

What you can do for the environment

Pick up litter you see and throw it away or recycle it. Recycling stops lots of garbage from ending up in landfills.

Turn off the lights when you leave a room.

Ask your parents to buy items with less packaging or to buy items in bulk. Overpackaged foods and other products waste paper and plastic.

Don't use styrofoam cups - Styrofoam is not biodegradable. Instead, buy recyclable and compostable paper cups. Or, better yet, drink from reusable cups and mugs.

For lunch, don't bring plastic forks and spoons. They are not biodegradable and not recyclable in most areas. Instead, carry your own utensils and food containers and wash them later.

Store drinking water in the fridge rather than letting the tap run to get a cool glass of water.

ANSWERS TO DECODER: POLLUTION can affect air, land, and water. BROWNFIELDS are polluted places that were abandoned, like empty gas stations, dry cleaners, and FACTORIES. You can help the earth by RECYCLING. You can also TURN OFF the lights when you leave the room.

Decoder

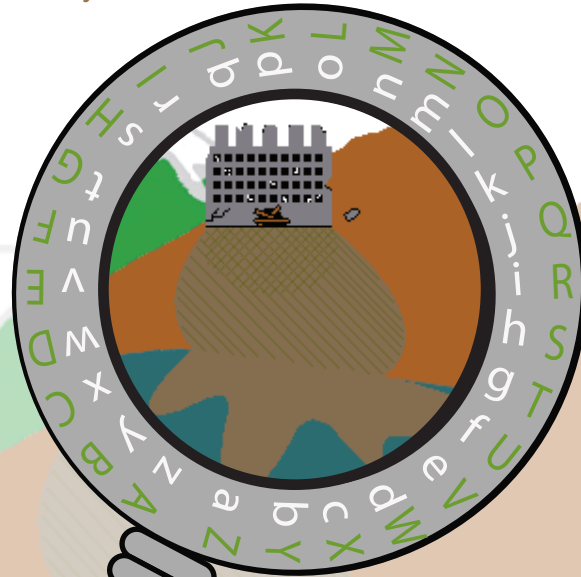
Use your magnifying glass to decode the answers. Replace each green letter with a white one to spell out each of the environmental clues.

_____ can affect air, land, and water.
K L O O F G R L M

_____ are polluted places that were abandoned, like empty gas stations, dry cleaners,
Y I L D M U R V O W I

and _____. You can help the earth by
U Z X G L I R V H

_____. You can also _____ the lights when you leave the room.
T V X B X O R M T G F I M L U U



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What is a brownfield?

... and other cool stuff about the environment



What is pollution?

Pollution (*puh-loo-shuhn*) is a big word that means anything that is harmful to the environment. If people are careless, they can spread pollution in the air you breathe, the water you drink, and the ground on which you play.

So, what is a brownfield?





















Many places can be polluted, like a landfill (from the garbage) or a big city (from car smoke). Brownfields are polluted places that have been left alone because a new business does not want to use the dirty land. Some examples of brownfields are empty gas stations, dry cleaners, and factories. Brownfields can be cleaned and made into stores, parks, and neighborhoods!

Pollution spreads quickly.

Find out how easily it spreads in the following activity.

Pollution Solution

try this at home with an adult

- | Materials | Clean-up kit |
|---|--|
|  A bucket |  A clear jar |
|  Water |  A sponge |
|  Corn starch |  2 small cups |
|  A handful of dirt (in a sandwich bag) |  Funnel |
|  Baking soda |  Coffee filters or paper towels |
|  Vegetable oil |  Toothpicks |
|  Liquid soap |  Small pieces of cardboard |
|  A few strips of shredded paper and tin foil |  Wire mesh kitchen strainer |
|  Food coloring |  Plastic spoon |
| |  Straw |
| |  Eyedropper |

Fill a bucket with clean water. Pretend this bucket of water is a lake and follow the instructions in *italics* below while you read the story.

In 1960 a rural dairy farm and apple orchard bordered the lake. Later a small fishing access and parking lot were built to allow for boating. A campground with a store followed and attracted many visitors. Then in the 1980's, a new factory and houses were built along the shore.

The water quality in the lake has slowly changed over the years.

The farmer's fertilizers and manure were washed into the lake by rain. (*Add corn starch and dirt.*)

The orchard's pesticides were washed into the lake by rain as well. (*Add baking soda.*)

Oil, antifreeze, and windshield wiper fluid that dripped from cars was washed into the lake from the street by the rain. Boats on the lake, too, leaked fuel and engine exhaust directly into the water. (*Pour a small amount of vegetable oil in your bucket.*)

When people washed their cars in their driveways, the soapy water from that also

washed into the lake. (*Pour some liquid soap into the bucket.*)

Campers' litter also found its way into the lake. (*Place some small strips of paper and tin foil into the water.*)

When the hillside was cleared to make way for new construction, the hill's soil also washed into the lake when it rained. (*Add more dirt to the water.*)

The factory leaked chemicals into a nearby stream, and the chemicals also ended up in the water. (*Add a couple of drops of food coloring to the water.*)

Now it is 2010, you are a manager of the water-treatment plant that has been built to clean up this lake. Using your clean up kit, make the lake as clean as possible while keeping as much water available for use. Put all of your pollutants and discarded water in the clear jar.

- ✕ Which one of your treatment plans worked the best?
 - ✕ Is the water completely clean?
 - ✕ Does it look clean?
 - ✕ Smell clean?
 - ✕ Is this water you would want to drink?
 - ✕ Do you think fish or other animals would want to swim in this water?
 - ✕ What else could you try to clean the water?
- ✕ Why should we be careful about what we put on the ground?
 - ✕ Which do you think is easier: cleaning up water or keeping it clean in the first place?

Do this activity with other kids to find out who could get the cleanest water. Compare how they cleaned their water with your methods.