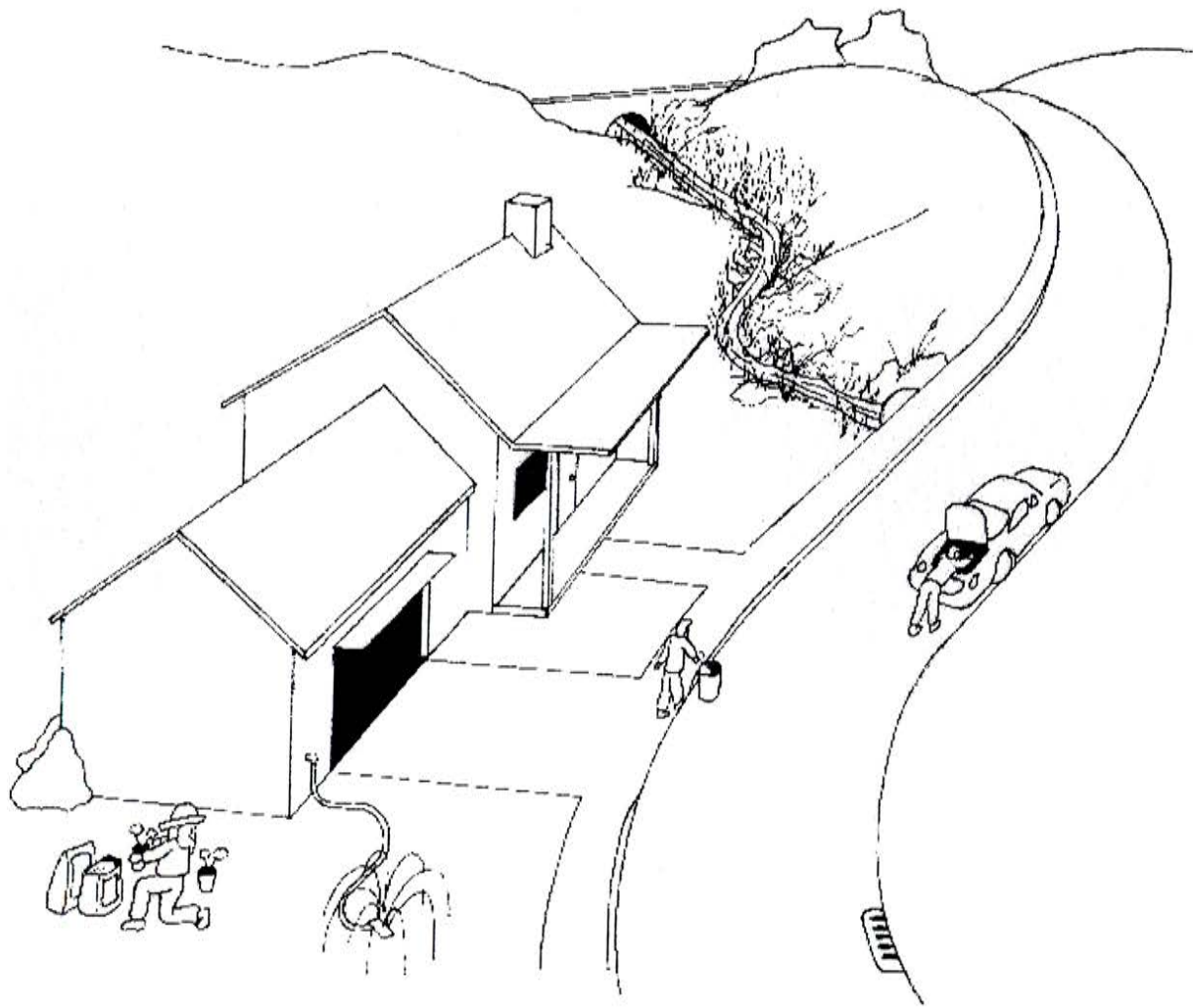


STORMWATER POLLUTION SEARCH

Compare the picture on this page with the picture on the next page.
Circle all the differences between them. You should circle 6 things.



What do these differences have to do with protecting our water from stormwater runoff? Look at the next 6 pages to find out!



Stormwater Pollutant Quiz

Match the pollutant with the problem. If you need help, look back in the book.

