

The Very Last Green Thing

Lesson Plans



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Table of Contents

Time Capsules	3
Who Would You Choose?	6
Solid Pollution in Your Neighborhood	8
Environmentally Friendly Editorial	11
Plant Growth	13
“In the Future...”: A Creative Writing Experience	16
Where Is the Family?	18
What Good is a Plant Except to Look Nice?	20
O ₂ , O ₂ Everywhere!	22
I’m a Tree!	25
Listen to the Trees	28
Amy and Her Aria	30

Time Capsules

Grade Level

Any

Target Curriculum Area

Social Studies

Cross-Curricular Areas

Fine Arts

English/Language Arts

Science

Common Core Anchor Standards

Speaking and Listening 4: Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

Objectives

The students will:

1. Determine the elements in society that are historically/culturally/socially significant and why.
2. Persuasively support the decision to include a given object in the time capsule.

Materials

Items chosen by the group constructing the time capsule

Procedure

Read the libretto or view the opera, *The Very Last Green Thing*. Afterwards, engage students in a conversation about what they would include in a time capsule to best represent their culture. Brainstorm a list of items to include and write them on the board. Discuss what criteria should be used when determining an object's importance. Allow the students to establish those criteria based on what is important to them.

Instruct the students to talk to an adult about their perception of what would be important to preserve for future generations. The next day in class, organize the students into groups of 3-4 and direct them to choose one item to nominate for the time capsule. They should be prepared with reasons they believe the item must be included.

Each group will report to the whole class and the class will vote on whether that item should be included based on the persuasive arguments made by the group. If an item is accepted by the class, the group should make or acquire it and be prepared to place it in the time capsule. If a song or a piece of art is chosen, students should decide how best to preserve it so that it can be recreated in the future.

Construct a time capsule to contain the chosen items. Students should research which materials would best suit the capsule's needs, based on the durability and availability of materials. If one group's item was not chosen, they could be the team that "constructs" the time capsule. If the capsule cannot be made of the precise materials chosen, a representation of those materials could be constructed.

Once the capsule is constructed, a ceremony should be held, with each group again explaining why the item is being placed in the capsule. If possible, all students who viewed *The Very Last Green Thing* could observe this ceremony. Some school administrators are willing to store the time capsule until the group of students is in its senior year of high school. At that time, the capsule could be opened by those still in the district and the experience can be remembered and enjoyed.

Assessment

Students who are able to defend their choices based on the class decisions of what is historically/culturally/socially significant have demonstrated the ability to persuasively support a decision.

Students who defend an element as historically/culturally/socially significant are able to present information and supporting evidence such that listeners can follow the line of reasoning. (Speaking and Listening Standard 4)

Who Would You Choose?

Grade Level

Any

Target Curriculum Area

English/Language Arts

Cross-Curricular Areas

Other discipline areas, dependent upon the chosen person's field

Common Core Anchor Standards

Writing 6: Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Writing 7: Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

Speaking and Listening 4: Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

Objectives

The students will:

1. Determine the major contributions of a contemporary person.
2. Choose an influential person from recent history based on societal contributions.
3. Give a persuasive speech defending the student's choice of an influential person.

Materials

Various biographies or reference materials at the appropriate reading level, or access to a library

To spark inspiration, the list of Time Magazine's "Person of the Year" from the past few years may be useful.

Procedure

This lesson can tie in to the lesson on constructing a time capsule.

Discuss with the students the following questions:

1. Who are some important people you know?
2. Why are these people important to you?
3. Are these people important to the other people who live in your neighborhood, town, or state?
4. How can you determine if a person is important to a large number of people?
5. What qualities should a person have to qualify as an "important person?"

6. If you had to choose the five most important people to the whole world, what characteristics or contributions would you look for?

Students should choose an important person to them and research that person. The research should focus on the characteristics the students discussed, plus any important contribution the person has made to the world.

Students should write a persuasive speech that will be presented to the class. Set a time limit on the speeches, based on the students' grade level and abilities. Encourage students to rehearse their speeches before presenting, in order to ensure they stay within the time limit.

