

CLEAN UP TIME!

LEVEL: K-5TH

**ADAPTED FROM A LESSON ON
ALONG THE WAY BLOG**

<http://gironlife.blogspot.com/search?q=can+you+undo+water+pollution>



STANDARDS:

S3L2. OBTAIN, EVALUATE, AND COMMUNICATE INFORMATION ABOUT THE EFFECTS OF POLLUTION (AIR, LAND, AND WATER) AND HUMANS ON THE ENVIRONMENT.

- ASK QUESTIONS TO COLLECT INFORMATION AND CREATE RECORDS OF SOURCES AND EFFECTS OF POLLUTION ON THE PLANTS AND ANIMALS.
- EXPLORE, RESEARCH, AND COMMUNICATE SOLUTIONS, SUCH AS CONSERVATION OF RESOURCES AND RECYCLING OF MATERIALS, TO PROTECT PLANTS AND ANIMALS.

OBJECTIVES:

- STUDENTS WILL OBSERVE THE VARIOUS EFFECTS OF WATER POLLUTION
- STUDENTS WILL GAIN KNOWLEDGE ON HOW WE IMPACT WATERWAYS

SUBJECT MATTER:

- ECOLOGY
- WATER RESOURCES
- NATURAL RESOURCES

SUMMARY OF TASKS/ACTION:

- STEP 1: GATHER AND PREP ALL MATERIALS
- STEP 2: READ INTRODUCTION AND ASK STUDENTS WHAT THEY ALREADY KNOW ABOUT POLLUTION- ASK QUESTIONS TO GET THEM THINKING!
- STEP 3: TOGETHER WITH THE STUDENTS, READ THROUGH THE NARRATIVE AND FOLLOW ALONG BY ADDING THE POLLUTANTS TO THE WATER
- STEP 4: AFTER ALL ARE ADDED, CHALLENGE STUDENTS TO SEE IF THEY CAN GET THE WATER CLEAN AGAIN.
- STEP 5: DISCUSS THE RESULTS -REFERENCE THE RESULTS SECTION AFTER THE NARRATIVE

MATERIALS:

- LARGE PLASTIC TUB TO HOLD WATER
- VARIOUS POLLUTANTS: TRASH, FOOD SCRAPS, LEAVES/PLANT MATERIAL, SOIL, VEGETABLE OIL (ANY OIL TYPE WILL DO), COCOA POWDER (ANY COLORED POWDER WILL DO)

REFERENCES:

- [HTTPS://ESCHOOLTODAY.COM/POLLUTION/WATER-POLLUTION/WHAT-IS-WATER-POLLUTION.HTML](https://eschooltoday.com/pollution/water-pollution/what-is-water-pollution.html)
- [HTTP://GIRONLIFE.BLOGSPOT.COM/SEARCH?Q=CAN+YOU+UNDO+WATER+POLLUTION](http://gironlife.blogspot.com/search?q=can+you+undo+water+pollution)



MATERIAL PREP:

- POUR ENOUGH WATER INTO THE PLASTIC BIN SO THAT THERE ARE 3-4 INCHES OF STANDING WATER. THIS REPRESENTS YOUR CLEAN LAKE.
- CREATE THE OIL SLICK: MIX VEGETABLE OIL AND COCOA POWDER (OR ANY DARKER COLORED POWDER) INTO A SLURRY
- GATHER TRASH AND OTHER POLLUTANTS TO HAVE ON HAND

INTRODUCTION:

- ASK YOUR STUDENTS WHAT THE WORD "POLLUTION" MEANS? DISCUSS.
- WATER POLLUTION CAN AFFECT ANY AND ALL WATER WAYS IN THE WORLD- INCLUDING RIVERS, LAKES, STREAMS, AND OCEANS.
- ALTHOUGH WE HAVE WASTE WATER TREATMENT PLANTS THAT CAN REMOVE WASTE FROM OUR DRINKING WATER- A LOT OF POLLUTION STILL FLOWS INTO OUR NATURAL WATERWAYS AND INTO OUR OCEANS WHERE IT CAN HARM WILDLIFE AND DISRUPT THE ECOLOGY OF THE WATER SYSTEM
- LET'S READ ABOUT A SMALL LAKE AND SEE HOW IT HAS BEEN IMPACTED BY POLLUTION

NARRATIVE:

THERE ONCE WAS A SMALL LAKE, CLEAN AND SPARKLING. THE WATER WAS HEALTHY AND SAFE TO DRINK. (SPLASH YOUR HANDS IN THE CLEAN WATER)

OVER TIME A CITY WAS BUILT UP NEXT TO THE LAKE AND STORM DRAINS WERE PUT IN TO DRAIN RUNOFF FROM THE CITY INTO THE LAKE. THESE STORM DRAINS KEPT SOME POLLUTION FROM DRAINING TO THE LAKE BUT NOT ALL. PEOPLE WHO LIVED NEAR THE LAKE CARED ABOUT THE CLEAN WATER BUT THEY SOON FORGOT ABOUT HOW THEY ARE IN CHARGE OF KEEPING IT CLEAN.