- | | |
|--------------------|---|
| 1) Motor Oil | A. Used to kill garden pests, but can also kill animals living in the water. |
| 2) Hazardous Waste | B. Animals sometimes confuse this with food and can die from eating it. |
| 3) Fertilizers | C. This can cloud the water and make it hard for animals to see, and can even smother eggs. |
| 4) Trash | D. Leftover poisonous chemicals that can pollute lakes and streams. |
| 5) Dirt | E. Good for cars, bad for birds and fish. |
| 6) Pesticides | F. Helps plants grow, but can pollute a stream and use up the oxygen. |

Now match the pollutant with something you can do to help protect your water.

- | | |
|--------------------|---|
| 1) Motor Oil | A. Only use as much as you need to get rid of harmful pests. |
| 2) Hazardous Waste | B. Don't litter, put this in its place. Better yet, recycle as much as you can! |
| 3) Fertilizers | C. Cat litter can clean this up. |
| 4) Trash | D. Look for disposal days in your community to get rid of this. |
| 5) Dirt | E. Always use the right amount on your lawn to keep it green. |
| 6) Pesticides | F. Plant trees and other plants near streams to help hold the soil in place. |



Oops!

The bare banks let dirt wash straight into the stream. This can cloud the water and smother fish eggs.



This helps!

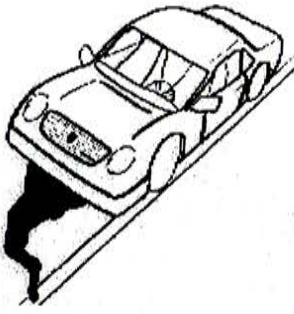
A few plants go a long way. The roots keep the bank from eroding. Plus the plants look nice!

How can you help?

- ★ Help your community plant trees or leave native grasses and shrubs along a stream bank to reduce erosion.
- ★ Walk only along existing trails when near water.

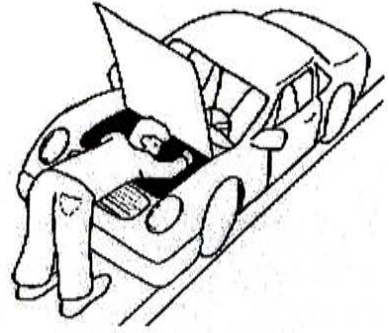
Solve the hidden message! Use the clues below.

♡ ⚙ ⌘ ✕ ⛶ ⚙ ✕ ☆ ⚙ ♪ ⚙ ● ⚙ ■ ◆ ✕ ⇒ ◆ ✕ ♠ ◆ ♡ ⚙ ☆ ◆ ✓ ⚙ ⌘ ● !			
♪=A	✓=R	♪=D	⚙=E
✕=P	●=M	⌘=L	⛶=K
♠=F	⇒=U	◆=T	☆=S
♪=I	■=N	♡=H	⌘=O
H _____ _____!			



Oops!

Oil that drips from cars can wash straight into our ponds, streams and the Bay.



Fix those leaks!

Oil and antifreeze make our cars run well, but leaks can be very dangerous to fish, birds and even cats and dogs!

Another use for cat litter!

Did you know that cat litter absorbs leaks from cars really well? Spread it on the ground over the leak, let the oil and junk soak up, then sweep up the cat litter. Remember to dispose of the cat litter properly (with your household garbage.)

Unscramble the words below:

Hint- they are all found on this page!

1. iol _____

2. dsrpi _____

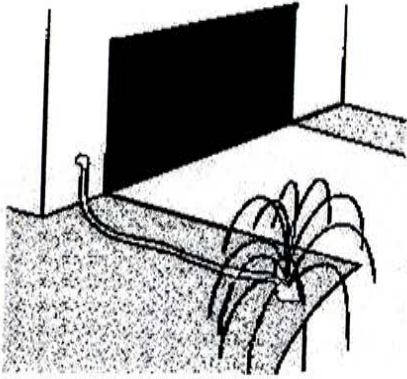
3. zifnreeeat _____

4. abgager _____

5. klsae _____

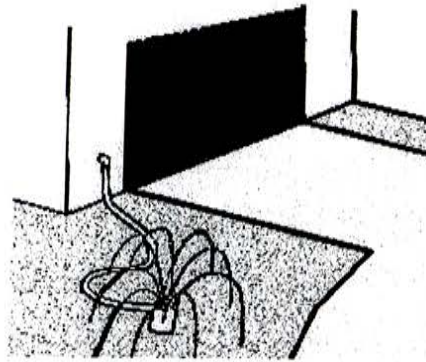
6. csra _____

7. samter _____



Oops!