The class will vote on the five most important people based on the information from the speeches. These people can be included in the time capsule from the previous lesson (see **Time Capsules**).

Assessment

Students who choose influential people based on the characteristics discussed in class have learned to apply the previously determined guidelines to their decisions.

Students who use their research findings in their speeches are able to use technology, including the Internet, to produce and publish writing. (Writing Standard 6)

Students who successfully research the people they selected are able to conduct research projects based on focused questions, demonstrating understanding of the subject under investigation. (Writing Standard 7)

Students who give persuasive speeches are able to present information, findings, and supporting evidence such that listeners can follow the line of reasoning. (Speaking and Listening Standard 4)

Solid Pollution in Your Neighborhood

Grade Level

3-5

Target Curriculum Area

Mathematics

Cross-Curricular Areas

Science

Social Studies

Fine Arts

Common Core Mathematics Cluster

Represent and Interpret Data (within Measurement & Data domain)

Example Standard: 3.MD.3: Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs.

Other standards may be covered.

Objectives

The students will:

1. Identify the most common solid waste on the school grounds.
2. Infer the source of the waste.
3. Analyze the solid waste problem on the school grounds.

Materials

Paper bag

Graph paper

Plastic gloves, hand sanitizer, other cleanliness products

Procedure

Take students for a walk around the school grounds. Pick up all of the trash and place it in the paper bag. Take it back to the classroom for analysis.

In groups of three, students should combine their trash and classify it into groups of like things, such as candy wrappers, notebook paper, etc. Allow students to develop their own classification systems.

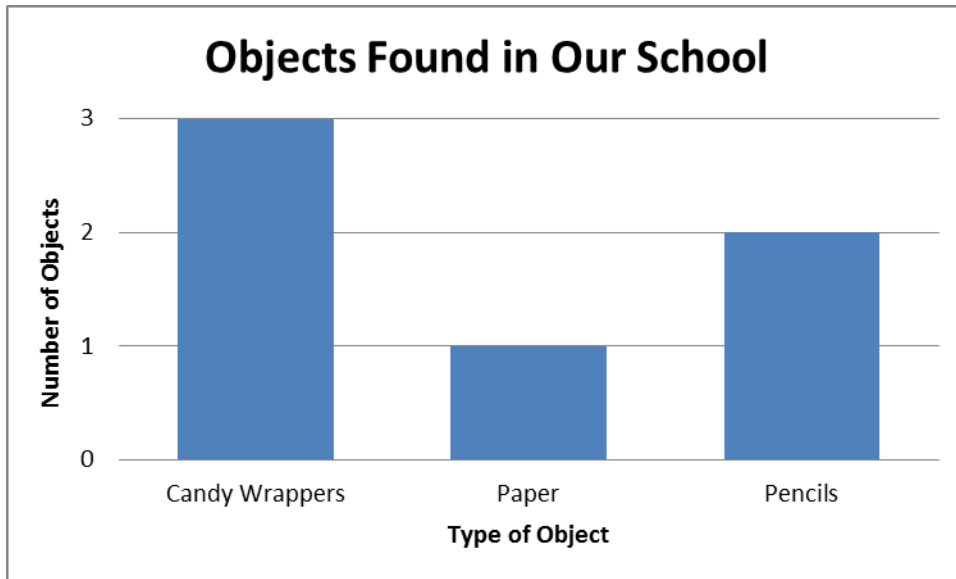
Groups should report their results to the whole class. At this time, any disagreement about groupings can be resolved. Establish parameters for number of objects: must the entire object be present for it to be a whole object? For example, is a broken pencil a half or a whole pencil?

Make a chart with the name of the groups and the number of objects in each group. The chart could look like the chart on the next page. Allow students to decide how it should look.

Data Chart

	Candy Wrappers	Notebook Paper	Pencils	Other
Group				
1				
2				
3				
4				
5				
Total				

Using a bar graph, graph the data with the category on the horizontal axis and the number of objects on the vertical axis as shown below:



Ask the following questions to check for understanding:

1. Which group had the most solid pollution? What do you infer is the reason for this?
2. Which had the next? What do you infer is the reason for this?
3. If we did this activity on the streets of a business district (country road, neighborhood), what would you expect to find? Why?
4. Do you consider this a major solid waste problem? Why or why not?

