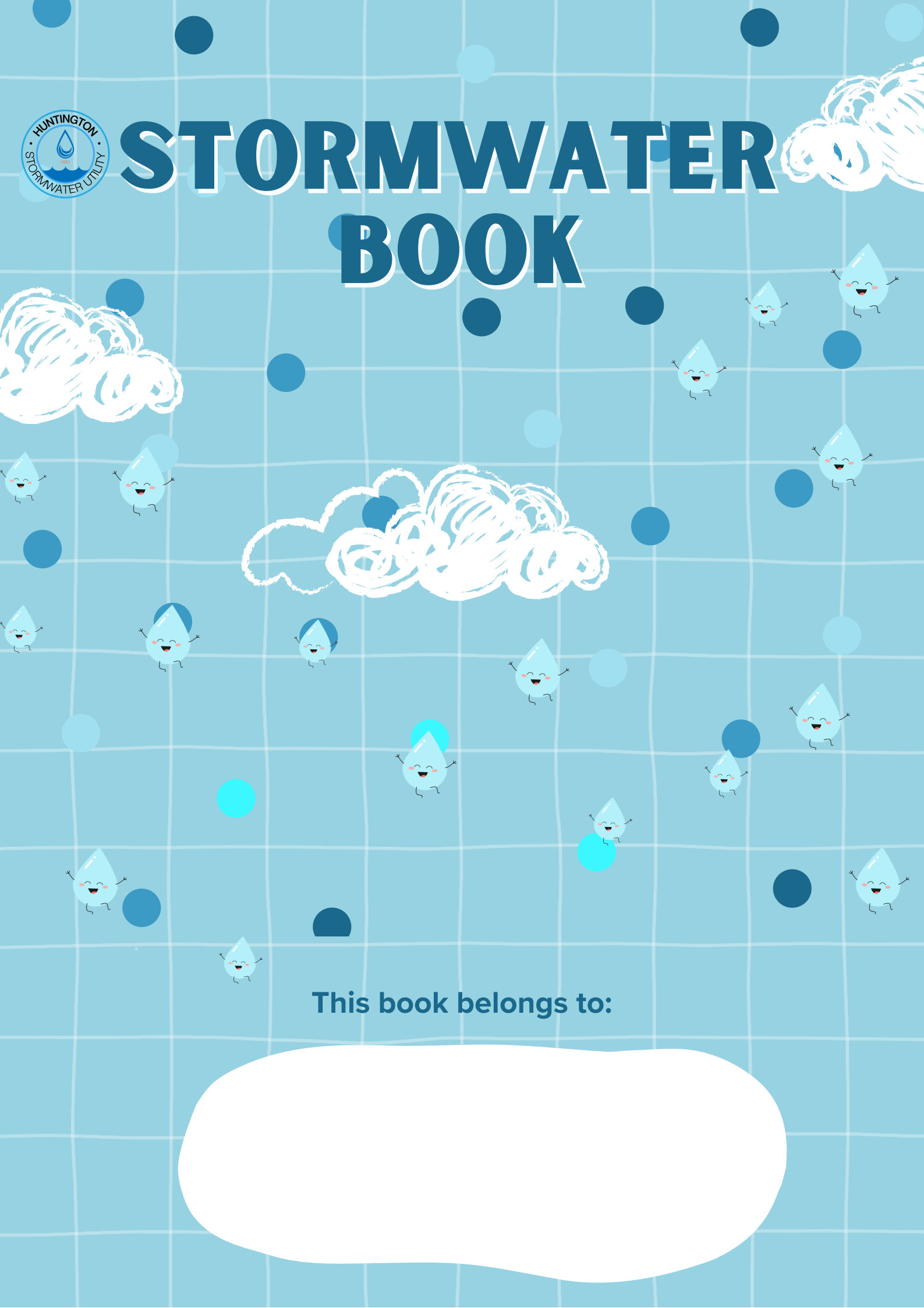




# STORMWATER BOOK



**This book belongs to:**

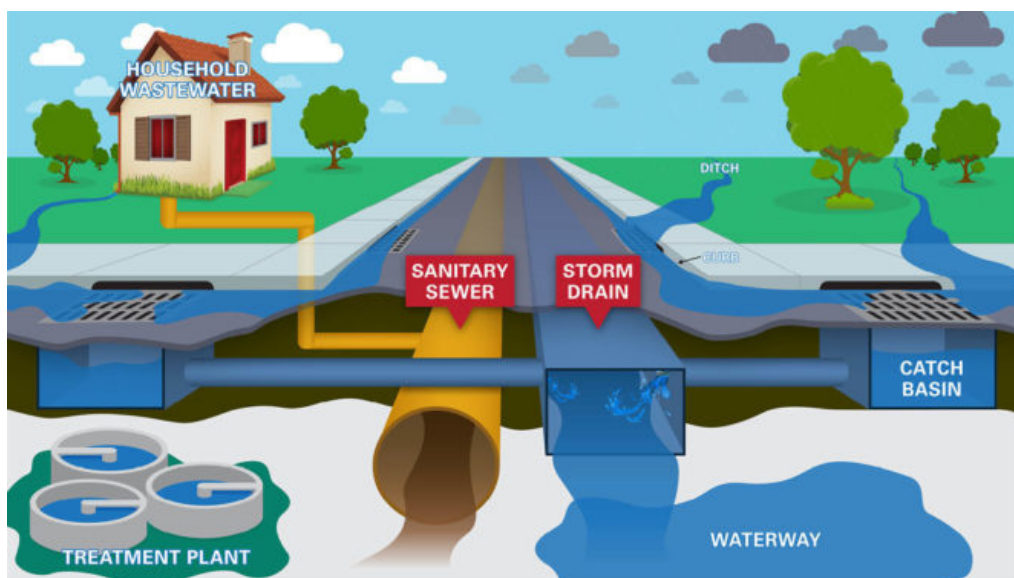


# WHAT IS STORMWATER

When rain falls in Huntington , where do you think it goes? Does it soak in the ground? Does it sit in a puddle?

Some of the water flows over the land surface, heading downhill to the nearest stream or ditch. We call this stormwater runoff.

In cities, the water can not soak through the pavement, rooftops, and concrete. This means there is more stormwater runoff in cities. The water collects in gutters, streets, ditches, and storm drains and flows into Fourpole Creek, Guyandotte River, or Ohio River.



