



**ELECTRON FLOW**  
**Post-Visit Class Activity**  
**Electricity Conservation**  
**Public Service Announcement**

**Electricity Conservation Public Service Announcements (PSA)**

Students produce ad campaigns (posters, school announcement, play, movie) that inform about why using electricity efficiently is important. This activity addresses California Content Standards in both the Language Arts and Science content areas.

**Description:**

Students will develop a Public Service Announcement (PSA) ad campaign that communicates the key ideas presented in the laboratory experience to their school community. Students produce ad campaigns (posters, school announcement, play, movie) on the best choices for using electricity more efficiently or cutting down on unnecessary wasted electricity. This activity addresses California Content Standards in the Language Arts content area as well as the Education and the Environment Initiative.

We invite you to send a copy of the PSA to the Roseville Utility Exploration Center.

**Objective:**

- Develop visual and audio script for a short advertisement.
- Use storyboarding as a pre-writing exercise.
- Practice summarizing and sequencing information.

**Duration:**

- Preparation: 30 minutes
- Instruction: 3 to 6 class periods

# Correlations to California Academic Standards

## California Content Standards

### Fourth Grade

**English – Writing 1.1:** *Select a focus, an organizational structure, and a point of view based upon purpose, audience, length, and format requirements.*

**English – Writing 1.2:** *Create multiple-paragraph compositions.*

Students identify an idea, develop supporting details, identify an audience, and create a project that communicates the ideas and its supporting details to the audience.

### Fifth Grade

**English – Writing 1.2:** *Create multiple-paragraph expository compositions.*

Students identify an idea, develop supporting details, identify an audience, and create a project that communicates the ideas and its supporting details to the audience.

### Sixth Grade

**English – Writing 2.5: Write persuasive compositions, state a clear position on a proposition or proposal.**

Students identify a position, support the position with organized and relevant evidence, and create a project that communicates the ideas and its supporting details to the audience.

## Education and the Environment Initiative

**Principle IV - Concept c.** *Students need to know that the capacity of natural systems to adjust to human-caused alterations depends on the nature of the system as well as the scope, scale, and duration of the activity and the nature of its byproducts.*

Students synthesize the information they've obtained from the field trip into a message to teach others.

## Materials List:

- Computer projector and access to Public Service Announcements on electricity conservation and efficiency. An excellent example can be found by following this link:  
<http://www.ase.org/content/article/detail/1010>
- One copy of the storyboard and script planning worksheets for each student or student group.
- Copy of comics example, made for each student or projected on screen.
- Camera and video editing software if students will be creating videos.
  - For video, free programs include Windows Movie Maker and Apple's iMovie.
- Paper for posters.
- Voice recorder for radio scripts.
  - WavePad is a free audio editing program available for both Windows and the Apple Macintosh.

## Getting Ready:

1. For the lesson's introduction, locate a recent comic strip, either in your newspaper or online. Copy it onto a transparency.
2. Copy two storyboard forms for each of your students.
3. Preview the PSAs and identify the main idea for each scene.
4. As there is a lot of production work involved in any of the projects (posters, radio ad, video), consider dividing your class into smaller production teams and have them storyboard together.
5. If you plan on your students editing their own videos, schedule an extra 2 – 3 sessions for editing their work.
6. Practice modeling how to “reverse storyboard”. Play the video. Every time the shot changes, pause it and draw a quick sketch of what you see. Identify pieces visual information to point out to your students– what's in the picture? What's the camera angle? What mood or idea does the picture convey?
7. Identify the key ideas students should gather in each storyboard frame.

## **Procedure:**

### **SESSION 1: MODEL STORYBOARDING**

#### **1. EXPLAIN ACTIVITY**

- Identify the purpose for the activity - that students will be responsible for teaching the rest of the school what they learned on their field trip experience.
- Explain that an effective way to do that is to create an ad campaign that can quickly communicate what you learned.
- Explain that students will use a technique called storyboarding to help organize what they want to communicate.

#### **2. INTRODUCE STORYBOARDING**

- Display comic. Explain how each frame holds a key idea.
- Ask a student to identify the main idea in the first panel. Summarize the idea underneath the first panel. Repeat for the remaining panels.
- Describe how the comic is really a storyboard – a visual sketch that could be used to make a commercial.
- To help students start to think about how to make their own advertisement, explain that they will next review a video piece they saw during the field trip.