Lesson Extension Ideas

Design a plan to present to the principal that would assist in the reduction of solid waste around the school. Devise a second plan for reducing waste at home with the family. Write a checklist of ways to be mindful in the home.

What solid waste would you expect to find in the school in *The Very Last Green Thing*? Ask students to explain and draw a picture of the futuristic school.

Assessment

Students who use their charts and graphs as proof of the solid waste levels on the school grounds are able to identify the most common solid waste.

Students who use the data to draw conclusions about the school's pollution issue are able to infer the source of the waste and to analyze the solid waste problem on the school grounds.

Students who create an accurate bar graph based on the collected data are able to draw a scaled bar graph to represent a data set with several categories. (Mathematics Cluster Represent and Interpret Data)

The extension plans should be assessed based on the correlation to the factors outlined as the problem. For example, students may propose locating trash cans in various locations on the school ground, or implementing a student education program about pollution in the school if they think students are the source of the pollution.

The extension drawing should incorporate the landscape of the future as depicted in the opera and should take into consideration the inhospitable environment for people. An indoor environment may exhibit high-tech trash.

Environmentally Friendly Editorial

Grade Level

6-8

Target Curriculum Area

English/Language Arts

Cross-Curricular Area

Science

Common Core Anchor Standards

Reading 5: Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

Writing 1: Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

Objectives

The students will:

1. Identify the main ways by which people waste products, energy, and other resources at home.
2. Research methods of reducing waste in the home.
3. Write an editorial detailing how and why methods of reducing waste are useful.

Materials

Internet resources (<http://www.calrecycle.ca.gov/ReduceWaste/> is a good starting point)

Newspaper articles

Sample editorials (these do not have to be environmentally related)

Procedure

After viewing *The Very Last Green Thing*, discuss the various types of waste humans produce. Lead the discussion in a way that includes water, energy, oil, and other resources the students may not associate with waste.

Distribute editorials to groups of 3-4 students. Allow the students to read through the articles and determine what makes this type of writing different from other types examined during the year. Have the groups present their findings to each other.

Conclusion: Editorials state people's opinions, as opposed to facts.

Direct students to <http://www.calrecycle.ca.gov/ReduceWaste/> to further learn about waste reduction. If students wish to look at other websites regarding waste reduction, allow them to do so. Invite the students to identify one area of waste reduction they find most important or interesting.

Over the course of one class period, or for homework, ask the students to write an editorial about the importance of reducing the type of waste they have chosen. The editorials should include at least three suggestions for reducing waste in the home, as well as strong evidence why following the suggestions is important.

Once the editorials are written, pair students for peer editing. Peer editors should defend their reasoning, whether or not they make changes to the writing. Allow students to edit their work after the peer edits and before submitting their work. These final drafts can be copied and distributed as a booklet to the class.

Assessment:

Students who identify types of waste in the home recognize the various types of energy and numerous products we use on a daily basis, and how these uses could be scaled back.

Students who write editorials that make convincing arguments understand that editorials are opinion pieces.

Students who recognize the different elements that make an editorial unique from other writing styles are able to analyze the structure of texts. (Reading Standard 5)

Students who write editorials that support their beliefs are able to write arguments to support claims in an analysis of substantive topics, using valid, relevant, and sufficient evidence. (Writing Standard 1)

Plant Growth

Grade Level

3-6

Target Curriculum Area

Science

Cross-Curricular Areas

Mathematics

Fine Arts

Common Core Anchor Standards and Clusters

Science Literacy 3: Key Ideas and Details: Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. (grades 6-8; no science standards apply grades 3-5)

Mathematics: Represent and Interpret Data (within Measurement & Data domain)

Example Standard: 3.MD.4: Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units – whole numbers, halves, or quarters.

Other standards may be covered.

Reading 7: Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

Objectives

The students will:

1. Name the factors needed by a plant for growth.
2. Accurately predict based on previous data.
3. Show data in both chart and graph format.
4. Interpret data in charts and graphic form.

