

THANK YOU TO THE 6TH GRADE ADVANCED ACADEMICS STUDENTS AT LOUISE ARCHER ELEMENTARY SCHOOL FOR YOUR COMMUNITY SPIRIT AND CREATIVE PRESENTATIONS ON THE IMPORTANCE OF CLEAN WATER AND PREVENTING POLLUTION AT THE TOWN'S DPW DAY EVENT ON MAY 2, 2019.

THESE PRESENTATIONS SERVE TO REMIND CITIZENS TO KEEP LOCAL STREAMS AND THE CHESAPEAKE BAY CLEAN.

PLEASE TAKE A MOMENT TO VIEW ONE OF THE PRESENTATIONS CREATED BY THIS YEAR'S CLASS.

Drain Water Contamination

By: Uma A., Sanaya L., Adhya P.
(USA)

How Does Water Get Polluted?

Water gets polluted when people:

- Throw their trash out
- Throw their food out
- Put toxic fertilizer on their yards
- When people spill oil onto the road
- Throw paint out
- Don't pick up after their pets

**Do you want your
pet drinking this?**



How is water pollution bad?

- Pollution can affect the lives of animals and plants
- It can contaminate your food (seafood)
- It can affect drinking water for your country
- It can affect the food chain by the number of animals
- It can give us diseases
- It can destroy habitats

Would you like your home destroyed

From **Drain pollution?**

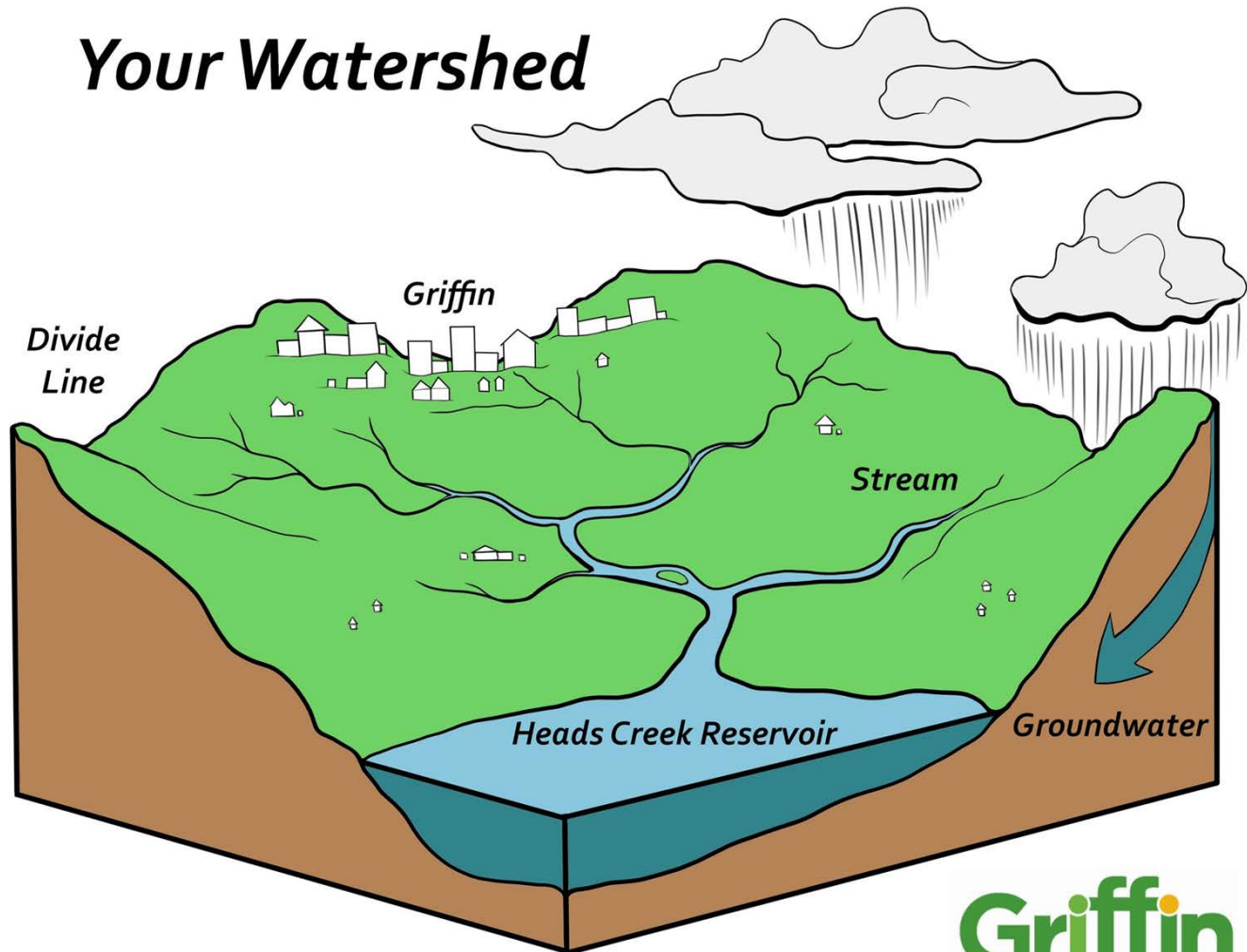
What is a watershed?