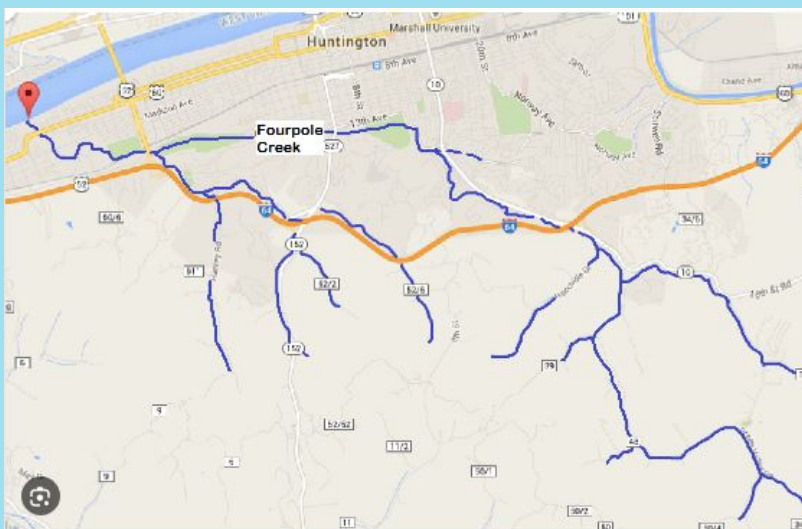
# Ohio River & Fourpole Creek Watershed



Ohio River Watershed



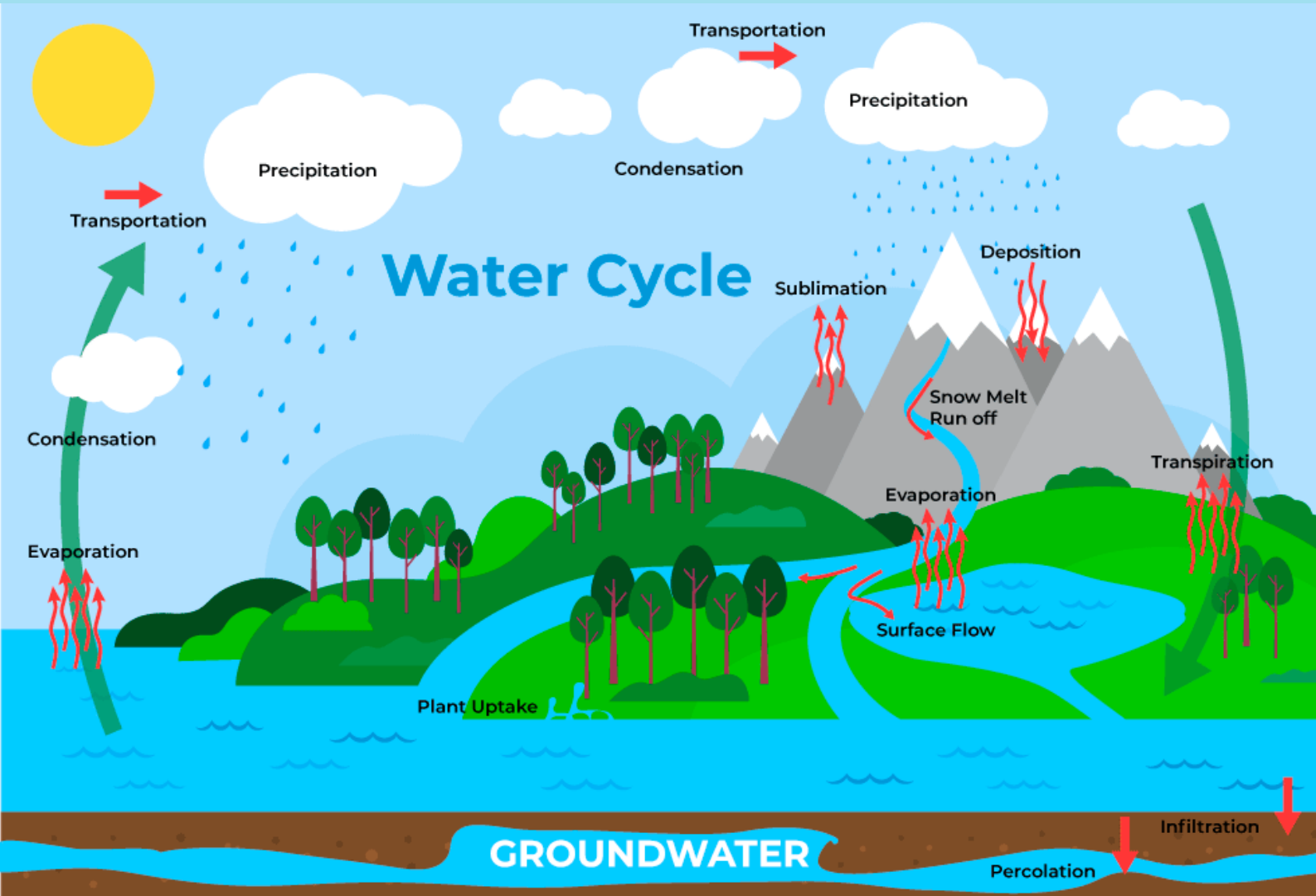
Cabell & Wayne Counties -  
Ohio River Watershed &  
Fourpole Creek Watershed



Fourpole Creek -  
watershed flows to Ohio  
River

# Water Cycle

The water cycle is a continuous water circulation in the Earth's atmosphere system.



Evaporation- transformation of water from liquid to gas phase.

Condensation - water vapors condense into droplets of water.