Materials

Germinating seeds, preferably bean or some type of rapidly growing plant

Potting materials

Sunny spot

Dark spot

Water

Fertilizer

Metric rulers

Colored pencils

Graph paper

Sunny and dark spots of various temperatures

Procedure

Discuss with the students the types of things that can change when they are taking care of a plant. Students may mention temperature, sunlight, water, and food.

Arrange students into groups of 3-4 and allow them to choose the variable they wish to test. (For students in lower grades, you may want to confine the investigation to amount of water and light.) Allow students to design an experiment that tests a single variable. As students discuss how to set up the experiment, caution them to control, or hold constant, the other variables. If they do not perceive this as important, allow them to continue with their plan.

Plant the germinating seeds carefully about 4mm deep in the soil. Water the seedlings and prepare to test the variable. If students are testing amount of water, they should have several seeds in different pots and measure the amount of water given to them each time they are watered. One plant could receive no water.

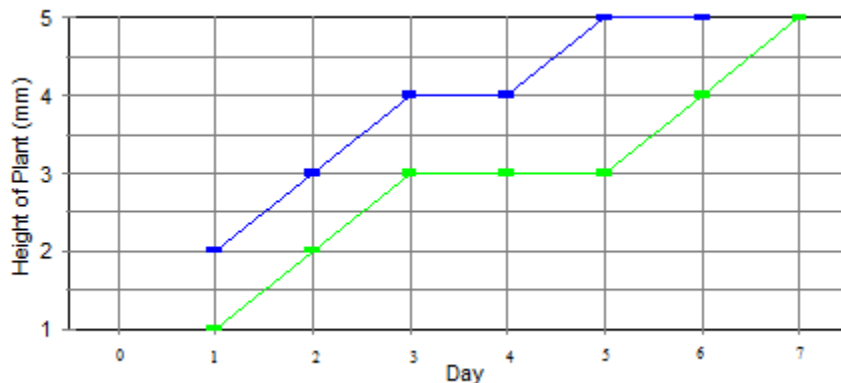
If light is the variable, place one plant in the light and one inside a cabinet or other dark space. If temperature is the variable, find two places of temperature extremes, being careful not to also vary light in the process. Students may choose to vary “food.” In this case, vary the amount of fertilizer given to the plants.

When the plants emerge from the soil, begin to measure them each day and draw pictures of the plants daily. Record both types of data in a journal. The chart for recording the heights could like this:

Day	1	2	3	4	5	6	7	8	9	10	etc.
Plant 1 (dark)											
2 (light)											

The cells would contain the measurements for each day data was collected.

When all data is collected, make a line graph measuring each plant's height. Plot all lines on the same graph paper, using different colored lines for each plant. The graph should look like this:



Ask the following questions to check for understanding:

1. What effect did the variable have on plant growth?
2. Continue your lines for each plant and predict what it will look like five days from today. Make the lines for your predictions dashed.
3. What does your data tell you about the things a plant needs to grow?
4. Listen to you classmates' results. Make a list of the things your class found to be necessary for successful plant growth.
5. Are these things also necessary for seed germination? How could you find out?
6. What were some problems you had in collecting data (measuring the height of the plants)? How do you think this affected your results?
7. How would you change this experiment if you repeated it?

Assessment

Students who volunteer variables to measure are able to name the factors needed by a plant for growth.

Students who extend their line graphs beyond the data they collect are able to accurately predict based on previous data.

Students who accurately complete their charts and graphs are able to show data in both chart and graph format.

Students who successfully grow plants in different conditions are able to follow a multistep procedure when carrying out experiments. (Science Standard 3)

Students who accurately chart their data are able to represent and interpret data. (Math Cluster: Represent and Interpret Data)

Students who answer questions based on their data are able to integrate and evaluate content presented in diverse formats, including quantitatively. (Reading Standard 7)

“In the Future...” – A Creative Writing Experience

Grade Level

Any

Target Curriculum Area

English/Language Arts

Cross-Curricular Areas

Social Studies

Science

Mathematics

Fine Arts

Common Core Anchor Standards

Writing 3: Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequences.