A watershed is an area of land that water flows through on its way to a lake, river, wetland or other waterway. You might think watersheds are lakes, rivers, oceans, and rain, but that's no true! We all live in a giant watershed, and that's very important because everything depends on our watersheds. So if our watersheds are gross and dirty, everything will be gross and dirty. Since we are a little in between an agricultural runoff and urban (city) runoff, we have all sorts of pollution. Just an extra fact, our watershed is Deer Run Creek->Potomac River->Chesapeake Bay->Atlantic Ocean.

Keep your watershed clean!

How Watersheds Affect Pollution

Watersheds include things like mountains and hills. And since water can't defy gravity watersheds prove to be very useful. Watersheds block pollution from spreading any further over the surface.



How storm drains contribute to pollution

Storm drains are a big part of pollution. If you pour something down the drain, where does it go? Does it go somewhere special? No, it all goes into the ocean. If you throw trash into the drain, it will go through streams then rivers and lakes, and out to the ocean. This could lead to the death of animals and plants. It could also make our food more scarce and we could also start to suffer. All this commotion could happen just with a single storm drain! This could change the lives of many innocent plants and animals.



Types of Water Pollution/Runoff

Point Source Pollution

Point source is pollution that is emptied out into one point, like one river or lake. For example, factory pipes usually go into one lake or tiny body of water, this makes it easier to find where it's coming from, and fix it!

Non-point Source pollution

Nonpoint source is the opposite. It's where there's no clear source, so you can't really clean it. You can only watch it spread.

Urban Runoff

Urban runoffs are made of water from lawns with fertilizers, trash, and oil from cars.

Agricultural Runoff

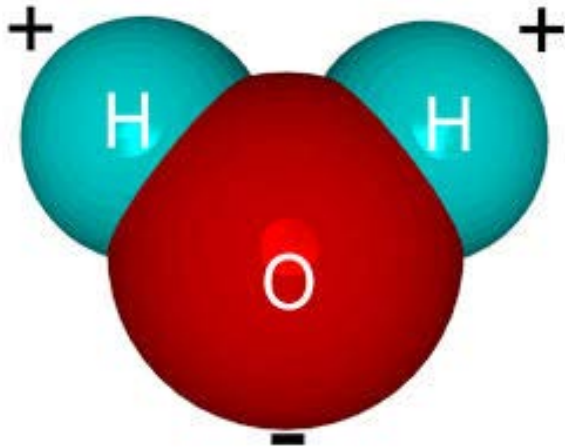
Agricultural runoffs include pesticides, animal waste, salts, fertilizer, decomposed food, trash and other plastics used in farms and ranches.



Stop this from happening!
Help save storm drain with us!

