

Lesson Plan: Conservation Bumper Stickers

Grades and Subjects

Grade 1 Science, ELA and Art

Topic

Conserving Earth's Natural Resources

Enduring Understanding

- Natural resources are things that people use that come from Earth (such as land, water, air and trees). Natural resources can be conserved.
- Technology is any modification to the natural world created to fulfill the wants and needs of humans. The engineering design process involves a series of iterative steps used to solve a problem and often leads to the development of a new or improved technology.

Primary Standards/Indicators

Science

1.E.4B.2 Obtain and communicate information to explain ways natural resources can be conserved (such as reducing trash through reuse, recycling, or replanting trees).

ELA

1.RI.10.1 Identify the author's purpose – to explain, entertain, inform, or convince.

Media Art

MA1-1.2 Use a variety of media technologies, techniques, and processes to communicate ideas

Secondary Standards/Indicators

ELA

1.RI.5.1 Ask and answer **who, what, when, where, why, and how questions** to demonstrate understanding of a text

1.C.3.2 Use visual displays to support verbal communication and clarify ideas, thoughts, and feelings.

Media Art

MA1-4.1 Identify uses of the media arts in everyday life.

Academic Language

Vocabulary

- Recycle
- Reuse
- Conserve
- Natural Resource
- Slogan

Language Function and Content Objectives

- Summarize the text, describing the main idea.
- Create a plan for how to conserve environment, using who, what, when, where and why. (When possible)
- Draft a message to convince others of a way to conserve the environment.



Assessment Plan

- Pre-Assessment-
 - Students will complete an anticipation guide that covers questions on natural resources, design solution and our responsibility to take care of the environment. These will be agree or disagree questions that will provide insight into current levels of understanding. This will not count as a grade.
- Post-Assessment-
 - Students will refer back to the anticipation guide. They will complete the “after” portion at this time to see how their answers have changed.
- Criteria for Mastery-
 - Student is able to successfully answer at least four questions about their selected environmental problem on the anticipation guide.
 - Student is able to create a message related to their selected environmental problem that clearly conveys a topic and author’s purpose.
(Example: Don’t Use Plastic, Be Fantastic -- about Reusable plastic bags)
 - Student is able to create a bumper sticker using a variety of techniques available on Google Draw.

Materials

- [Anticipation guide](#)
- [Miss Fox’s Class Goes Green](#)
- Natural Resources infographic (download from website)
- Vinyl cutter
- Vinyl sticker paper
- Scissors
- Computers for students with access to Google Draw

Teacher Preparation

This lesson focuses on the big ideas of conserving natural resources while also including ELA concepts like summarizing and who, what, where, when, why and how. While it may seem daunting to use a new technology like a vinyl cutter, it can be broken down into easy to follow steps and familiar software, like Google Draw, which can export to SVG. To minimize the amount of printing needed, the instructor can choose to place students in groups.

To keep students on task, it is helpful to stress that during Makerspace time, they are the experts and need to help each other if they get stuck. The discussion guide is a helpful tool to ensure important concepts are covered. There are suggestions for pre- and post-assessments as a way to measure student learning.