Writing 4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Reading 1: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

Objectives

The students will:

1. Write a creative story.
2. Support the components of the story as evolving from something that exists today.

Materials

Works of literature illustrating schools of the past

Procedure

Read a short excerpt from a work of literature describing a school of the past. Passages from *Little House on the Prairie* or *Tom Sawyer* can be used for students in grades 4-6. Discuss the school, equipment, role of the teacher, and how children got to school. Relate this school to schools of today. What are the similarities? Discuss how today’s schools evolved from those of the past. For instance, students used to have individual slates on which to write their lessons. They did not use pencils and paper because these items were too expensive and hard to ship from eastern or western coasts to the Midwest. Today, these items are inexpensive, but are giving way to personal computers – especially laptop computers and iPads/tablets.

Have students begin to think of their schools of the future. What do we have now that they believe will be very similar to what will exist in the future? What will be different?

Read the libretto of *The Very Last Green Thing*. What aspects of the classroom are similar to today's classroom? What aspects are different? What different parts do students think will exist in the year 2413?

Each student should write a creative story about the school of the future. They should be prepared to explain why they think the things they put in the story will be there. For example, some students may believe humans will be taught by computers instead of teachers. They would find support for this idea through today's use of computer assisted instruction and distance learning by satellite.

Invite students to share orally their stories with their classmates. Some of the students may want to dramatize their stories as well as read them. Others may want to draw their schools of the future or write songs about what happens in them.

Assessment

Students who write stories about future schools are able to write narratives to develop imagined experiences or events. (Writing Standard 3)

Students whose stories are logical, grammatically correct, and well-developed are able to produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Writing Standard 4)

Students who write narratives that predict and project how the future school will be by referencing today's school system and/or the school in *The Very Last Green Thing* are able to make logical inferences from text and cite specific textual evidence to support conclusions. (Reading Standard 1)

Where Is the Family

Grade Level

Any

Target Curriculum Area

Social Studies

Cross-Curricular Areas

English/Language Arts

Fine Arts

Common Core Anchor Standards

Reading 1: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

Reading 3: Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

Speaking and Listening 4: Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

Objectives

The students will:

1. Describe the multiple roles of families in today's society.
2. Evaluate the needs of a future family.
3. Synthesize a role for a family that meets those needs.

Materials

Whiteboard/Smartboard and writing implements

Procedure

Ask the students, "What is a family?" As they respond, represent the family with stick figures on the board. Some descriptions may be of the nuclear family; some may be variations that include extended families. Be sure that all family structures are represented and that no judgments are made on the types of structures that students describe.

Pick three unique structures and ask the students to describe what they think the role of each of the people in these families would be. Who works outside the home? Who takes care of the young children? Who goes to school?

Have the students read the libretto of *The Very Last Green Thing* and describe the families of the students in the opera. (They should not be able to do so because no family is mentioned.) Have

them think about where the families of these students were. Were they working? Were they on another planet? Who takes care of these children?

Divide the class into groups of 3-4 students and have the groups discuss the family in the year 2413. If a family of people lived in this environment, what needs would they have? Students should create a way to describe or illustrate that family and the roles of the members to the rest of the class. They may write an essay, write and dramatize a play, compose a song, or use any other creative means to illustrate their family of the future.

The groups will present their interpretation of the future family to the class. The class members should be given an opportunity to question each group about what they have presented. The group members should be ready to defend their description of the future family.

Assessment

Students who elicit jobs for each family member in today's world are able to describe the multiple roles of families in today's society.

Students who include various roles for each member of the future family are able to evaluate the needs of a future family and to synthesize a role for a family that meets those needs.

Students who are able to predict what future families will look like based on the opera's family are able to make logical conclusions from reading text closely and to analyze how individuals interact over the course of the text. (Reading Standards 1, 3)

Students who defend their interpretations are able to present information and supporting evidence in a way that listeners can follow the line of reasoning. (Speaking and Listening Standard 4)

What Good Is a Plant Except to Look Nice?

Grade Level

3

Target Curriculum Area

Science

Cross-Curricular Areas

Mathematics

Common Core Anchor Standards

Reading 7: Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

Writing 1: Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

Objectives

The students will:

1. Name some ways people use plants.
2. Recognize if something in the student's everyday environment came from a plant.
3. State the benefits of plants to humans on the planet.