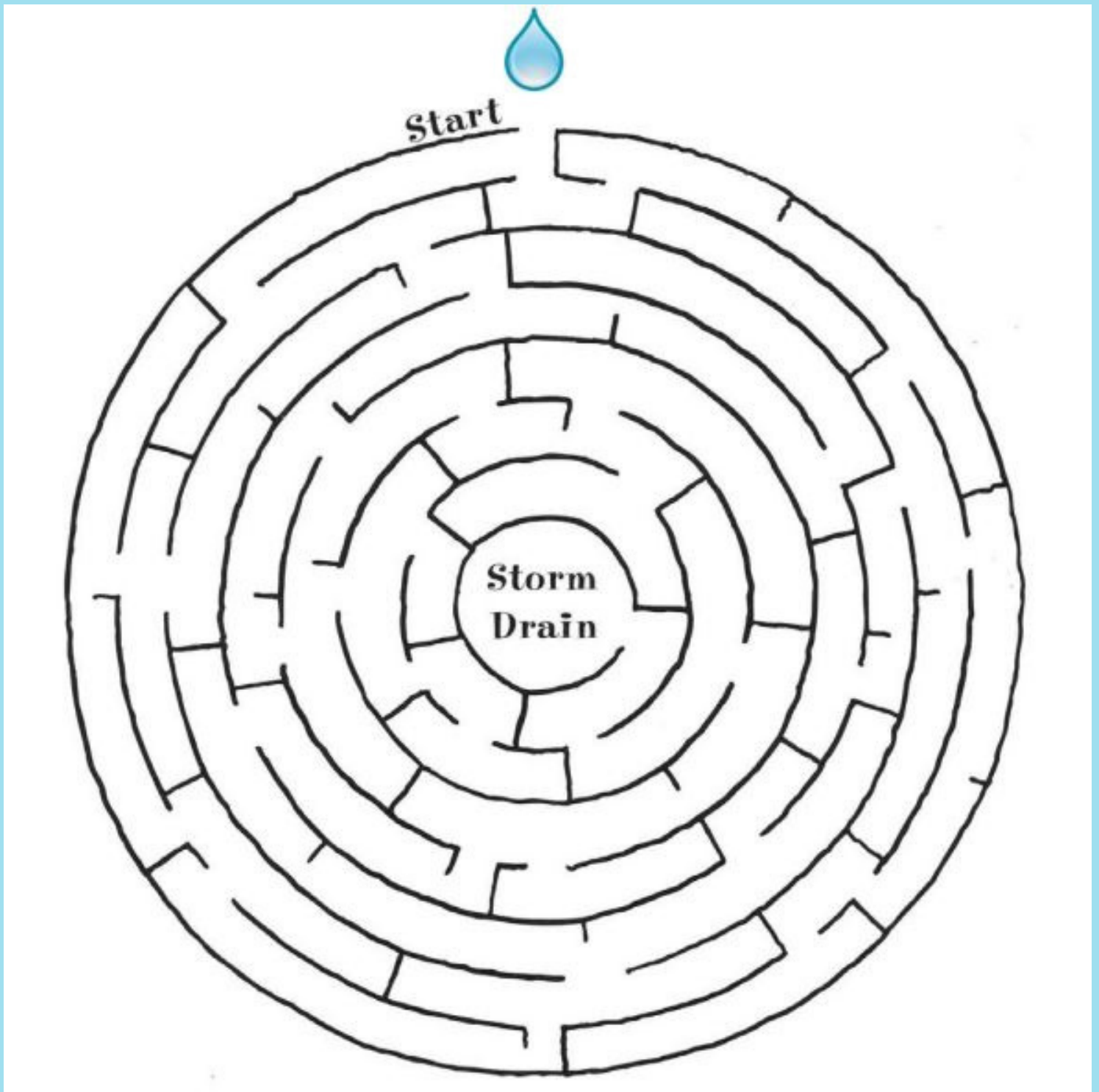
Precipitation- water droplets form.

Infiltration- rainwater is absorbed into the ground.

Runoff - when water is not absorbed - conveyed downstream.

Stormwater has to travel through ditches, curbs, and streets to get to a storm drain.

Follow the maze to get the water drop to the storm drain.





# Pollution- can seem small but can have a big impact on water quality.

Sediment (dirt), Nutrients (nitrogen and phosphorus), Pathogens (viruses, bacteria), Hydrocarbons (car oil), Pesticides, and Trash are some pollutants we do not want in our waters.

Find these stormwater and pollution words in the word search:

- Concrete
- Drain
- Driveway
- Fertilizers
- Lawn
- Oil
- Pesticides
- Plants
- Rain
- Rooftops
- Sediment
- Stormwater
- Stream

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



## Mapping your Neighborhood

Draw your house, Draw sidewalk and street, Find and draw the storm drains on your street.

A large, empty rectangular box with a thick black border, intended for a user to draw their neighborhood map. The box is white and occupies the central portion of the page.

If you see anyone dumping anything in a drain, call Huntington Stormwater Utility  
at 304-942-2525



### **Oops!**

Oil that drips from cars  
can wash straight into our  
lakes and streams.



### **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!**

This man is dumping chemicals down the storm drain.