Don't water the driveway or the sidewalk. We all need to conserve water!



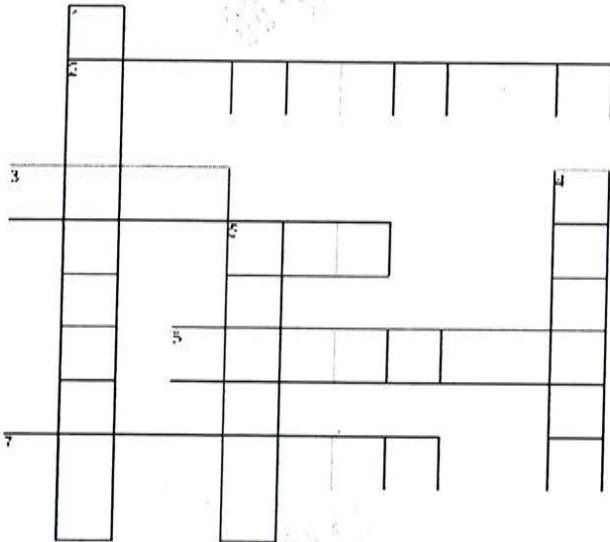
This looks better!

The water that lands on a driveway or sidewalk doesn't help your lawn, and ALSO washes pollutants into storm drains.

How can you help?

- ★ Place sprinklers so that the water lands only on the lawn.
- ★ Water the lawn or garden during the cooler times of the day.
- ★ Don't water on windy days. The water may blow away and be wasted.
- ★ Try to wash your car (or even your dog!), on your lawn or someplace that doesn't run straight into the street.

Do this crossword puzzle about water conservation!



Across

- 2) Can wash into storm drains and streams from the driveway
- 3) Can blow away water while sprinkling
- 5) Wash this on the grass
- 6) Do this because we live in a dry state
- 7) Water that lands on this does not help your lawn

Down

- 1) Only water lawns, not driveways, with these
- 4) Water can carry pollutants here
- 5) Water only in this part of the day



Oops!

Don't be a litterbug!



Way to go!

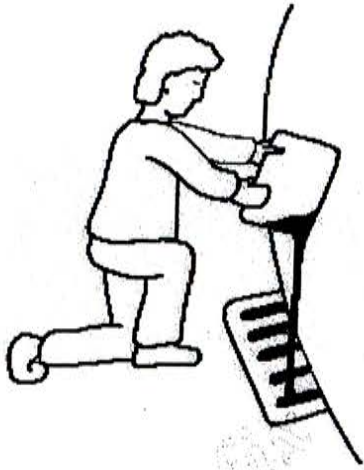
Always dispose of trash in a proper container (or pocket the trash until you find one).

Remember: Stormwater washes trash into streams, ponds or the Bay. Fish and animals that live near lakes and streams can mistake plastic trash for food. If they eat too much trash, they might starve!

What can you do?

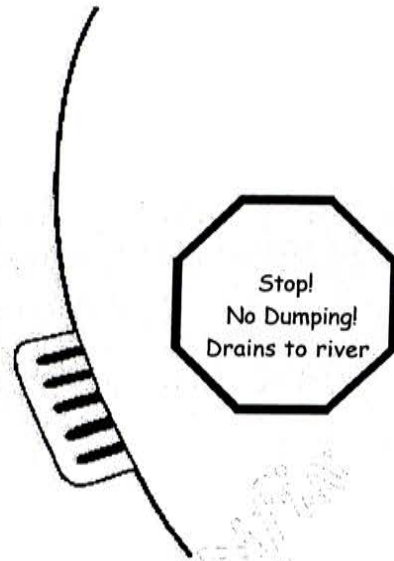
Make a list of some things YOU and your friends can do to reduce trash.
(How about a clean up day with scouts, or a recycling day at your school?)

<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>



Oops!

This man is dumping chemicals down the storm drain.