Materials

A green plant

Procedure

Show the students the plant. Ask, "What is this?" "What is it used for?" Students will probably say it is to make the room attractive, or some may indicate that it gives off a gas that we use. Some may know that there are many products from plants that we use.

Hold up a pencil. Ask, "What does this have to do with plants?" Guide the discussion to the point that a pencil is made of wood, which comes from plants. Ask if there is anything else they can see that is made of wood. Have them infer how big the plant must have been to be able to make this object. Continue the discussion by having the students research the original sources of wooden objects either in the library or on the Internet.

Make a survey of the classroom and school. Students could go in groups of 2-3 to assigned parts of the school to see if they can determine ways in which plants are used. Have them create a chart on which to

record their data. The chart could look like the one on the next page, but does not have to. Allow students to use a chart they create as long as they can record all they need to know on it.

Object	Where it was found in the school
Principal's Desk	Principal's office
Seats on the swings	Playground

Make a class chart similar to the one above. Have students group like things together. For example, all of the furniture could be in one group, things to write with in another, etc.

Assign the same task to the students to complete at home. Combine the home data with the school data the following day.

Discuss what objects were made of on the planet in *The Very Last Green Thing*. From what materials were the objects in the classroom constructed if there were no plants on the planet?

Have students summarize their understanding of the benefits of plants to the inhabitants of the world. Write a short reflection on how plants benefit us, both at school and home.

Assessment

Students who identify plant-made objects are able to name some ways people use plants and can recognize if something in the students' everyday lives come from plants.

Students who write reflections about how plants help us live are able to state the benefits of plants to humans.

Students who make inferences and conclusions about which objects originated as plants are able to integrate and evaluate visual content. (Reading Standard 7)

Students who write reflections with evidence from the surveys are able to write arguments to support claims in an analysis, using valid reasoning and relevant and sufficient evidence. (Writing Standard 1)

O₂, O₂ Everywhere!

Grade Level

3-6

Target Curriculum Area

Science

Cross-Curricular Areas

Mathematics

Fine Arts

Common Core Anchor Standards

Mathematics: Represent and Interpret Data (within Measurement & Data domain)

Example Standard: 3.MD.3: Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs.

Other standards may be covered.

Reading 7: Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

Objectives

The students will:

1. Identify plants as producers of O₂ which we use.
2. Predict what would happen on Earth if all of the plants were gone.

Materials

A green plant

Small, sticky dots with O₂ written on them

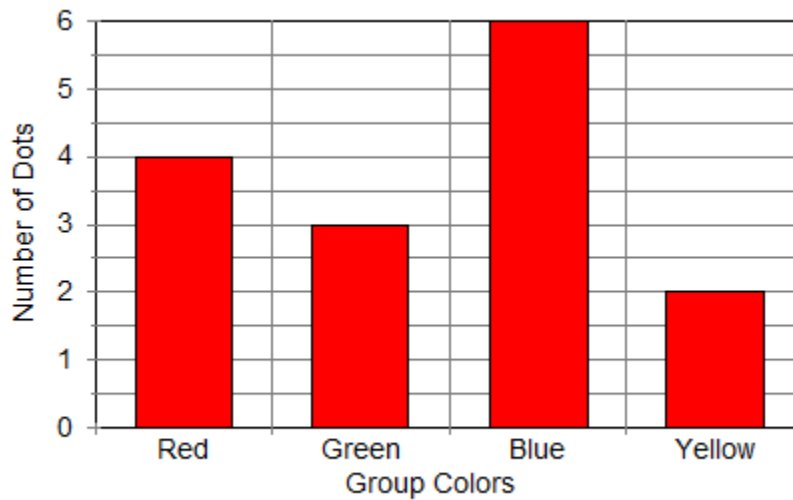
Procedure

This lesson could follow, “What Good Is a Plant Except to Look Nice.”

Review with the students what they discovered about the uses of plants. Explain that there is another use that we cannot see but is very important to us and other animals. Plants produce oxygen (O₂), a gas that helps animals produce energy. O₂ keeps all animals, including us humans, alive.