The Chemical Composition of Water

Water is transparent, tasteless, odorless, and almost colorless. Water makes up Earth's streams, lakes, and oceans, and the homes of many living organisms. It is vital for all known forms of life, even though it provides no calories or organic nutrients. Water is a compound that is also a molecule. A compound is a substance made up of two or more different elements. While on the other hand, a molecule is a substance that is made up of two or more elements. Water is simply made up of two atoms of hydrogen and one atom of oxygen. And I thought water couldn't get any cooler!



Think of Mickey Mouse
when you need help
remembering!



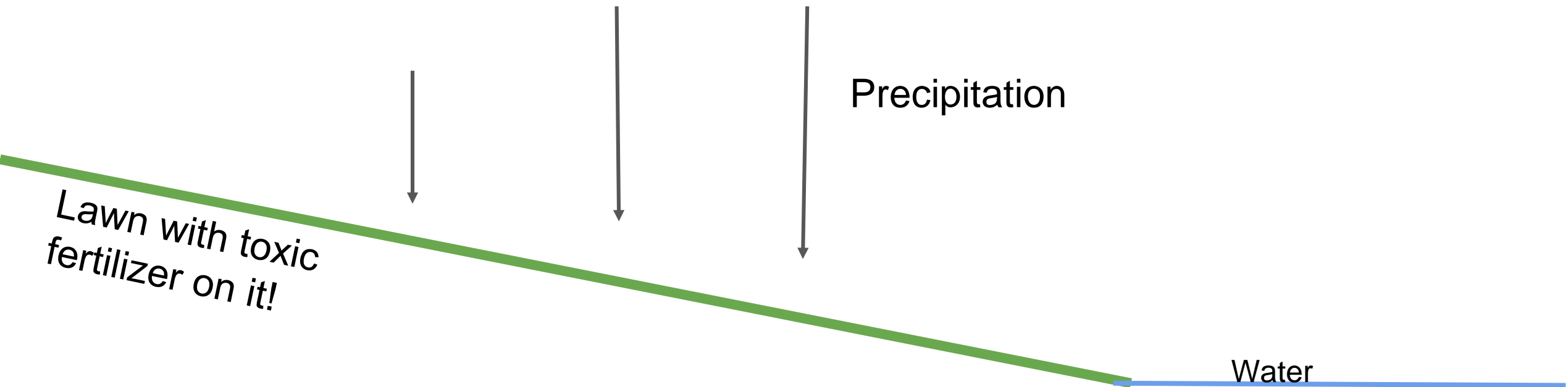
Water quality tests

- Salinity
- Turbidity
- Dissolved Oxygen
- Nitrates
- Phosphates
- pH
- Temperature



Salinity

Salinity refers to the amount of **dissolved** salt in water. This test is important because it affects the entire ecosystem and food chain. What I mean is that salt affects water density. The water density can change the amount of time it takes for water (that carries fish) to reach a certain area. This can delay an animal's meal time which can lead to sickness or death.



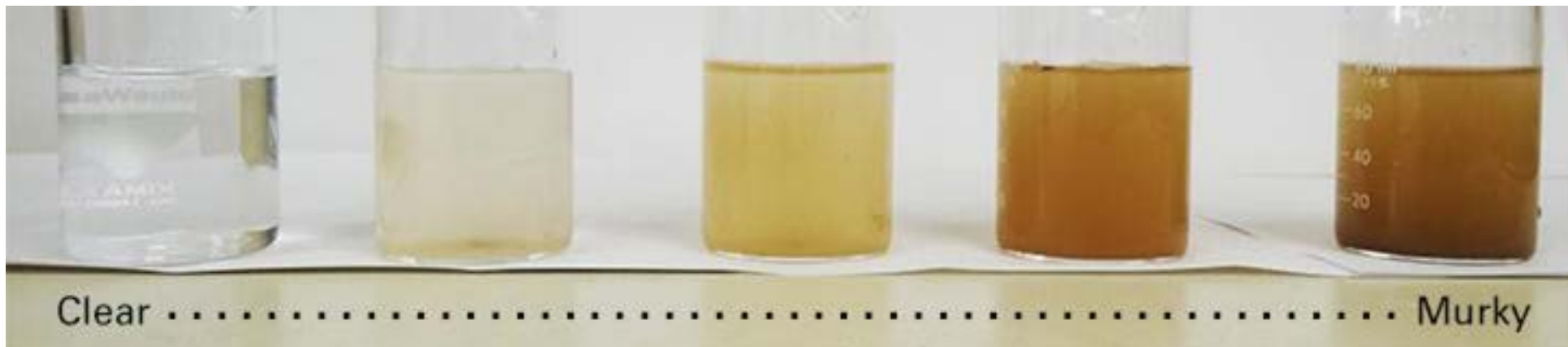
Turbidity

What is turbidity? What does it measure? Turbidity is:

- Turbidity is the clarity of water.