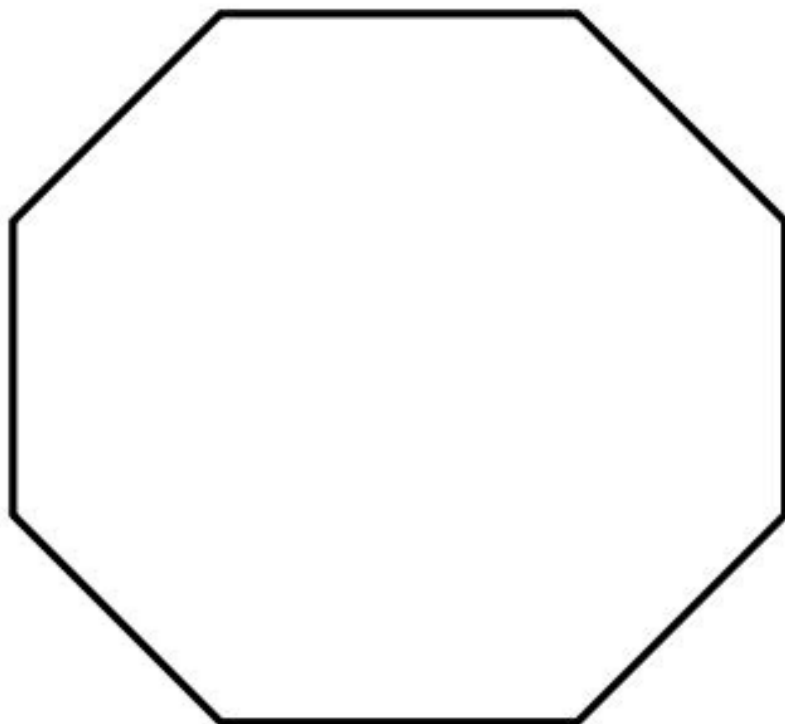


### **This looks better!**

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 or lake. 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 storm drain.

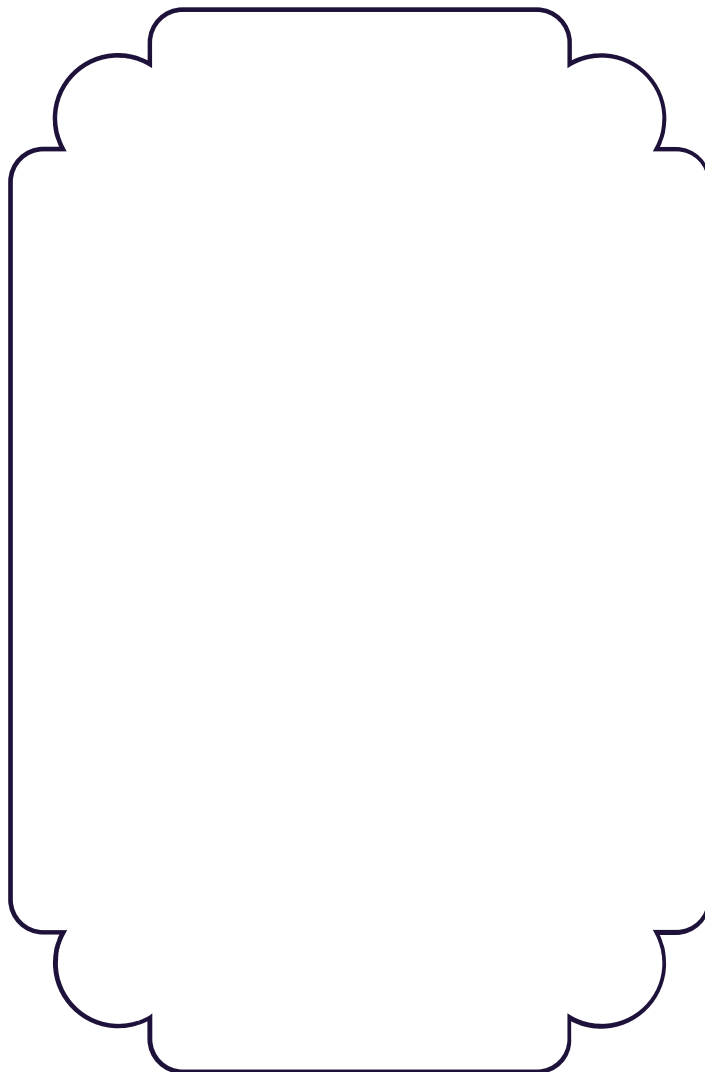
# Pet Waste is a Stormwater Pollutant

Dogs love to go on walks, but pet waste must be cleaned up or it will end up in a storm drain. This will pollute the water and potentially kill fish and other wildlife.