Provide each group of 2-3 students a page of sticky dots. Each group should have a different color. Have them write O_2 on each dot, and then let them circulate throughout the classroom, school, and playground. Each time they see a plant, they should stick a dot on it. Place limitations if outside; avoid having students stick dots on each individual blade of grass or weed. If another team's dot is there, they may not put theirs on the plant.

At the end of a certain amount of time, count the number of correctly placed dots of each color. Make a bar graph and determine which team found the most plants. The graph could look something like the one below.



Each group should discuss what would happen on Earth if there were no plants. In some way, illustrate what you think will happen. Share your illustrations with the class.

Assessment

Students who correctly label plants with their stickers are able to identify plants as producers of O₂.

Students who produce illustrations of what Earth would look like without plants are able to predict what would happen on Earth if all of the plants were gone.

Students who accurately make bar graphs based on their data and draw conclusions from the data they collect are able to represent and interpret data. (Mathematics Cluster: Represent and Interpret Data)

Students who can then interpolate what would happen without plants are able to integrate and evaluate visual and quantitative content. (Reading Standard 7)

I'm a Tree!

Grade Level

Any

Target Curriculum Area

Fine Arts/Performing Arts

Cross-Curricular Areas

Science

Common Core Anchor Standards

Reading 4: Interpret a work of art.

Writing 4: Produce works of art appropriate to task, purpose, and audience.

(Anchor Standards adapted for art by Bruce Taylor)

Objectives

The students will:

1. Identify with a tree in various environments.
2. Express their feelings while acting like a tree.

Materials

Recordings of various weather conditions: storms, sunny days, windy days

Sound system – audio only

Procedure

Have students stand at arm's length apart from each other touching only at the fingertips. This is necessary for the safety of the children during their simulation of a tree.

Tell the students you are going to talk to them, and they are to show with their bodies how they are feeling as they listen to you.

Teacher Script:

Close your eyes. You are a tree. You are a tall, strong, tree with wide-spreading branches. You stand in the sunlight (begin recording of a sunny day). You soak up the warm sun. Your leaves turn toward the light. You can feel the water flowing up your trunk and branches to the leaves. You can feel the food you make in your leaves going to all parts of your body to provide energy. You have been around for many years, and you know you will be here for many more. Birds nest in your branches; squirrels gather your seeds; insects live in your bark. You welcome your friends and give them shelter and share your food.

(Begin the windy music.) Suddenly the wind begins to blow. Birds fly to their nests; squirrels scamper to shelter; insects become very still in your bark. Your branches bend; your leaves flutter. The wind increases and pushes against your trunk. You lose some of your leaves; a branch breaks, but you are strong and your trunk remains tall and straight.

(Begin stormy music.) Thunder booms; lightning flashes. You are not afraid. You have seen this kind of storm before. A deer finds your shelter and lies down under your branches to be safe from the storm. Rain pelts your leaves and branches. It hits very hard. The wind is blowing stronger; lightning lights the sky. The birds in their nests huddle down in the protection of your branches and leaves. Rain drips from the tips of your leaves to the ground below. You are soaked, but at the same time, are cleaned by the rain.

(Begin the sunny music again.) Then, as suddenly as it started, the rain stops. The sun comes out and begins to dry the water on your leaves. The deer rises and moves away from your protection. The bird flies away to get food for the young birds. Insects begin to move around in your bark looking for their own food. Your leaves turn toward the sun as you begin the process of making food for your own self. You feel strong and confident that you have stood through another storm and provided shelter for other animals in your forest. You know that you will be here for many years. You settle down to bask in the sun and enjoy its warmth.

(End of Script)

Ask students to talk about how they felt being a tree. If the tree is so strong, why was the planet in *The Very Last Green Thing* void of trees? What could have caused them to disappear?

Students should write how they feel about trees and what we should do to make sure that all of the trees do not disappear.

Assessment

Students who write how they feel about trees after performing the exercise are able to identify with trees and to express their feelings towards trees.