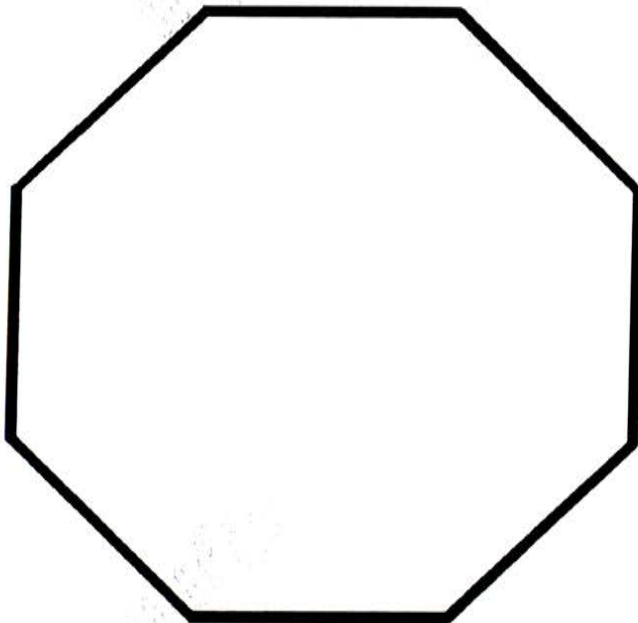


This looks better!

Never put something down a drain that you think might hurt a fish.

Remember:

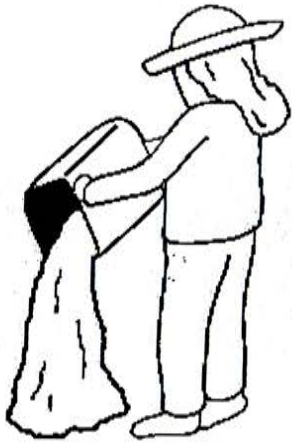
- ★ Encourage your parents to only buy as much cleaner and paint as they need. Substitute less poisonous products when you can.
- ★ Always dispose of hazardous waste like used motor oil, antifreeze, cleaners and paints properly. Check for hazardous waste disposal days in your community.



Who cares?

Remember that storm drains often go straight to a stream, pond or the Bay. You can help by reminding others not to dump anything down these drains.

Draw a picture in this sign that reminds people why they shouldn't dump wastes into a



Oops!

This woman is dumping fertilizer or pesticides directly on her lawn.



This looks better!

Only use as much fertilizer or pesticide as you need and be careful not to spill.

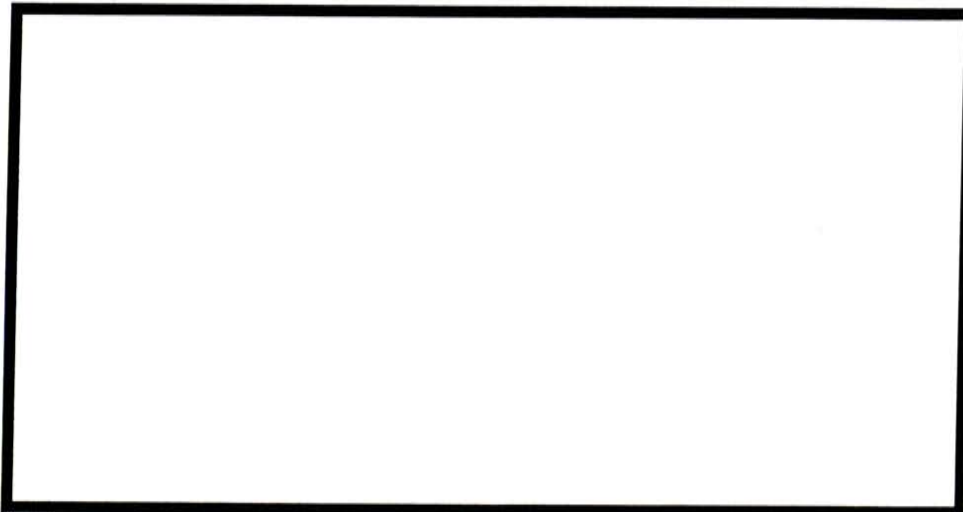
Remember:

- ★ Fertilizers can help our lawns become nice and green. But, when they wash into lakes and streams, they can pollute the water and use up all the oxygen that the fish need.
- ★ Pesticides keep harmful insects from damaging lawns and gardens, but if they wash into our lakes and stream they'll kill the fish and other critters that live there.

