

Getting to Know: Human Effects on Ecosystems

"Yay!" Your uncle Dennis is visiting. He's taking you out for the day as he looks for a new car. "Why do you need a new car?" you ask him.

"Well, my old car is a real gas guzzler," he replies. "It costs way too much, and driving it affects the environment."

A car is useful and fun. How can it be harmful?

"Of course, we need cars," Uncle Dennis says. "But cars take lots of chemicals and minerals to make and run. These are Earth's *resources*. The exhaust from cars *pollutes* the air. When gasoline is burned, it releases *carbon dioxide*. Carbon dioxide is a gas that can affect the world's climate." Uncle Dennis goes on to explain, "That's why I want a car with good gas mileage. The less gas a car uses, the less impact it has on the environment."

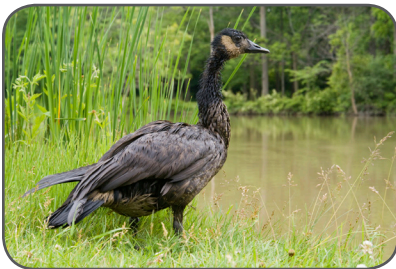


We need cars, but they pollute the air.

Okay, so if you buy a car with good gas mileage, is that good for the environment?

Yes, but cars can still be harmful to the environment. In fact, almost all human activity has some impact on the environment. Uncle Dennis explains that cars need oil in their engines, and oil is also used to make plastic. Plastic is used for many car parts and other countless products.

I have toys made of plastic. What is the harm in plastic?



This goose has been covered in oil from a spill.

"How many toys made of plastic do you have?" asks Uncle Dennis. "You've never counted, but it's a lot. We use oil to make that plastic. When oil is taken out of the ground, there's always the chance of an accident. Oil is very poisonous. When oil is spilled, it kills a lot of plants and animals," says Uncle Dennis.

So if we're careful with the oil, plastic is okay, right?

"I wish it was that simple," says Uncle Dennis with a smile. He explains that making cars, toys, and other things we need has many effects on ecosystems. When we throw away things made of plastic, the trash might end up in the sea.

To sea turtles, a plastic bag looks like a jellyfish, which is its food. When the turtle eats the bag, it chokes and dies. "That's horrible," you say. Your uncle says that's why it's important to *recycle*. It takes fewer resources to make things when we recycle items.



Misconception 1: But one piece of trash on the ground doesn't matter!

It does. One piece of trash can affect many plants and animals. For example, a plastic soda bottle could trap animals inside. All that trash adds up. If a hundred people all throw one piece of trash away, that's 100 pieces of trash in the environment. Yuk!

Where do the fossil fuels that cars use come from?

Fossil fuels are buried deep in the ground. Oil is a fossil fuel. Coal is another fossil fuel. Fossil fuels are the remains of plants and animals from long ago. When fossil fuels are burned, they release a lot of energy.



Acid rain can destroy forests.

When fossil fuels are burned, the smoke contains chemicals. Some of these chemicals are dangerous. They can be carried into the air and mixed with rain water. We call this acid rain. Acid rain can kill plants. When the plants in a forest are dead, many animals have nothing to eat.

Most people understand that using fossil fuels harms the environment. They also know that fossil fuels are limited. One day they will run out. There will be no cars, electricity, or plastics. That wouldn't be much fun! Scientists are working hard to find *renewable resources*. These are sources of energy and materials that do not run out. The best renewable resources harm the environment less than fossil fuels.

Do renewable resources have any effect on the environment?

Even though we use renewable resources, humans still impact ecosystems. It takes resources to make things like solar panels and to produce renewable goods. It even takes resources to recycle materials! The best thing to do is to look at ways we can reduce our use of all resources.

Wow, all this is making my head hurt! What can I do to reduce human effects on ecosystems?

The bottom line is that we all affect ecosystems. The most important thing is to learn about these effects. Then we can begin to understand what our choices are. "I'm not picking on cars," says Dennis. "But they are a good example of how humans affect ecosystems. Now let's go look for a car that uses less of Earth's resources!"



Wind energy and solar power are renewable resources.



Misconception 2: *Humans are so bad. They only destroy the environment. I feel terrible!*

Well, you don't need to feel so bad. It's true that many effects of humans are negative. Humans also have positive effects. Our yards and gardens provide a habitat for animals. We plant trees and protect areas for wildlife, for example. We also work to remove pollutants from our land, water, and air. This makes the environment better for all living things.