

Poisons on our Planet



Student Fact Sheet D-1

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A Healthy World



From the Sahara Desert in Africa to the coral reefs of the South Pacific, every living thing on Earth needs clean air, clean water, and clean land in order to survive. Whether it's the air we breathe, the water we drink, or the food we eat, planet Earth gives us everything we need to live healthy lives.

Natural Toxins



Although nature provides us with everything we need to be healthy, there are many things in nature that aren't healthy for us and can actually be poisonous or **toxic**. These poisons are called **toxins**. Toxins can be found in a variety of things like the venom from a rattlesnake, the leaves of an oleander bush, and the poison from a deadly mushroom. The toxins found in nature are there to protect the plant or animal from being eaten by another animal or to kill an animal or insect for food. For example, a spider will use poison to paralyze a fly so that it can eat it.

Nature's Warning Signs



When something in nature is poisonous, it usually has some sort of warning sign. For instance, poison arrow frogs from the rainforests are brightly colored. This lets other animals know how poisonous they are. These small frogs are so deadly that one drop of their poison can kill a human being! There are over 170 different kinds of poison arrow frogs and each one has a bright splash of color like red, yellow green or blue.

Using Nature's Toxins



Throughout history, human beings have learned to use natural toxins for help. For instance, the native or **indigenous** peoples that have lived in the rainforest for thousands of years discovered how to use poison from the poison arrow frog. They learned how to safely take out or **extract** this poison and put it on their arrows in order to hunt. That's how the poison arrow frog got its name!

Doctors around the world have also used **curare**, a poison from a rainforest vine in South America, to **anesthetize** or safely put patients to sleep during operations. Although natural toxins can be deadly, there are many cases where they can be helpful.

Man-made Toxins



Today, most of the poisons on our planet don't come from nature. They are made from humans. Whether it's the chemicals we make and use to create things like plastic, batteries, and computers, or other products like gasoline and **pesticides** or poisons used to kill pests, human beings have created a lot of toxic things or **substances**. When these poisonous substances are burned, dumped in the water, or spilled on the earth, they create serious pollution that poisons our air, water, and land. If animals or human beings inhale this polluted air, drink the polluted water or live on polluted land, it can make us sick. Most man-made toxins are damaging to our environment and our health.

Toxins at Home



There are many common household products that are toxic. These products can be cleaners like chlorine bleach, toilet bowl cleaners, oven cleaner, and furniture polish. Other household products that are toxic include mercury thermometers, motor oil, pesticides, and paint thinner. The most toxic products in the United States have a label on their package that says either: **caution, warning, danger or poison**. These labels warn people that the product is toxic. Never touch any product that has one of these words listed on it—especially the words “danger” or “poison”. Only adults should handle these products!

The Effect of Toxins



Using man-made toxins has many different effects or **consequences** on our health and environment. One such toxin, **chlorine**, is a common chemical used in many different ways. It is used to **bleach** or whiten things like paper and clothes; it is poured into water supplies to **disinfect** or kill germs, and it is used to make or **manufacture** plastics, pesticides and many other materials around the world.

Although household chlorine products like **chlorine bleach** are useful in killing germs and bleaching things white, it can be dangerous if we inhale the fumes or mix it with other household chemicals. Fortunately there are other types of bleaches that do not contain chlorine. These **chlorine-free** bleaches are much safer for us to use.

The biggest problem with chlorine is that it can harm nature. Whenever substances with chlorine are burned they create a different substance we don’t want

called **by-products**. One type of by-product is called **dioxins**. Dioxins are some of the most poisonous substances on our planet. Some dioxins are created in nature, like when volcanoes erupt, but most of the dioxins on the planet are man-made from manufacturing with chlorine or burning substances with chlorine. When dioxins are put into the air or water, they get absorbed in the bodies or **fatty tissue** of fish and animals as well as humans. Scientists say that even small amounts of dioxins can cause cancer, birth defects and other illnesses in people and animals.

Let’s Have A Healthy Planet!



Even though toxic chemicals are still being used around the world, there are many things we can do to use safer, less-toxic products that don’t poison our planet, the animals, or our bodies. Ask your parents to use chlorine-free bleach at home and to use less-toxic cleaning sprays and other household products. Many of these items can be purchased at stores or on the Internet.

You can also teach your parents not to dump poisons down the drain like used motor oil, paint-thinner or pesticides. Have them take these dangerous or **hazardous** materials to the **Hazardous Waste Facility**.

Better yet, when it comes to using pesticides, ask your parents to find safer ways to control pests in the home and garden. This safer pest control is called **Integrated Pest Management (IPM)** and can control pests without poison.

We all have the power to make our planet a safe place for every living thing. By using fewer toxic chemicals and learning about safer, non-toxic products, we can rid our planet of perilous poisons!

SOURCE: San Francisco Department of the Environment, n.d.

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