Who cares?

Fish need lots of clean water with no pesticides and plenty of oxygen.

Draw a picture of a fish or some other cool animal that lives in water.



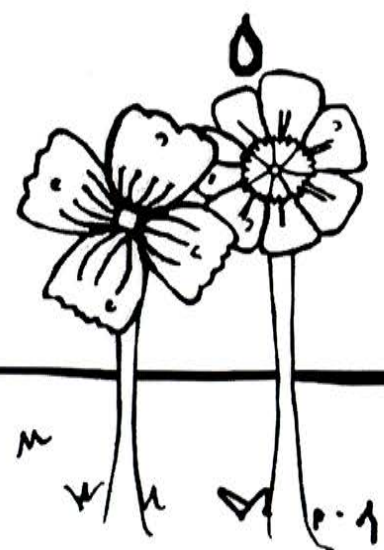
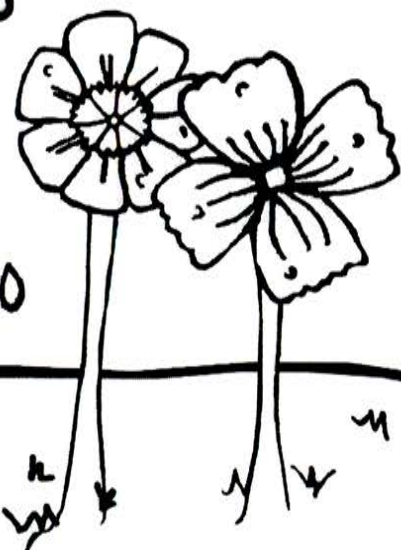
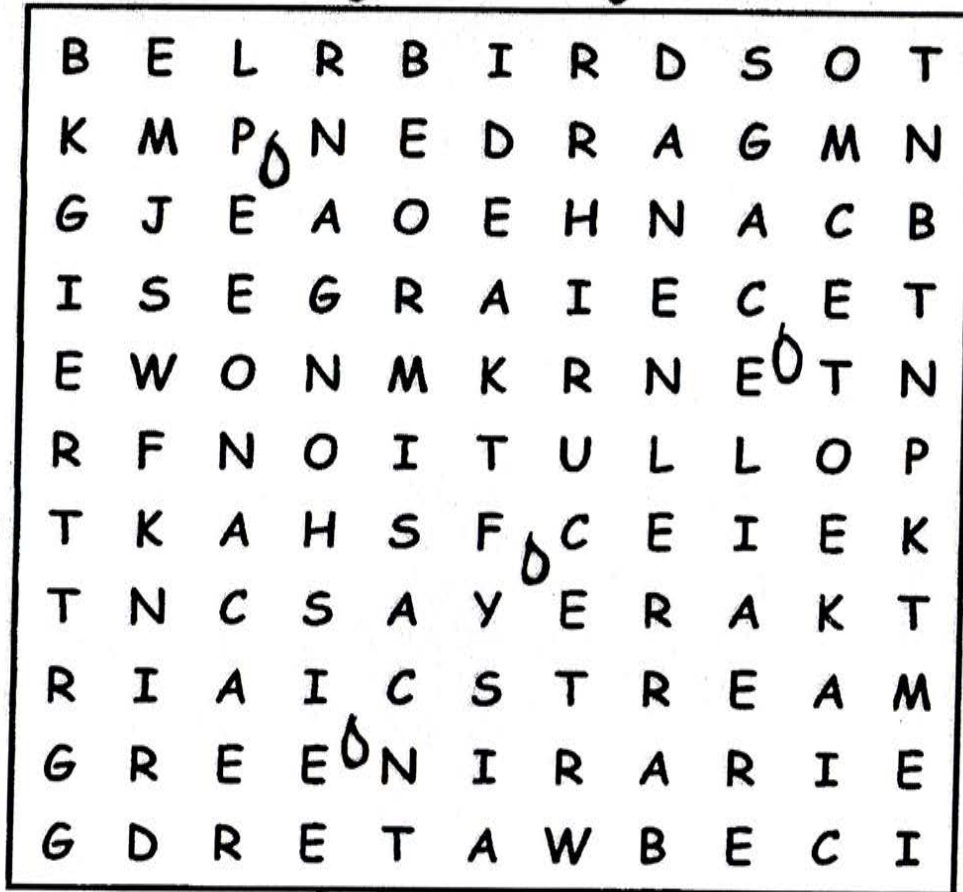
Summary Activity

Fill in the blanks to create correct or silly sentences!