Meat of Lesson

- **Hook**



1. Who is responsible for taking care of the Earth? *Students share ideas as a whole class. Teacher can list their responses on the board. What can we do to take care of the planet?*
 - a. Students should Think-Pair-Share to come up with and discuss their ideas.
 - b. The instructor can list answers on the board, organizing them into different ways of helping.
 2. Students complete the pre-reading portion of the anticipation guide.
 3. Next, read Miss. Fox's Class Goes Green about ways people can make a difference.
 - a. Read text.
 - b. Discuss book. *(See discussion guide)*
 4. Next, project the natural resources infographic. Allow students time to inspect it.
 - a. Ask them, "What is this page showing?" *Different natural resources*
 - b. "Can you name some of the natural resources that you recognize?" *(ex. Aluminum, silver, tin, gold)*
 - c. "What is the bar graph on the side showing us?" *How much of each item is used in the US per person (You can define per capita to support them)*
 - d. "According to the bar graph, which item is used the most?" *Phosphorus, which is used in plant fertilizers and things like matches*
 - e. "Looking at the circular chart in the center, what do the different colors show?" *How many years of each element we have left if we keep using them?*
 - f. "Why is each resource shown in two different shades of the same color?" *It shows how many years left if we keep using as much as we currently are, or if we cut the amount we use in half.*
 - g. "How does this information support the argument that we need to conserve materials and recycle?" *Students should understand that we will run out of some natural resources if we do not change the way we use them.*
 5. Introduction: Just like in the story, today you will choose an environmental issue to try to help solve. You will create a slogan that will be made into a sticker that can be used to educate others about this issue.
- **Brainstorm**
 1. Students will first need to brainstorm an environmental problem that they'd like to address. They will need to complete the note taking page, including who, what, where, when, why and how. BONUS- Students can try to incorporate information presented in the infographic.
 2. The instructor can decide whether to have students work independently or in pairs to decide on the problem they want to solve.
 - a. It may be easier to have a list of ideas already written and posted on the board:
 - No littering



- Recycling
 - Planting trees
 - Turning off lights and saving energy in other ways
 - Save water
 - Reusable water bottles
 - Walk or bike instead of driving
- 3. Once students have selected their topic, they must design their slogan/design. They should sketch this out on their paper. *Again, teachers may decide if they want students to work individually or in pairs/small groups.*
- **Prototype**
 1. Teacher leads a mini-lesson (5 minutes) to show students the basic techniques of using Google Draw. This includes how to add shapes, color, images and text. When students use the computer, they are encouraged to ask each other for help.
 2. Students should use the computer to create their design on Google Draw. They make freehand the design, use text or pull shapes from the internet.
 - a. Students that struggle with this should be encouraged to talk with others who are having success designing their structure. At this point the teacher should try to step back and allow students to problem solve.
 3. When they complete their drawing, they should review their work. Does the slogan make sense? Does it clearly address the environmental issue? Can it be improved?
 - a. Instructor should be asking these questions of groups. If anyone finishes early, ask them how they can further improve their sticker design.
 4. When the design is completed, students will need to save the file and print it using the vinyl cutter.
- **Share**
- Students show off their inventions through an “open mic” discussion. Ask them to talk about what problem they chose to solve and how their sticker addresses the issue. (Can be done as a whole class or in table groups).
- **Synthesize**
 1. Bring students back together for a final discussion. During this conversation, students will share their answers for each question. *See discussion guide for questions.*
 2. Finally, have students complete the anticipation guide.

Supports for Student Learning

Accommodations

- **ELs-** If students need additional support with the stories, translated copies can be made available. Provide labels and written directions for each of the steps. The instructor can also use props to further help students understand major concepts and instructions. Due to the visual and hands-on nature of this lesson, there is little written work but students may also be given the choice of writing their message with assistance.



- **Grade Level adaptations**- Definitions can be introduced and practiced ahead of time. Those that need help explaining their message on the video can be paired with other students.
- **Advanced students**- Texts are available for advanced readers and may be assigned a more difficult topic than others.
- **Additional supports**- As needed.

Discussion Guides

- Hook-
 - What does it mean to “go green?”
 - What were some examples of how the class went green?
 - What is a natural resource?
 - What does it mean to recycle?
 - Why do you think the author wrote this book?
 - What are some things our school already does to be green?
 - What are some things that you could do to go green?
- Synthesis-
 - What made today’s maker lesson fun?
 - What made it challenging?
 - Describe a great sticker and slogan that you saw today? What made it great?
 - Why do you think it is important to conserve (or save) natural resources?
 - How do stickers and slogans help us to share important ideas?
 - If you were making a book about going green, what is one thing you would add?

More to Explore (Resources)

- <http://createmakelearn.blogspot.com/2017/10/vinyl-cutting-in-maker-space.html>
- <https://www.iu1.org/files/fablab/curriculum/Vinyl%20Sticker%20Tutorial.pdf>

Works Cited

Natural Resources Infographic sourced from



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