

Lesson Plan 5: Don't Waste a Good Idea!

Students design a strategy to persuade a person, group or organization to implement a waste management strategy.

Length of Lesson: 2-3 class periods

Subject Area(s): Language Arts, Science, Social Studies, Technology, Visual Arts

Objectives

Students will:

- Identify and practice persuasion techniques for an imaginary recycling scenario.
- Summarize waste management responsibilities of several stakeholders.
- Identify one waste in reverse idea that they would like to see implemented in their home, school or community.
- Create an implementation plan for their idea.
- Design a method to persuade the person, people or group that could turn their idea into a reality.
- Utilize data to support their persuasive argument.

Materials

- Three empty soda cans or water bottles
- Timer
- Student Activity Sheet- Whose Responsibility is Waste Management?
- Student Planning Sheet- Don't Waste a Good Idea
- Access to the Internet
- For final project, materials will vary. May include art materials, access to Power Point, Internet and e-mail, video equipment, etc.

Procedure

1. Put the word, "persuade" on the board and ask students to define it. Then ask for examples of how they have persuaded (or attempted to persuade) others in the last week. Were they successful? Why or why not?
2. Ask for three student volunteers and have them leave the room.
3. Place empty soda cans or water bottles on the desks or tables of three other students.
4. Tell the rest of the class that the volunteers outside of the room will be challenged, one at a time, to persuade the person with the can or bottle to recycle it. They will each have one minute to persuade them.
5. Have the first volunteer re-enter the room. Assign or have them choose one of the people with the cans to stand in front of. Then tell them to imagine that they are standing in front of a six-year-old child who is about to throw the empty bottle or can into the trash. They have one minute to persuade the child to recycle the can instead of throwing it away.
6. Give the volunteer some time to collect his/her thoughts. Then set the timer and begin.
7. Repeat the same exercise with the remaining two student volunteers. For the second volunteer, change the scenario so that they are persuading their parent (or another relative) to recycle his or her can. For the third volunteer, change the scenario to imagine they are persuading the school's principal.

8. Come back together. Have student volunteers share how they felt during the exercise. Was it easy or hard? How did those with the cans feel? Did they feel persuaded? Have the class share general reactions. What did the volunteers do well? What might they have done differently?
9. Have students list persuasive techniques that have been successful for them. Examples include listing benefits; using evidence, statistics and facts; sharing examples; appealing to emotions; instilling urgency; sharing the dangers or impact of the opposite action; demonstrating how something meets a need; addressing possible objections; and sharing the testimonials of others.
10. Review each technique. During the exercise, did the persuasion techniques depend upon the person they were persuading? In what way? How might recycling benefits be different for a child and an adult? How might you have to customize the argument differently depending on the person you are persuading? As a class, share how volunteers could have used each technique to persuade the young child, parent, or school principal to recycle the can.
11. Ask students which of the techniques they think that scientists most frequently use when presenting their case. While they could use a combination of all, it's important for students to identify facts, evidence, data and statistics as the most common basis for scientific persuasion.
12. Poll students to see which persuasion technique would be most compelling to get them to recycle the can? For example, which argument would get them to recycle the can:
 - a. Knowing what can be made from a recycled can?
 - b. Knowing the amount of energy they can save by recycling a can?
 - c. Data about how many cans are or are not thrown away each year?
 - d. How long a can would last in a landfill?
 - e. The specific environmental consequence of not recycling?
 - f. A different answer?
13. Based on answers, what conclusions can students draw about the types of persuasion that students their age respond to?
14. Then put the 4 R's – reduce, reuse, recycle, and recover – on the board. Tell students that this lesson will be about applying persuasion to one of these environmental strategies.
15. Distribute the Whose Responsibility Is It? student activity sheet. Ask a student volunteer to read the top of the activity sheet.
16. Have students complete the activity sheet, individually or in groups. Ask students to generate ideas about how they could learn more about the current waste management initiatives of the local waste management company, community businesses, and local and national government. You may want to complete these boxes as a class.
17. When students have completed their activity sheets, share answers. Discuss:
 - a. Who or what is currently doing the most to effectively manage waste?
 - b. Where do opportunities exist for improvement?
 - c. Which categories would students most like to improve if given the chance?
18. Then, based on the information they've collected, challenge students to identify one realistic idea or opportunity that could help reuse, reduce, recycle or recover waste in their home, school or community. Their idea could be a simple one that they would like to implement in their home or school, or a complex one that they would like to persuade a local business or the local government to implement.
19. Distribute the Don't Waste a Good Idea student planning sheet. Review instructions with students. Their assignment will be to identify their idea, create a plan for their idea, and design a project to persuade a person or group to turn their idea into a

- reality. Their persuasion project could be a letter, speech, commercial, public service announcement, song, Web site, Power Point presentation, poster, e-mail, etc. It should be designed for a specific person or group. As scientists, their persuasion project must include data, evidence, examples or statistics. Refer students to www.thinkgreen.com/recycling for statistics and figures on recycling.
20. Refer back to the persuasion techniques from the beginning of the lesson. You may want to have students share some examples of how the different persuasion techniques could be applied.
 21. Give students at least one class period and appropriate materials to complete the assignment.
 22. Once students complete the projects, have them present to the rest of the class.