What are its effects:

- Particles can block sunlight, making it hard for plants to photosynthesize, which puts oxygen back in water.



Dissolved Oxygen

- Dissolved oxygen measures the amount of oxygen dissolved in water.
- Low levels of dissolved water make it hard for animals to breathe which is bad for health and can cause death.
- All water animals need oxygen, even though they are underwater animals.
- Every living thing needs oxygen to survive and if they don't have that, that is very dangerous!

Nitrates and Phosphates

Believe it or not nutrients can pollute your water. Nitrates and Phosphates are some nutrients that are really effective. Nitrates and Phosphates can cause an overgrowth of algae which can block sunlight from other organisms.

An overgrowth can potentially have too many toxins that can kill organisms in and out of water who drink it and breathe it in.



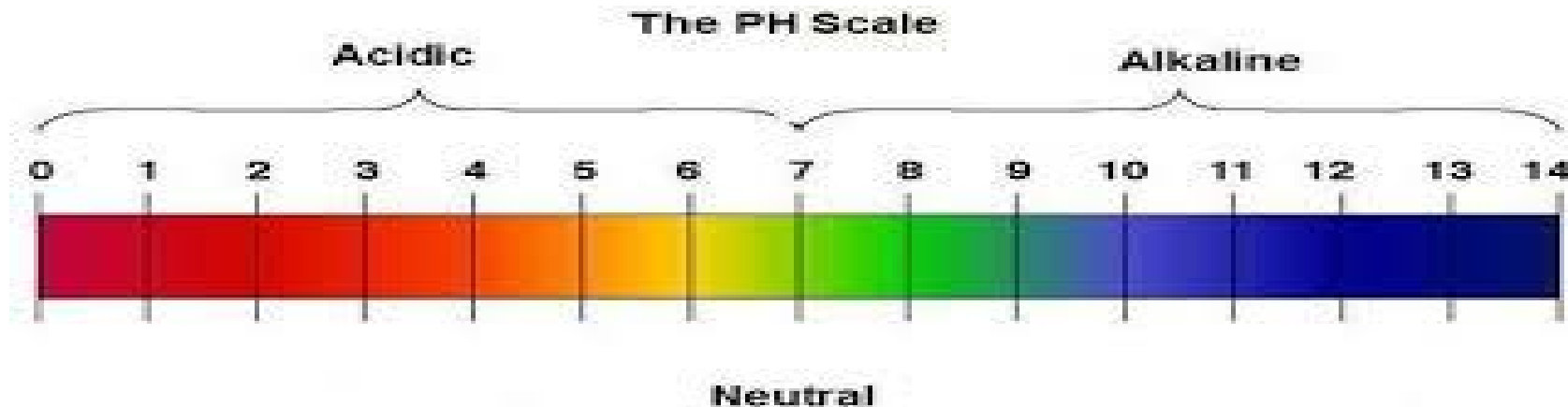
PH (Potential of Hydrogen)

What is PH? What does it measure?

- PH is the measurement of the acidic or basic quality of water.

