

Name \_\_\_\_\_ Date \_\_\_\_\_

## **Human Impact on the Environment Worksheet**

1. What makes Earth such a special place to live? Think about it! Why do we live here, and not on other planets? Well, Earth provides important natural resources to support life. In fact, humans depend on many of Earth's natural resources to survive. Name a few of Earth's natural resources.
  
2. Earth's natural resources include land, air, water, plants, animals, and minerals. Of course, we need land to live on, air to breathe, water to drink, and plants and animals to eat. But did you know that we also need resources to provide energy for our daily activities? Look at this farm. Which human activities in this scene need energy from natural resources?
  
3. Humans use natural resources to provide energy for all kinds of human activities. For example, fossil fuels are the remains of dead plants and animals that have decayed over millions of years, and are found deep within the Earth's crust. Fossil fuels—such as oil, coal, and natural gas—have been used for decades to generate electricity, provide heating and cooling, power different modes of transportation, and run industrial factories. How are fossil fuels being used in this scene?

4. Fossil fuels have allowed humans to make great strides in technology, transportation, communication, and medicine. Unfortunately, however, our use of fossil fuels has also negatively impacted the environment. In order to use fossil fuels, we must burn them. In addition to causing air pollution, burning fossil fuels releases harmful gases into our atmosphere, slowly deteriorating the ozone layer that protects us from the Sun's harmful rays. Dissect the Earth's atmosphere to take a closer look at the ozone layer. What do you think are the effects of a deteriorating ozone layer?
  
5. One life-changing product made from fossil fuels is plastic. Plastic is a strong, moldable material that can be used to make many useful items such as picnic tables, toys, and food storage containers. However, single-use plastic items, such as straws, bottle caps, and plastic utensils, cannot be recycled and are thrown away. These discarded plastic items clutter our neighborhoods and harm living things. Dissect this bird to see what it ate. Take a photo of its stomach contents. What did you find? How would this be harmful to the bird?
  
6. Wind and rain carry plastic pollution from the land into storm drains and rivers that eventually lead out into our oceans. Many marine animals mistake plastic for food and eat it. Sea turtles often think floating plastic bags are their favorite meal, jellyfish. Did you know that there is a place in the Pacific Ocean that is so full of plastic trash that it is called the Pacific Garbage Patch? Imagine going on a cruise through a floating island of plastic trash twice the size of Texas!

7. Fossil fuels and other contaminants also accidentally end up in oceans and lakes through oil tanker spills and chemical runoff. Chemical runoff occurs when chemicals such as gasoline, oil, pesticides, herbicides, and fertilizers from factories or farms leak into nearby water sources. How do you think these chemicals affect the animals who live in or near the water?
  
8. Did you know that over the past 65 years, the human population has increased significantly? As the global human population has increased, the demand for energy sources has also increased. How do you think the increases in human population and demand have affected the availability of natural resources like fossil fuels?
  
9. As human population and energy demands have increased, the availability of fossil fuels has decreased. This is because fossil fuels are examples of nonrenewable energy sources. Nonrenewable energy comes from a source that will eventually run out or takes millions of years to be replenished. Do you think nonrenewable energy sources will be able to power human activities forever? Explain your reasoning.
  
10. Nonrenewable energy sources, like fossil fuels, will eventually run out. They are not a sustainable, or maintainable, solution for our future energy needs. That is why humans are looking into using renewable energy sources instead. Renewable energy comes from a source that can be used over and over, and replenished naturally within a human's lifetime. Look at this scene. What renewable energy sources do you see?

11. Renewable energy sources include the Sun, wind, and water. Solar panels, wind turbines, and water wheels were all created to harness the energy of a renewable resource. Besides being readily available and sustainable, what is another benefit of using renewable energy sources?
  
12. Renewable energy sources are clean, “green” alternatives for our planet. Unlike the nonrenewable resources that we talked about earlier, renewable resources do not harm our planet. They do not release harmful gases into our atmosphere. They do not cause land, air, or water pollution.
  
13. As you have seen, humans rely on Earth’s natural resources to survive. Some natural resources are renewable, while others are not. Choose one renewable and one nonrenewable energy source. Explain the positive or negative impact on the environment of using each type of natural resource.