What you can do?

Design a cool pet waste station sign below



# Stormwater Pollution Quiz

## Match the pollutant with the problem.

Motor oil	Used to kill garden pests, but can kill animals living in water.
Hazardous Waste	Animals sometimes confuse this with food and can die from eating it.
Fertilizer	This can cloud the water and make hard for animals to see or breathe.
Trash	Leftover poisonous chemicals that can pollute streams, rivers, and lakes.
Dirt	Good for cars. Leaves rainbow sheen on water.
Pesticides	Helps plants grow, but can pollute streams if used in excess.

## Match the pollutant with something you can do to help protect water quality.

Motor oil	Only use as much as you need to get rid of pests.
Hazardous Wastes	Don't litter. Recycle and reuse what you can.
Fertilizers	You can use cat litter (absorbent) to clean this up.
Trash	Look for disposal days in your community to properly dispose of extra.
Dirt	Always follow instructions to use the right amount on your lawn.
Pesticides	Plant trees, grasses, other plants to cover soils and keep them in place.

# Stormwater Pollutant Quiz

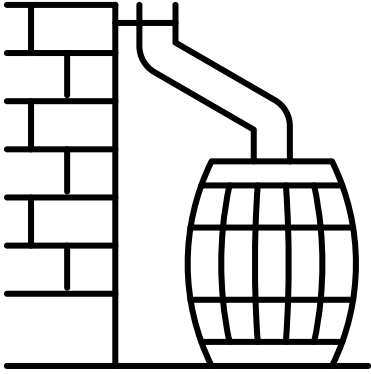
Match the pollutant with the problem. If you need help, look back in the book.

- |                    |   |
|--------------------|---|
| 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.                       |

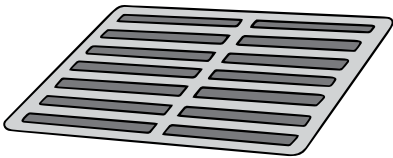
Now match the pollutant with something you can do to help protect your water.

- |                    |   |
|--------------------|---|
| 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.    |

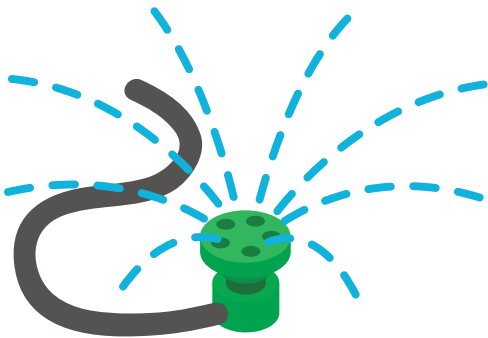
# BE A STORMWATER STEWARD



Rain barrels connected to roof downspouts can provide FREE rain water to water plants. More rain barrels used is less roof water rushing to the streets.



Keep storm drains clear of debris. You can adopt a drain and keep leaves, trash, etc from accumulating on top.



Lawn sprinklers systems can waste thousands of gallons if they have a small leak. Make sure to direct onto grass areas not driveways or sidewalks.



If you own property along a stream or ditch, let the vegetation grow. Vegetative buffer is needed beside waterways. Do not throw yard debris or leaves into waterway.



# Certificate

Congratulations! You have completed the Huntington Stormwater Activity Book. You can now detect and prevent stormwater pollution. Be sure to tell your parents, friends, and neighbors what you have learned.

Everyone needs to help protect water!

I, \_\_\_\_\_, have completed this activity book and will protect water around me by not wasting water, not dumping anything into the street or storm drains, and by telling others about stormwater pollution.



# **Huntington Stormwater Utility**

## **Stormwater Activity Book**



The Huntington Stormwater Program informs residents about Stormwater Pollution Prevention through various media and personal appearances. HSU provides stormwater pollution educational and informational opportunities for homeowner associations, businesses, and community events through an interactive Watershed Pollution EnviroScape model, rain barrel workshops, and other hands on games and activities.

Our staff will come to your meeting or event and demonstrate the local impacts of stormwater pollution.

Our outreach staff is also available to deliver free hands-on stormwater workshops to your school, library, venue. For more information about these opportunities, please email

Carrie. Denvir@huntingtonswu.com.