#### **3. REVERSE STORYBOARD**

- Distribute blank storyboard. Their job will be to analyze how the video was made and identify the segment's key ideas, just as they did with the comic
- Play the video's first scene then pause the video.
- Model how to draw a quick sketch the scene and summarize the scene.
- Play the second scene and then pause the video. Direct students to draw a sketch and summarize the scene.
- Discuss. What idea does the second scene communicate?
- Repeat the same process for the next few scenes until you are comfortable that students have gained the skill. Then play the remaining scenes, allowing students to independently summarize.
- Discuss the entire video. What is the main idea? What were the supporting details? How was the video organized to present this information?

## **SESSION 2: STUDENT STORYBOARDS**

### **1. IDENTIFY IDEAS FROM THE FIELDTRIP**

- Ask students to think back to the field trip and think about what they learned. What were some ideas that they think other students should know?
- Gather student ideas and then add one or more of the key messages from the field trip:

*Electricity is the flow of electrons from a negative charge to a positive charge.*

*We are dependant on electricity for many of our daily needs.*

*Efficiency is getting more work done for less energy.*

*Heat is an indicator of an inefficient appliance.*

*Electricity must be generated, often by burning fossil fuels that send carbon into the atmosphere. This increases global warming.*

### **2. MODEL STORYBOARDING AROUND AN IDEA**

- Explain that you'll demonstrate how to storyboard an idea.
- Choose an idea from the list generated in the previous step. Ask students to supply some details to support the idea – these details will form each scene.
- Title one scene for each detail. Invite a student to supply summary information and then a quick for a scene. Repeat until your model storyboard is complete.
- Discuss what the storyboard could be used for: a radio ad, a poster campaign, or a video.

### **3. STUDENTS DEVELOP STORYBOARD**

Note: if students will be working as a production team, they should do the next steps together.

- Keep your model visible as you distribute a blank storyboard to your students.
- Review the list of ideas from the field trip. Have your students decide which ideas would be important enough to develop an ad.
- Distribute storyboard form.
- Direct students to choose an idea and develop supporting details for that idea. List a detail under each storyboard frame. Although the storyboard form allows for up to 12 frames, it suggest that they try to express their idea in 8 or fewer frames.
- If students have trouble developing supporting details, review the field trip. What did they do? What did they learn? What were some memorable parts of the lab or gallery tour? How could those parts fit with the idea?

#### **4. COMPLETE STORYBOARDS**

- Decide with your students what these storyboards should form: poster campaign? Radio ad? Video?
- Direct students to summarize what should be in each frame:
  - If the storyboard will turn into a poster campaign, each frame will represent a different poster.
  - For a radio ad, each frame will represent one point to communicate. Direct students to write down exactly they'd want the announcer and/or characters to say.
  - For videos, each frame will represent a shot.
- Direct students draw a sketch for each frame, keeping in mind what type of product they will produce.

#### **5. WRAP-UP**

- Ask students to share the idea they picked and how they've developed their storyboard so far.

#### **SESSION 3: PLANNING**

- This session should be devoted to fleshing out the storyboard and writing the script. Each frame will turn into a paragraph, with listed characters. To help students organize their thoughts, distribute the script planning worksheet.
- For poster campaigns, sketches of the posters should be made during this session.

#### **SESSIONS 4 - 6: PRODUCTION**

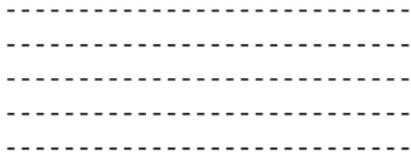
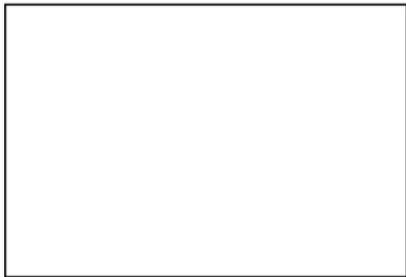
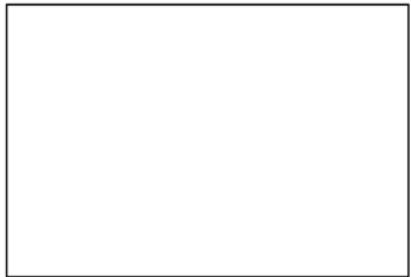
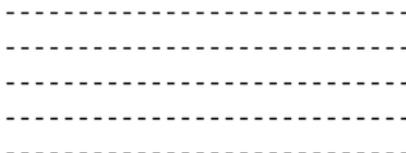
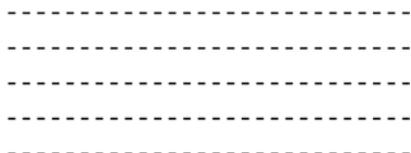
- The last sessions are devoted towards production.

For videos and radio ads:

- Encourage students to rehearse each storyboard frame 2 to 3 times before recording.
- If time allows, videos and radio ads can be edited in a computer lab using video and sound editing.

