

# In Action! Saving Energy

**Fourth Grade**  
**Activity: 12**  
**Time: 1 Class Period**

## General Description

Students will use data from the school energy audit and research to create a plan for saving energy. Plans will include methods for checking feasibility, informing the community, recruiting community involvement, and measuring success of their plan.

## Objective

Students will research data relating to the energy audit they did and develop a plan to save energy at their school.

Students will then present their findings and give their recommendations to students, staff and maintenance personnel.

## Arizona State Standards

SC04 S1C2 PO5 Record data in an organized and appropriate format (e.g., t-chart, table, list, written log)

SC04 S1C3 PO1 Analyze data obtained in a scientific investigation to identify trends

SC04 S1C4 PO1 Communicate verbally or in writing the results of an inquiry

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SC04 S1C4 PO3 Communicate with other groups or individuals to compare the results of a common investigation

SC04 S4C3 PO4 Describe ways in which resources can be conserved (e.g., by reducing, reusing, recycling, finding substitutes)

W04 S1C1 PO1 Generate ideas through a variety of activities (e.g. Brainstorming, graphic organizers, drawing, writer's notebook, group discussion, printed material)

W04 S1C1 PO5 Maintain a record (e.g. lists, pictures, journal, folder, notebook) of writing ideas

W04 S3C2 PO1 Record information (e.g. Observation, notes, lists, charts, map labels, and legends) related to the topic

W04 S3C4 PO1 Write persuasive text (e.g. Advertisements, paragraph) that attempts to influence the reader

M04 S2C1 PO3 Interpret graphical representations and data displays including single-bar/circle graphs, two-set Venn diagrams, and line graphs that display continuous data

M04 S4C4 PO1 Identify the appropriate measure of accuracy for the area of an object (e.g., sq. feet or sq. miles)

M04 S4C4 PO3 Select an appropriate tool to use in a particular measurement situation

- LS E1 Prepare and deliver an organized speech and effectively convey the message through verbal and nonverbal communications with a specific audience
- LS E2 Prepare and deliver an oral report in a content area and effectively convey the information through verbal and nonverbal communications with a specific audience
- LS E3 Interpret and respond to questions and evaluate responses both as interviewer and interviewee
- LS E4 Predict, clarify, analyze and critique a speaker's information and point of view

### **Teacher Background**

The depth of this project is dependent upon the amount of time and scope of the project the teacher and students wish to devote. Contact your local utility company for a speaker to talk to your students about the utility business. Gather books, brochures and newspaper articles on the utility business. Should you and your students decide to do oral presentations,

### **Materials**

Activity Cards 4-12a, 4-12b and 4-12c  
Story boards  
Poster paper  
Paints  
Colored pencils/crayons  
Tape or paste

### **Procedure/Exploration (allow students to work in groups)**

1. Students determine goals, decide on messages and audience.
2. Students brainstorm ways of measuring success of their goals.
3. Students choose the best way to deliver their message. They assign roles and timeline.
4. Students research similar successful programs, determine feasibility (i.e. check permission, scheduling, willingness to participate, etc.)
5. Students create and present materials and message. You could also include calendars, bookmarks, a pledge to help conserve energy which will be published in the school newspaper.
6. Students monitor and evaluate effectiveness of their plan.

# Oral Energy Presentations

**Fourth Grade**  
**Activity: 12**  
**Activity Card: 4-12a**

**Student's Name:**

**Date:**

## **Presentations**

Students should brainstorm what attributes they feel contribute to an effective presentation. They may categorize attributes, prioritize and assign a rating scale for evaluation.

Teachers may prefer to provide more structure initially. The following may be used as a guide. Teacher should choose the parts appropriate for their particular students and put in the form of a template for student use.

## **Planning Guide**

1. Decide what your message is.
2. Decide who needs to hear your message and why.
3. Back up your message with facts and make it fit your audience.
4. Decide which charts/graphs/materials would help your presentation.
5. Determine who the audience is. When will you present to them? Where?
6. Assign preparation responsibilities.
7. Prepare the charts and/or AV equipment.
8. Arrange for any AV equipment needed.

## **Visual Aid Guideline**

1. Practice using the audio visuals.
2. Make sure all of the audience can see and hear.
  - a. Stand to the side of the visuals.
  - b. Keep the transparencies lined up straight on the projector.
  - c. Be sure audio can be heard at the rear of the room.
3. Talk to the audience, not to the visual aid.
  - a. Look at the aid only when you want the audience to see it.
  - b. Check the audience for feedback as you explains the aid.
4. Explain the audio visuals to the audience.
  - a. Make sure they understand what they are seeing and hearing.
5. Remove the aids when not in use.
6. Never allow the light from the projector to shine on an empty screen.
  - a. Keep one transparency on while simultaneously sliding the other transparency off the projector.
  - b. Or, turn the projector off between transparency presentations.

7. Has your team made sure that it will have the AV and other equipment it need?
8. Overheads Flipchart Markers Overhead projector Screen VCR
9. Arrange for any AV equipment needed.

## **Tips for Effective Presentations**

1. Preparation
  - a. Know your audience.
  - b. Know your purpose.
  - c. Decide on main points.
  - d. Organize your material.
  - e. Use audio visuals, if possible.
2. Practice
  - a. Practice out loud.
  - b. Tape record of yourself.
  - c. Use a mirror.
3. Preparing yourself
  - a. Make a good impression.
  - b. Give yourself a pep talk
  - c. Dress appropriately.
4. Anxiety/stage fright
  - a. Realize that it is normal, natural and necessary.
  - b. Use it, do not fight it.
5. Delivery
  - a. Work from the outline (or cue cards).
  - b. Be flexible and enthusiastic.
6. Verbal reminders
  - a. Consider your tone, volume and rate.
  - b. Use pauses effectively.
7. Non-verbal aspects
  - a. Face your audience and smile.
  - b. Maintain eye contact.
  - c. Use gestures.
  - d. Consider your posture.
8. Practice it again if you need to make changes or feel more comfortable.
9. Get feedback
  - a. Talk to individuals.
  - b. Have audience fill out an evaluation form.

# Energy Storyboards

Fourth Grade

Activity: 12

Activity Card: 4-12b

Storyboard

Visual

Audio

# Energy Saving Pledge

Fourth Grade

Activity: 12

Activity Card: 4-12c

Student's Name:

Date:

## I pledge to:

### **Put paper, glass and aluminum cans in available recycling containers.**

Recycling paper, glass and aluminum uses less energy than making brand new material.

### **Save water at home and at school.**

Turning off water while I brush my teeth and being careful to not waste water when I do the dishes will save lots of water.

### **Take my showers in 5 minutes or less.**

Taking shorter showers saves the energy used to heat water and saves gallons of water for other purposes.

### **Turn off the TV when I am done watching it.**

It is an easy thing to do. Mom and Dad will sure be impressed. It saves more the 100 watts every hour.

### **Tell my teacher about this pledge.**

I am proud of myself for taking this pledge. I feel good about making my community a more efficient place to live.

### **Visit my electric utility to learn about conservation.**

My utility wants to make conservation happen. They can give me even more information on ways I can help.

### **Ride my bike or walk whenever I can.**

Cars produce the most pollution when they are warming up, especially for short trips. Biking and walking are good exercise.

### **Turn off the lights when I am not using them.**

If every American household turned off two unneeded 60 watt bulbs for four hours per day, we could save all the energy from the oil spilled in Prince William Sound in just 10 days!

Signed:

**APS Power Posse™**