Extension

- Have students actually persuade their stakeholders to implement some or all of their ideas and, if possible, carry them through to measure success.
- Have students create a waste management task force in the school that would regularly assess and measure how the school is doing against a certain set of student-designed expectations.
- Have students visit the local Waste Management facility to learn more about current technologies and future plans.

Home Extension

Waste management can and should start in the home. Have students work with family members to write a waste-related family pledge that will help the environment. Challenge family members to repeat and adhere to the pledge every day.

Evaluation

You can evaluate your students using the following three-point rubric:

- **Three points:** Students easily customize techniques to persuade a specific audience; list several current and potential waste management initiatives for community stakeholders; identify one realistic idea that could improve local waste management; complete a comprehensive plan for their idea; justify how their idea will make a difference in the community; and create and present their persuasion project using at least two persuasion techniques.
- **Two points:** Students somewhat customize techniques to persuade a specific audience; list some current and potential waste management initiatives for community stakeholders; identify one realistic idea that could improve local waste management; complete a somewhat comprehensive plan for their idea; somewhat justify how their idea will make a difference in the community; and create and present their persuasion project using at least two persuasion techniques.
- **One point:** Students have difficulty customizing techniques to persuade a specific audience; are unable to list current and potential waste management initiatives for community stakeholders; have difficulty identifying a realistic idea that could improve local waste management; complete part of their plan for their idea; are unable to justify how their idea will make a difference in the community; and create and present their persuasion project using fewer than two persuasion techniques.

Standards Correlation

This lesson plan may be used to address the National Science Education Standards listed below.

Subject: Science as Inquiry

Standard: Abilities necessary to do scientific inquiry

Benchmark: Think critically and logically to make the relationships between evidence and explanations.

Subject: Science as Inquiry

Standard: Understandings about scientific inquiry

Benchmark: Different kinds of questions suggest different kinds of scientific investigations.

Subject: Science and Technology

Standard: Abilities of Technological Design

Benchmarks:

- Design a solution product
- Implement a proposed solution

This lesson plan may be used to address the National Environmental Education Standards listed below.

Strand 3: Skills for Understanding and Addressing Environmental Issues

Guideline: Identifying and investigating issues

Benchmarks:

- Clearly articulate and define environmental issues.
- Identify key individuals and groups involved, their viewpoints and the types of action they support.
- Investigate the issue using secondary sources and original research where needed.
- Examine how others have analyzed and understood the issue, identifying their approaches and the assumptions behind them.
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Strand 3: Skills for Understanding and Addressing Environmental Issues

Guideline: Sorting out the consequences of issues

Benchmarks:

- Describe the effects of human actions on specific elements, systems and processes of the environment.
- Analyze issues by looking at tradeoffs that have been made.
- Speculate about the effects of a proposed state or local environmental regulation.
- Predict the consequences of inaction or failure to resolve particular issues.

Strand 3: Skills for Understanding and Addressing Environmental Issues

Guideline: Identifying and evaluating alternative solutions and courses of action

Benchmarks:

- Identify different proposals or resolving an environmental issue.
- Independently and in groups, develop original strategies to address issues.

Strand 3: Skills for Understanding and Addressing Environmental Issues

Guideline: Forming and evaluating personal views

Benchmarks:

- Justify their views based on information from a variety of sources.
- Discuss their own beliefs and values regarding the environment and relate their personal view of environmental issues to these.

Strand 3: Skills for Understanding and Addressing Environmental Issues

Guideline: Evaluating the need or citizen action

Benchmarks:

- Discuss whether action is warranted.
- Identify different forms of action that citizens can take in the economic, political and legal spheres, as well as actions aimed at directly improving or maintaining some part of the environment or persuading others to take action.
- Speculate about the likely effects of specific actions on society and the environment, and the likelihood these actions will resolve a specific environmental issue.
- Point out advantages and disadvantages of their personal involvement, considering factors such as their own skills, resources, knowledge and commitment.

Strand 3: Skills for Understanding and Addressing Environmental Issues

Guideline: Planning and taking action

Benchmarks:

- Develop action plans they can carry out individually, in small groups, or within a class, club, or larger organization.
- Set realistic goals for action and include measures of success consistent with learners' abilities and an understanding of the complexity of the issue.

Strand 3: Skills for Understanding and Addressing Environmental Issues

Guideline: Evaluating the results of actions

Benchmarks:

- Analyze the effects of decisions, policies, and actions taken by individuals and groups on a particular issue.
- Analyze their own actions, explaining apparent effects and discussing them in light of students' goals and reasons for acting,

Strand 4: Personal and Civic Responsibility

Guideline: Recognizing citizens' rights and responsibilities

Benchmark: Identify rights and responsibilities associated with citizenship, including personal and civic responsibilities.

Strand 4: Personal and Civic Responsibility

Guideline: Recognizing efficacy

Benchmark: Describe ways in which their actions have made a difference.

Strand 4: Personal and Civic Responsibility

Guideline: Accepting Personal Responsibility

Benchmarks:

- Analyze some of the effects that their actions have on the environment, other humans, and other living things.
- Describe actions in terms of their effects that reach into the future.
- Describe their personal responsibilities, comparing their view of their responsibilities with commonly accepted societal views.
- Identify ways in which they feel responsible for helping resolve environmental issues within the community.