



From Bottles to Bird Feeders

Plastic bottles can be devastating to the animal world, including birds. As they slowly break down, plastic particles are often mistaken for food. Once in the animal's digestive tract, they can become an obstruction: sharp edges can puncture delicate tissue; they take up room needed for real food; they can cause dehydration because there is not enough space left for needed fluids; and they can leach toxins that impact the animal's endocrine system or poison the animal. With this project, we can make sure that a few plastic bottles actually do something good for our feathered friends by making bird feeders out of discarded bottles.

EXERCISE:

1. Drill a hole in the cap and insert two loose ends of a piece of twine through the hole.
2. Make a big knot on the inside that cannot slip back through the opening
3. Drill two sets of holes into the bottle; each pair of holes are to be drilled directly across from each other, on opposite sides of the bottle.
4. Run two wooden spoons through the bottle; in one side and out the other.
5. Glue spoons in place.
6. Drill holes above each spoon's shaft large enough to allow a small beak to have access to the bottle contents.
7. Fill bottle with seeds. Replace cap and hang where birds can access feeder.

SUPPLIES:

- Empty bottles (12 oz.)
- Drill with small and large size bits
- Thick twine
- Bird seed
- Wooden spoons (two per bottle)
- Glue to secure spoons once inserted through bottle

Making an Herb Garden

While we are thinking about the negative impacts of plastics in our environment, it helps to connect with nature more directly. Few things can make this more personal than caring for something green.

EXERCISE:

Create an herb garden out of an empty six-pack of plastic bottles. Start with six bottles per student. Have students cut off the tops. Punch a few holes in the bottom and fill each container with soil. Insert several seeds of different herb varieties into each container. Place containers in a larger drainage saucer.

Make sure students tend to the plants every few days to keep them watered. Once sprouts shoot up, have students put the plants in a sunny place to grow.

SUPPLIES:

- Empty bottles (12 oz.)
- Watering can
- Sturdy scissors
- Herb packets (basil, cilantro, parsley, rosemary, sage, thyme, etc.)
- Soil



Family Habits

EXERCISE:

Sort bottles to create a display (such as a river) depicting how many bottles wind up in landfills and elsewhere vs. being recycled.

If only one in five bottles are recycled, calculate how many bottles you and your neighbors send to a landfill vs. recycling each year. Assuming each family has similar behaviors in your school, how many bottles does your school send to a landfill vs. recycling each year?



**Only one in five bottles
are recycled.**





Plastic Scavenger Hunt

EXERCISE:

Head out to your local park for this adventure and clean up your community in the process. Bring a bag with you, preferably an eco-friendly alternative to a plastic trash bag, and gather each of these items:

- ☐ Plastic bottle
- ☐ Plastic bottle cap
- ☐ Plastic ring from a six-pack of soda (be sure to cut it up)
- ☐ Plastic shopping bag
- ☐ Plastic straw
- ☐ Plastic to-go cup lid
- ☐ Plastic toy
- ☐ Plastic car part
- ☐ Discarded Blu-ray/CD case
- ☐ Plastic beauty products (lip balm container, plastic comb, barrette, etc.)
- ☐ Plastic that is the color red
- ☐ Plastic that looks really old
- ☐ Plastic half-buried in the dirt



End the activity with a series of stats and facts that highlight the educational reason behind the importance of keeping plastic out of our environment. (Use facts from the Environmental Word Search activity sheet.) Encourage kids to use all the plastic litter they gathered to do the Family Habits recycling plastic exercise.

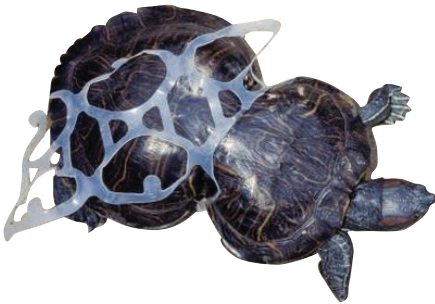


Six-pack Ring Around Rosie

Plastic bottles often come in plastic rings that hold them together in a six-pack. When these six-pack rings are discarded, they often get loose in the environment. Animals like Rosie get caught in them, and can either be hurt or die as a result, or they can live with them and suffer long-term harm or deformity.

EXERCISE:

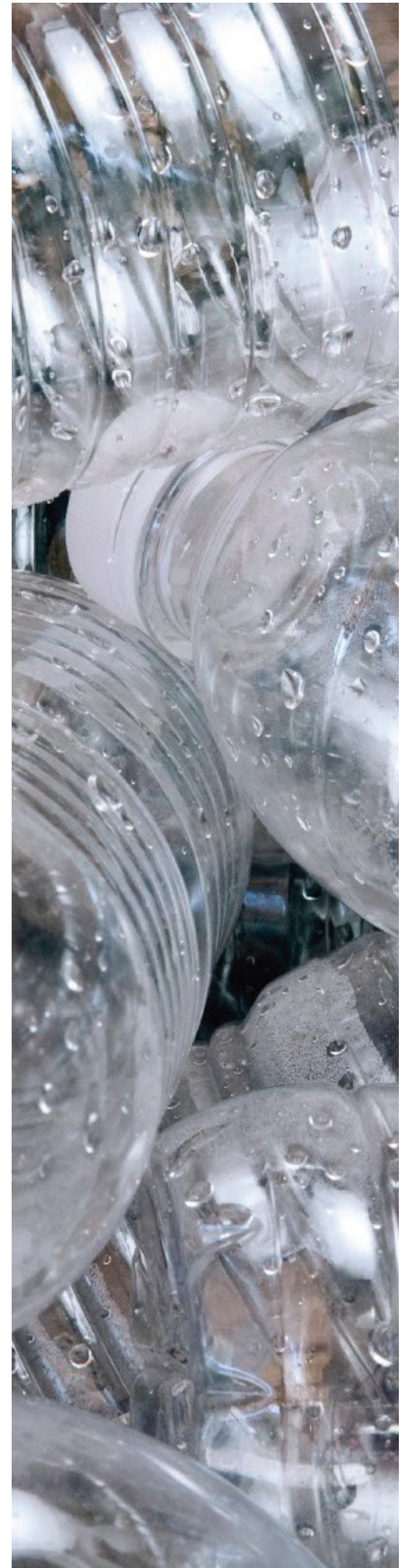
Plan and execute a campaign in your neighborhood to get everyone to cut open their six-pack rings to prevent wildlife from becoming entangled.



Rosie was a baby turtle in the 1980s when she became stuck in the plastic ring of a six-pack holder that someone failed to dispose of properly.



Rosie was rescued and cut free of the plastic in 1993. Because of her deformity, she cannot live in the wild and now lives in captivity.





EXERCISE:

Research the hydration choices of the average American.

- What beverage choices are they making today?
- What percentage of his or her calories typically come from sugary beverages?
- What would be better beverage choices for them to make?

Have them write up their findings on one page, double spaced.

Grammar and punctuation matter!

Healthy Hydration

As humans, every beverage we drink adds to our hydration. But you might be surprised to learn that **WHICH** drinks you choose — and how much of them you drink — can seriously affect your health.

When you are considering beverage choices, you should keep in mind the calorie content and what it means for your body. For example, drinking water instead of three sugary drinks a week for a year could save 6,084 grams of sugar, which amounts to 24,336 calories. If 3,500 calories adds up to a pound of body weight, that's 6.95 extra pounds over the course of a year, just from drinking sugary drinks. Is it worth it?





Environmental Word Search



- Oceans** - Earth is 71% water; our oceans hold 96.5% of Earth's water.
- Quench** - Water quenches our thirst better than any other liquid, which is why we need to drink up to eight glasses of water a day.
- Healthy** - Our bodies are 60% water and for some organisms, it is 90%.
- Environment** - Although plastic bottles are recyclable, many end up in landfills and take up to 1,000 years to break down. Or they can end up in the sea, killing marine life that mistake them for food.
- Hydrate** - Staying hydrated helps our bodies to run and think better.
- ezH2O** - Bottle filling station that is a quick and clean way to stay hydrated at school.
- Filtered** - Many ezH2O® bottle filling stations have filters designed to remove lead particles and chlorine among other contaminants.
- Petroleum** - 17 million barrels of oil are used to make plastic water bottles every year. That is enough to fuel one million cars.
- Fossil fuel** - Fossil fuels used to make plastic bottles are typically millions of years old.
- Plastic** - In 2015, the average American used 167 disposable water bottles, but recycled only 63.
- Conservation** - Plastic in the ocean breaks down into such small segments that pieces of plastic from a one liter bottle could end up on every mile of beach throughout the world.
- Cryptosporidium** - Cryptosporidium is one of the leading causes of waterborne disease caused by contaminated drinking water.
- Lead** - The EPA's acceptable standard amount of lead in drinking water is zero.
- Ecosystem** - One of the most ubiquitous and long-lasting changes to the surface of our planet is the accumulation and fragmentation of plastic.
- Source water** - Drinking water comes from ground water (aquifers), streams, rivers and lakes. Protecting these drinking water sources is key to sustaining safe drinking water supplies.
- Tap water** - The United States is fortunate to have one of the safest public drinking water supplies in the world. There are approximately 155,000 public water systems in the United States.
- Litter** - Plastic makes up 90% of all trash in oceans. Plastic pieces now outnumber sea life six to one.
- Landfill** - 62% of plastic bottles are going into landfills. A portion of these end up in our oceans, rivers, lakes and streams.
- Sustain** - Plastic is manufactured from a nonrenewable resource, contains harmful chemicals, and is expensive to recycle.
- Biodegradable** - Plastic is not biodegradable.
- Compost** - Organic matter that has been decomposed and recycled as a fertilizer. Many drinking cups can now be made of compostable material.
- Recycle** - According to the EPA, the national recycling rate is just 30%. Increasing recycling to 60% could save the equivalent of 315 million barrels of oil per year. The amount of plastic manufactured in the first ten years of this century will approach the total produced in the entire last century.
- Reduce** - You can reduce your carbon footprint by drinking from bottle filling stations whenever you are away from home.
- Reuse** - 33% of plastic is used once and then thrown away.



Environmental Word Search

ANSWER KEY