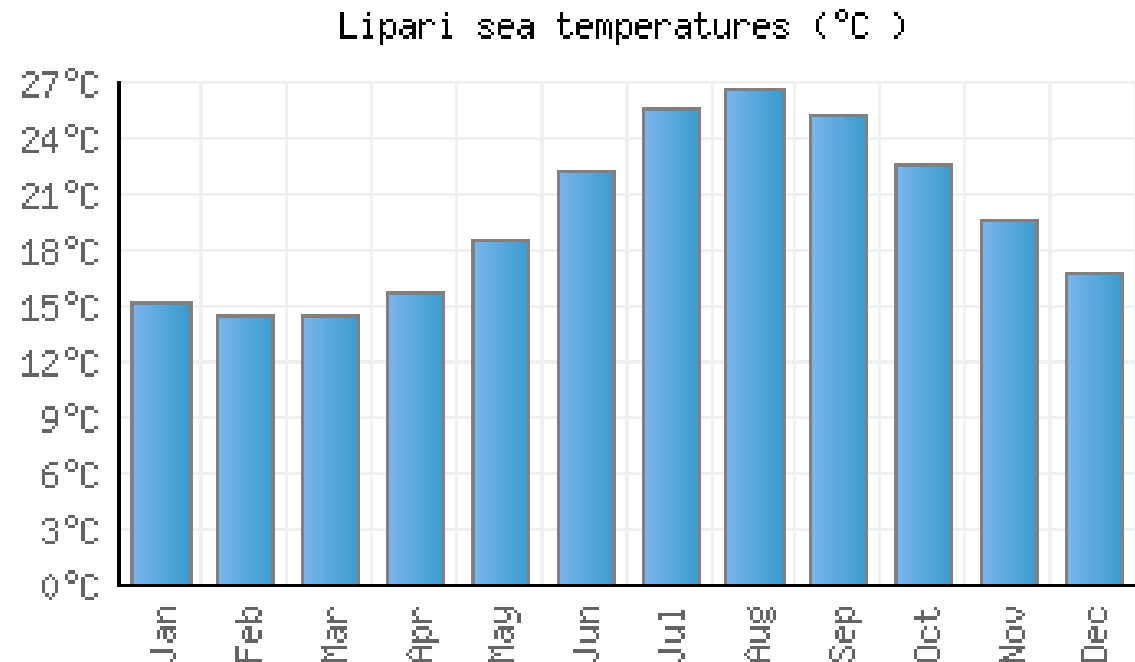
What does PH affect?

- Most organisms are adapted to life at a certain PH and even slight changes up or down can result in death, or disease.



Temperature

The temperature of water is very important. If water is too hot or cold, it could kill many water creatures. Every creature has a temperature zone and if the water does not meet that zone, it could be deadly. When water is too hot, it will affect the dissolved oxygen affecting the lives of many animals.



Groundwater V.S Surface Water

What is the difference between the two? They are different because Groundwater is water that is stored in the ground. While Surface water is water on the surface.

Examples of Groundwater:

- Reservoir
- Aquifer

Examples of Surface Water:

- Lakes
- Rivers
- Streams
- Oceans

Do's and Don'ts

Do's

- Tell others about this if you want to keep your water safe
- Use not toxic chemicals on your lawn
- Pick up trash on the ground if you see any
- If you see anything in a storm drain that isn't supposed to be there then move it

Don'ts

- Pouring anything that isn't clean water on the ground or in a storm drain
- Littering
- Ignore this information because it's true and not a joke!!!!!!

Fun Facts about water

- 68% of freshwater is trapped in Glaciers.
- Clear water might look clean, but there might be hidden dangers
- Common pollutants are not always colorful or smelly
- Scientist have many tests to check water quality, especially water sources that are used for drinking
- 90% of the world is water
- We need clear water so sunlight can go through the water, and shine into it
- And remember, one drop of clean water could save a creatures whole life!

Thank you for listening



That's all folks!

U.S.A.

THANK YOU TO THE 6TH GRADE ADVANCED ACADEMICS STUDENTS AT LOUISE ARCHER ELEMENTARY SCHOOL FOR YOUR COMMUNITY SPIRIT AND CREATIVE PRESENTATIONS ON THE IMPORTANCE OF CLEAN WATER AND PREVENTING POLLUTION AT THE TOWN'S DPW DAY EVENT ON MAY 2, 2019.

THESE PRESENTATIONS SERVE TO REMIND CITIZENS TO KEEP LOCAL STREAMS AND THE CHESAPEAKE BAY CLEAN.