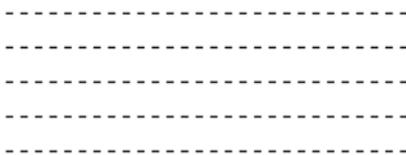
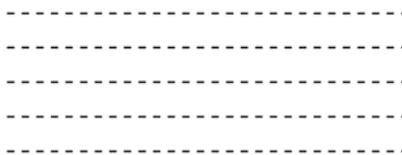
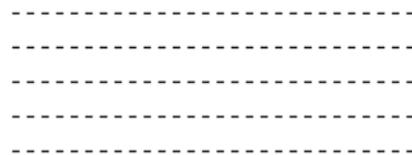
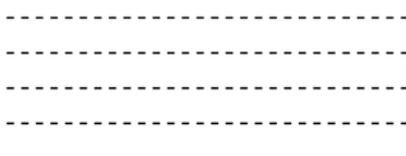
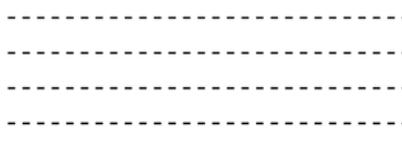
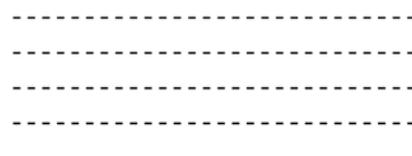
# Storyboard Form

Name(s):  
Date:  
Class/Period:

A large empty rectangular box for drawing a storyboard panel.Four horizontal dashed lines for writing notes below the first storyboard panel.A large empty rectangular box for drawing a storyboard panel.Four horizontal dashed lines for writing notes below the second storyboard panel.A large empty rectangular box for drawing a storyboard panel.Four horizontal dashed lines for writing notes below the third storyboard panel.A large empty rectangular box for drawing a storyboard panel.Four horizontal dashed lines for writing notes below the fourth storyboard panel.A large empty rectangular box for drawing a storyboard panel.Four horizontal dashed lines for writing notes below the fifth storyboard panel.A large empty rectangular box for drawing a storyboard panel.Four horizontal dashed lines for writing notes below the sixth storyboard panel.A large empty rectangular box for drawing a storyboard panel.Four horizontal dashed lines for writing notes below the seventh storyboard panel.A large empty rectangular box for drawing a storyboard panel.Four horizontal dashed lines for writing notes below the eighth storyboard panel.A large empty rectangular box for drawing a storyboard panel.Four horizontal dashed lines for writing notes below the ninth storyboard panel.

# Storyboard Form

Name(s):  
Date:  
Class/Period:

A large empty rectangular box for drawing a storyboard panel.A large empty rectangular box for drawing a storyboard panel.A large empty rectangular box for drawing a storyboard panel.Four horizontal dotted lines for writing notes.Four horizontal dotted lines for writing notes.Four horizontal dotted lines for writing notes.A large empty rectangular box for drawing a storyboard panel.A large empty rectangular box for drawing a storyboard panel.A large empty rectangular box for drawing a storyboard panel.Four horizontal dotted lines for writing notes.Four horizontal dotted lines for writing notes.Four horizontal dotted lines for writing notes.A large empty rectangular box for drawing a storyboard panel.A large empty rectangular box for drawing a storyboard panel.A large empty rectangular box for drawing a storyboard panel.Four horizontal dotted lines for writing notes.Four horizontal dotted lines for writing notes.Four horizontal dotted lines for writing notes.

# Script Plan

Name(s):  
Date:  
Class/Period:

Scene:

Setting:	Character _____ says:
What happens:	Character _____ says:
Visuals or sounds needed:	Character _____ says:

Scene:

Setting:	Character _____ says:
What happens:	Character _____ says:
Visuals or sounds needed:	Character _____ says:

Scene:

Setting:	Character _____ says:
What happens:	Character _____ says:
Visuals or sounds needed:	Character _____ says:

Scene:

Setting:	Character _____ says:
What happens:	Character _____ says:
Visuals or sounds needed:	Character _____ says:

## Scene:

Setting:	Character _____ says:
What happens:	Character _____ says:
Visuals or sounds needed:	Character _____ says:

## Scene:

Setting:	Character _____ says:
What happens:	Character _____ says:
Visuals or sounds needed:	Character _____ says:

## Scene:

Setting:	Character _____ says:
What happens:	Character _____ says:
Visuals or sounds needed:	Character _____ says:

## Scene:

Setting:	Character _____ says:
What happens:	Character _____ says:
Visuals or sounds needed:	Character _____ says: