



# The Wonders of Renewable Energy

## Program Purpose

Through stories, songs, and interactive activities, introduce energy concepts and their relation to students' everyday lives.

**Length of Program:** 1-1.5 hours

**Age:** Grades K-2nd

**Maximum Number of Participants:** 25

## Objectives:

After completion of all activities, students will be able to:

- Define Energy
- Understand how wind power works
- Have an introduction to wind energy
- Able to list at least three renewable energy sources

## Preparation:

Before the class arrives:

- Locate the program box in the work room
- Decide which activities to use based on age appropriateness
- Collect pool with water, and retrieve fan

## Materials:

Fan  
Pool with Water  
Energy Game  
George Saves the World by Lunchtime Book  
Notecards  
Tape  
Straws  
Pool Noodle slices  
Pictures of Windy Days  
NEED SONGBOOK

## Outline:

- I. Introduction
- II. Wind Introduction
- III. Wind Powered Boat Prep-time
- IV. Boat Testing
- V. NEED Songs
- VI. George Saves the World by Lunchtime Book
- VII. Race to Save Energy Board Game
- VIII. Review and Conclusion

## Introduction:

Introduce yourself to the class and explain that we will be talking about renewable energy. What is energy, and

what does it mean to you when your mom says "You've got a lot of energy!"

Energy is defined as the ability to do work. The foods that you eat provide energy so you can move and run. Electricity allows you to turn the lights on, so you can see at night. Wind energy produces electricity so that you can watch television in the evening or heat up the water in your house for bath time.

Where does energy come from? Not all energy is created the same way. Energy can come from wind, water, sun, natural gas, oil and coal. Some energy is always there for our use, like the sun. More energy is produced from the sun in one day than humans have ever used! Other examples of constant energy sources are water and wind. But sometimes, the energy we use comes from deep within the Earth, from plants and animals that died millions of years ago...like coal. Coal is often hard to get to and produces pollution as it is burned for fuel. Pollution makes it hard for animals to breathe and for plants to grow. That's why we are trying to use only renewable energy sources like wind power. Today, we'll be making wind powered boats!

## Wind Powered Boats:

Set up a boat building area with large selection of recycling materials and a sailing area (two if possible).

## Build a Boat

Recycling is just one way that we can help take care of the Earth. We can also try to reduce by buying fewer things and by reusing the things we have. As you introduce the building materials, talk about reducing, reusing, and recycling. Point out the recycle symbol on the bottom of a container and talk about what it means. Let kids hunt for the symbol on other containers. Tell kids that today they're going to reuse the materials to build toy boats! Provide help as children build their boats and encourage lots of different designs.

## "Sail Your Own Boat, Mateys!"

Display and discuss the pictures of windy days. Ask, "Have you ever been outside on a windy day?" What did it sound like? What did it feel like? What did you notice was blowing in the wind?

Have kids blow on their hands, first making soft breeze and then a strong gust of wind. Have them demonstrate other ways to make the air move and create wind.

Examples would be waving hands, fanning the air with objects...etc. Invite them to use wind power to make their toy boats move across the container of water. Can they make their boats turn in different directions?

**After kids have explored moving their boats by child-generated wind power, allow them to use fans. REMIND THEM NOT TO PUT THE FANS IN THE WATER!!!!!!!!!!**

**NEED Songbook:**

Throughout the class period, there will be break periods to sing songs about renewable energy and ways to save energy. This would be a good time to sing “Renewable Energy Song” to the tune of “The Never-ending Song.” This is a great review of the different renewable energy sources.

**George Saves the World by Lunchtime!**

Sit the children down for story time, and take out the book *George Saves the World by Lunchtime*. Break out your character voices and make the story interactive for the children. Ask them questions about what they think George should do as you read.

**Race to Save Energy Board Game**

Rules to the Race to Save Energy Board Game:

1. The oldest person goes first.
2. Everyone should have a bottle cap to use as their playing piece.
3. Now, Spin.
4. If the paper clip dial lands on a conservation tip, move forward two spaces.
5. If the paper clip dial lands on something that uses energy, move back one space.
6. The first player to come to the end wins the game!

**Review and Conclusion:**

Ask the students to list ways that they can save energy in their own lives. Have them list off at least three ways that they can save energy! What are some of the sources of energy, and are they renewable or non-renewable sources? What are some of the ways that George saved the world? Can you do those as well? What do you already do at home? Again touch on the benefit that renewable energy is having on the plants and animals, including us humans!!! “The plants, animals, and Mother Earth say, thank you!!!”

**References:**

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