

## Environmental Summer Camp

### Course Summary

The student will work with others in this course to learn about and discuss environmental issues at the local, national, and global level.

### Course Directions and Tips

The student will receive information from their summer school teacher about LiveLesson Sessions, message board posting and required assignments during the first day of summer school.

### Environmental Club

#### 1. Environmentalism

##### 1. What is Environmentalism?

The other lessons in this course will provide activities that you can do to help clean up your environment. You will also learn about the different challenges that environmentalists face.

#### 2. Land Use

##### 1. Trash

One of the best things you can do to help prevent the harmful effects of landfills is to make less trash. This means that you will have to reduce, reuse, and recycle. Reduce the amount of things you use. Reuse materials instead of throwing them away. Recycle plastic, glass, and paper if your town has a recycling program.

Here's a fun activity to help add a splash of green to your home while also reducing the amount of trash you create:

1. Find some small boxes or tin cans.
2. Use a plastic bag to line the inside of your boxes or cans.
3. Add some potting soil to your container.
4. Plant a few seeds in your new planter.
5. Give your seeds sunlight and water.
6. See how high you can get your plant to grow.

By using trash to grow plants, you are sending less waste to landfills and making your environment prettier and more sustainable.

##### 2. Deforestation

Deforestation pushes many birds from their homes, but you can help these animals by providing an alternative habitat. This lesson's activity will show you how to help by making a bird feeder.

You will need the following materials:

- an empty peanut butter or jelly jar
- four popsicle sticks
- scissors
- a small nail
- a hammer
- bird seed
- a paper clip
- twine or heavy string

1. Make sure your jar is clean, both inside and out.
2. With the help of your Learning Coach, use the hammer and nail to make small holes on four sides of the jar one inch from the bottom.
3. Use your scissors to turn each of those holes into a small slot for your popsicle sticks.
4. Slide each of your popsicle sticks into a slot and make sure they are secure.
5. With the help of your Learning Coach, use the hammer and nail to make a small hole one inch above each popsicle stick.
6. Use the scissors to cut holes one inch in diameter above the popsicle sticks.
7. Take the top off the jar and with the help of your Learning Coach, use the hammer and nail to make a small hole in the middle of the top.
8. Tie the string securely around the paper clip, and lace the string through the bottom of the top so that the paper clip is against the inside of the top.
9. Put bird seed in the jar. The holes above the popsicle sticks should provide easy access to the bird seed.
10. Screw the top back on the jar. The paper clip should still be on the inside of the jar.
11. Tie the other end of the string to someplace that birds can reach.

### 3. Mining

Since moderating mining activities can be difficult to do without government assistance, this activity is designed to get you acquainted with your local government.

1. With the help of your Learning Coach, write a letter to, or call your state legislator and find out if your state has any restrictions on mining.
2. If your state does not regulate mining operations, ask what you can do to get regulations put in place at the state or national level.

#### 4. Construction

In your last lesson, you contacted your local government to find out about mining regulations. Protecting the environment is usually done through legislation. This activity will help you find information on your state or town's preference for environmentally friendly building.

1. With the help of your Learning Coach, write a letter to, or call your state legislator to find out if your state has any requirements for construction companies' building methods.
2. If your state does not regulate construction, ask what you can do to get regulations put in place.

#### 3. Water Use

##### Water Wars

This activity is designed to help you track and lower your water use. See if you can lower your personal water use by 25 percent!

You'll need the following materials:

- 1 stopwatch
- 1 piece of paper
- 1 pen or pencil

1. For an entire day, use your stopwatch to time how long your faucet, bathtub, or hose is on when you use it. Write each time on your piece of paper. Find out how much water your toilet uses when it is flushed, and keep track of that too.
2. At the end of the day, add up how much time you spent using water.
3. Repeat Steps 1 and 2 for the next six days. See if you can bring your water use down by at least 10 percent.
4. Ask your family to participate, too. See if your entire house can bring its overall

water use down by 25 percent.

Some water-saving techniques include:

- Take shorter showers.
- Turn the faucet off when you are brushing your teeth.
- Fill the kitchen sink with water to do dishes instead of running the faucet.
- Do not water your lawn or clean your car on days when rain is in the forecast.

### Water Pollution

Trash is a problem that can be addressed easily. This activity will show you how to safely collect trash near your home and prevent it from harming animals or polluting water.