ONE DAY A MAN WALKED BY THE DRAIN AND TRASH LEFT OVER FROM HIS LUNCH FELL OUT OF HIS POCKET AND INTO THE STORM DRAIN. THE TRASH WAS SMALL ENOUGH TO FIT THROUGH THE DRAIN AND WHOOSH! IT WENT STRAIGHT DOWN THE PIPE INTO THE LAKE. (SPRINKLE BITS OF TRASH INTO THE WATER)

MORE BUILDINGS WERE PUT UP AND LARGE AMOUNTS OF SOIL WERE WASHED AWAY AND (YOU GUESSED IT) WENT DOWN THE STORM DRAIN AND DUMPED INTO THE LAKE. (ADD DIRT, SOIL, GRAVEL ETC. INTO THE WATER)

AS MORE PEOPLE MOVED INTO THE CITY, MORE CARS DROVE PAST THE DRAIN EVERY DAY. OIL AND GREASE FROM THE CAR ENGINES WOULD DRIP ONTO THE PAVEMENT AND RAIN WOULD RINSE IT INTO THE DRAIN. NEXT THING YOU KNOW, THE STICKY OIL SLUDGE WENT RIGHT INTO THE LAKE. (POUR THE OIL SLUDGE INTO THE LAKE AND MIX AROUND)

PEOPLE SOON FORGOT ABOUT THE LAKE ENTIRELY. THEY WOULD THROW TRASH AND FOOD SCRAPS OUT OF THEIR CAR WINDOWS AND HEAVY RAIN WOULD TAKE IT STRAIGHT THROUGH THE STORM DRAIN. (ADD LARGER PIECES OF TRASH AND FOOD TO THE WATER)





NARRATIVE (CONTINUED):

THE LAKE BECAME DARKER AND GROSSER BY THE DAY. ANIMALS AVOIDED THE WATER BECAUSE THEY COULDN'T DRINK IT ANYMORE AND PLANTS LIVING AROUND THE LAKE DIED.

THE STORM DRAIN CAUGHT AS MUCH TRASH AS IT COULD BUT IT WAS SOON OVERWHELMED WITH ALL THE TRASH AND MORE AND MORE DUMPED INTO THE LAKE- BRINGING WITH IT LOTS OF LEAVES, SOIL, MORE OIL SLUDGE, AND CHEMICALS THAT HAD LEAKED FROM THE BUILDINGS NEARBY. (DUMP ALL THE REST OF THE TRASH, PLANT MATTER, OIL SLUDGE, AND MORE INTO THE WATER. BY NOW IT SHOULD BE CLOUDY AND FULL OF TRASH AND MORE).

NOW LOOK AT THE POOR LAKE! DO YOU THINK YOU CAN UNDO THIS MESS? SEE IF YOU CAN GET ALL OF THE POLLUTION OUT OF THE LAKE!

RESULTS:

AFTER MANY ATTEMPTS YOUR STUDENTS WILL SEE THAT IS IMPOSSIBLE TO NOW GET ALL OF THE POLLUTION OUT.

HAVE THE STUDENTS BRAINSTORM WAYS THAT THEY COULD EITHER PREVENT THIS FROM HAPPENING OR CLEAN UP THE WATER IF IT DOES HAPPEN. INTRODUCE TO THE STUDENTS ABOUT CURRENT EFFORTS TO KEEP WATERWAYS CLEAN INCLUDING STORMWATER ORDINANCES IN CITIES, LITTER TRAPS ON STORM DRAINS AND MORE! RESEARCH WHAT YOUR CITY HAS IN TERMS OF POLLUTION MITIGATION.

REVIEW:

ALTHOUGH THIS STORY IS HAPPENING IN REAL LIFE ALL OVER THE WORLD, THERE IS MUCH WE CAN DO TO SLOW OR STOP WATER POLLUTION.

GROUPS LIKE THE GEORGIA ASSOCIATION OF CONSERVATION DISTRICTS (GACD) PARTNERS WITH LOCAL SOIL AND WATER CONSERVATION DISTRICTS TO PROVIDE EDUCATION ON REDUCING POLLUTION AND EVEN PROVIDING CLEAN UP EFFORTS.

GEORGIA CONSERVATION DISTRICTS WORK TO REVIEW AND ENFORCE BUILDING PLANS AND PERMITS TO ENSURE THAT CONSTRUCTION TAKES PLACE IN A WAY THAT IS ENVIRONMENTALLY FRIENDLY AND KEEPS OUR WATER RESOURCES CLEAN WHILE STILL IMPROVING OUR CITIES AND HOMES.

AT YOUR HOME IT IS HELPFUL TO PICK UP TRASH THAT COULD GET INTO STORM DRAINS AND HELP TO CLEAN OUT CLOGGED STORM DRAINS ON YOUR STREET. MAKE SURE THAT YOUR PARKED CARS DON'T LEAK OIL ONTO THE PAVEMENT. ENCOURAGE YOUR LOCAL LEGISLATORS TO IMPLEMENT STORMWATER MEASURES TO KEEP YOUR NATURAL WATERWAYS CLEAN!

FOR MORE INFORMATION ON GACD AND TO FIND YOUR GEORGIA CONSERVATION DISTRICT PLEASE VISIT: WWW.GACD.US

FOR MORE LESSON PLANS VISIT: WWW.GACD.US/LESSONPLANS

FOLLOW UP:

- GET CREATIVE WITH WAYS THAT YOUR FAMILY CAN REDUCE WATER POLLUTION. GO FOR A WALK IN YOUR NEIGHBORHOOD AND SEE HOW MUCH TRASH YOU CAN PICK UP AND DISPOSE OF PROPERLY!