Find correct answers throughout the booklet.

1. There's more stormwater runoff in _____ than in forests and fields.
(Plural Noun)
2. Stormwater from cities can become very _____.
(Adjective)
3. Water pollution doesn't always come from huge _____.
(Plural noun)
4. Only use as much _____ as you need to keep your lawn
_____. (Noun)
(Adjective)
5. Substitute less _____ products for household chemicals when you can.
(Adjective)
6. _____ as much of your trash as possible.
(Verb)
7. Try to _____ your car on your lawn.
(Verb)
8. Check your car for _____ leaks.
(Noun)
9. _____ trees along the stream to keep the _____ from eroding.
(Verb) (Noun)
10. I am _____ wise!
(Noun)

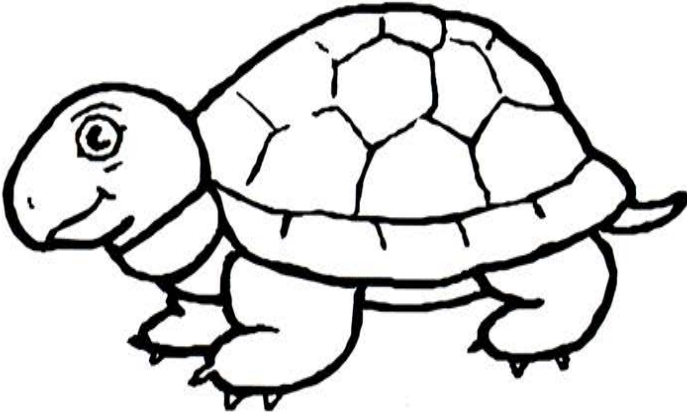
Word Search





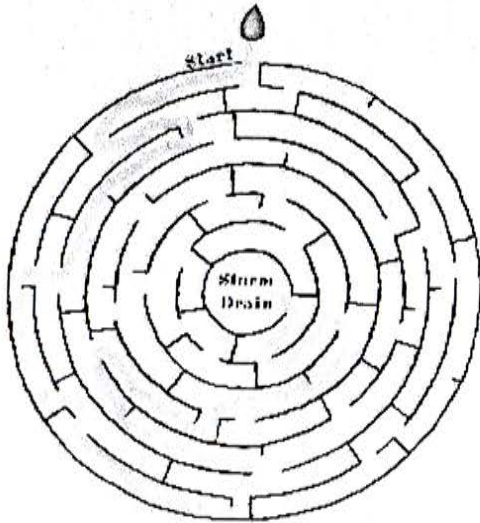
Rain barrels are an effective and easy means of conserving water. Instead of losing the water that falls on your roof to runoff, why not collect that water and put it to good use? The barrel is a water reservoir that collects water for you to use in your gardens and flowerbeds. In addition, a rain barrel decreases the pollution of our streams and rivers.

Notes and Drawings



Answer Page

Storm drain maze:



Stormwater Word Search:

```

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

Crossword puzzle

- | | |
|--------------|--------------|
| Across | Down |
| 2 pollutants | 1 sprinklers |
| 3 wind | 4 stream |
| 5 car | 5 cooler |
| 6 conserve | |
| 7 driveway | |

Word scramble

- | | |
|--------------|----------|
| 1 oil | 5 leaks |
| 2 drips | 6 cars |
| 3 antifreeze | 7 stream |
| 4 garbage | |

Stormwater Quiz

- | Pollutant and Problem | Pollutant and Solution |
|-----------------------|------------------------|
| 1. E | 1. C |
| 2. D | 2. D |
| 3. F | 3. E |
| 4. B | 4. B |
| 5. C | 5. F |
| 6. A | 6. A |

Summary Activity

1. cities
2. polluted
3. factories
4. fertilizer, green
5. hazardous
6. Recycle
7. wash
8. oil
9. Plant, banks
10. water

Hidden message: Help keep sediment out of the stream!



This certificate is awarded to

**In recognition of completing the Grand
Forks Stormwater Activity Guide**

**Be sure to tell your friends, family, and neighbors
what you have learned!**

Signature

Date

www.grandforksgov.com