You will need the following materials:

- 2–3 trash bags
- 2–3 boxes
- rubber gloves or gardening gloves

1. Make sure the weather is nice, and dress in clothes that you don't mind getting dirty.
2. Bring all your materials to a place where you often see lots of trash on the ground.
3. Pick up trash and debris around the water, and place it in one of your trash bags.
4. If you find glass or chemicals, be careful! Ask your Learning Coach for help, and decide whether or not to pick it up. If you do, place it in one of your boxes so that it does not cut through your bags.
5. Bring the collected trash to a dumpster, trashcan, or landfill.

### Overfishing and Habitat Destruction

Helping the world's ocean life will benefit everyone. This activity will help you make an impact on the global environment by helping your local community. You do not have to focus on marine conservation, and you will not need any materials for this activity.

1. With the help of your Learning Coach, identify local organizations that participate in recycling or conservation programs. Aquariums, parks, schools, government offices, and neighborhood groups are often good places to start looking.

2. Participate in an event hosted by the organization of your choice, or host your own event for you and your neighbors.

3. Discuss what you learned and how your actions benefitted the environment with your Learning Coach.

#### Acid Rain

This activity will show you how to test the pH level of the water in and around your home.

You will need the following materials:

- 1 red cabbage
- 1 blender
- 1 strainer
- 1 and one half cups of water
- 1 chopping knife
- 1 coffee filter
- 1 eye dropper or turkey baster
- 1 bowl
- scissors

1. With the help of your Learning Coach, use the kitchen knife to cut 1 cup worth of cabbage.

2. Place the cabbage and water in your blender, and ask your Learning Coach to help you finely chop the cabbage.

3. Strain the cabbage over your bowl so that you can save the dark purple liquid that comes from it.

4. Cut your coffee filter into strips 2 inches long.

5. Dip each strip into the cabbage juice, and wait for the strips to dry.

6. Once the strips have dried, gather samples of water from places around your house.

7. Using your eye dropper or turkey baster, place a few drops of each water source on different test strips.

8. The color of each strip will change depending on the pH level of the water it

touches. Pinkish colors mean the liquid is acidic. Light green or yellow coloring means the liquid is basic. Blue means the liquid is pH neutral.

9. With assistance from your Learning Coach, try testing other liquids on your pH strips.

#### 4. Air Pollution

##### 1. Cars and Household Chemicals

Many of the technologies that are replacing household chemicals and cars are expensive. This activity will show you how to live greener, cheaper!

You will need the following materials:

- 1 dryer sheet
- 1 lemon
- baking soda
- white vinegar
- 1 rag or paper towel

1. Do you have a room that you like to keep smelling fresh? If you want to save money and avoid making lots of trash by buying plug-in kits or aerosol cans, use the dryer sheet and put it someplace out of sight, but near a fan or vent. The air will move the smell around the room, and it will last for a long time.

2. If you want to clean without using harsh chemicals, you can use baking soda, vinegar, and a lemon to get the same results. Lemons are acidic, so they kill bacteria while leaving a clean smell behind. For tough stains on your counters, squeeze the lemon onto the stain and let it sit for a few moments. Scrub away with the rag or paper towel. If that doesn't work, add vinegar and try again.

3. For smelly or clogged drains, a combination of baking soda and lemons is quite useful. Baking soda helps unclog drains, and adding lemon juice can keep your drain smelling nice. Grinding lemon rinds in your garbage disposal keeps that smelling fresh, too.

##### 2. Industry and Power Plants

You can lower the amount of electricity you use by harnessing the power of the sun. This activity will show you how to cook with an oven made out of a shoebox.

You'll need the following materials:

- 1 shoebox
- tin foil

- plastic wrap
- clear tape
- 1 hot dog
- 2 toothpicks

1. Wait for a warm, sunny day.

2. Remove the top of the shoe box. Place two or three layers of tin foil all around the inside of the shoe box.

3. Place the shoebox on the ground. Push the toothpicks through the middle of the box, about two inches apart.

4. Push the hotdog onto the toothpicks so that it is held above the bottom of the box.

5. Cover the open end of the box with plastic wrap and tape it closed. Do not put the cover back on the box.

6. Take your oven outside and let the sun shine through the plastic wrap until your hotdog is fully cooked. Cooking times will vary. Keep an eye on your hotdog!

### 3. Noise Pollution

This lesson's activity will help you track and avoid noise pollution.

You will need the following materials:

- 1 notepad
- 1 writing utensil

1. Over the course of a day, count the number of noises you hear each time you perform an activity and write it on your notepad. For example, if you are reading a book, write down if you hear the television, a telephone, or a conversation.

2. At the end of the day, look at how many noises you hear each day, and put a star next to each noise that distracted you.

3. Look at the items that you put a star next to. Can you avoid these noises? Work with your Learning Coach to try and avoid the noise pollution in your home.