Students who are able to recreate the trees' movements with their bodies are able to interpret the script and to produce appropriate works of art. (Reading Standard 4, Writing Standard 4)

Listen to the Trees

Grade Level

Any

Target Curriculum Area

Fine Arts/Performing Arts

Cross-Curricular Areas

Science

Common Core Anchor Standards

Writing 4: Produce works of art appropriate to task, purpose, and audience.

(Anchor Standards adapted for art by Bruce Taylor)

Music National Standards

2. Performing on instruments, alone and with others, a varied repertoire of music.

4. Composing and arranging music within specified guidelines.

Objectives

The students will:

1. Express their observations of a natural phenomenon.
2. Create a musical expression of this phenomenon.

Materials

Various instruments: keyboard, recorder, drums, others appropriate to the age of the student

Windy day

Place with trees

Backup plan: video recordings of trees

Procedure

On a windy day, take the students to a place where there are several trees. Have the students sit within the trees and be very quiet. They are to listen to the sounds from the trees in the wind. Tell them to listen to the song the trees sing. Sing it in your mind (**audiate**) with the trees. Remember the song.

*If the lesson must be used on a day with no wind, find a video to show the students of trees. For comparison and further discussion, show one video of realistic environments and another of fictional trees, such as the Ents in *Lord of the Rings*.

Upon returning to the classroom, allow the students to choose an instrument and compose a song similar to the one they heard the trees sing. This process may take several days. You may want to work with individual students to write down their music if they are unable to write music. Also allow students to invent their own notation – students may find it difficult to capture the trees’ sounds using standard musical notation.

Allow the students to share their song of the trees with the class.

Assessment

Students who write and perform songs are able to express their observations of a natural phenomenon musically.

Students who find a way to musically express the sounds of the trees are able to produce works of art appropriate to task, purpose, and audience. (Writing Standard 4)

Students who successfully play their songs on instruments are able to perform on instruments. (Music Standard 2)

Students who compose a song similar to what they heard the trees sing are able to compose music within specified guidelines. (Music Standard 4)

Amy and Her Aria

Grade Level

3-5

Target Curriculum Area

Music

Cross-Curricular Area

English/Language Arts

Common Core Anchor Standards

Writing 4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Music National Standards

1. Singing, alone and with others, a varied repertoire of music.
4. Composing and arranging music within specified guidelines.
6. Listening to, analyzing, and describing music.

Objectives

The students will:

1. Discover the difference between recitative and aria.
2. Begin to write and perform arias based on their own lives.

Materials

Whiteboard and writing implements

Procedure

Lead a discussion about *The Very Last Green Thing* to gauge the students' reactions to watching the opera. Highlight the third scene, when Amy sings her main song. Ask students to recall what happens before the song (e.g. the dialogue with the unseen voice about brushing her teeth and washing her face). Invite the students to identify ways the dialogue music sounded different than the sung music. Explain that in opera the dialogue is called "recitative" and the song is called an "aria." Recitative usually explains information in an opera, and moves the plot forward, while an aria oftentimes expresses emotions, as is the case in Amy's aria.

To gather ideas for the aria, have the class create a list of positive experiences, special events or fun activities. If the students have trouble starting, suggest activities such as playing sports, spending time with friends, or having a birthday. Next, ask students to form a list of words that describe these activities. Write these lists on the board.

Call on one student to speak a 4-beat rhythmic pattern using some of the words on the board. Allow students to create enough 4-beat rhythmic patterns to create a versematch the song's repeated and original sections. Chant the song using rhythmic syllables.

Create an "A" section.

Invite students to invent melodic lines based on tonal patterns for each line of the song. The repetition of melodic lines does not need to match the rhythmic repetitions. Once the melody is established, sing it through with the correct rhythm on solfege.

Decide as a class whether there is a rhyme scheme for the aria's "A" section. If rhyme is used, the rhyming lines can be next to each other, or they can alternate. Call on individual students to pick rhyming words for the ends of the lines, and then work backwards to finish the lyrics. When the "A" section is complete, sing it through a few times as a class. Allow students to edit the "A" section and add a "B" section as they deem necessary. Repeat the process until the students arrive at a song they like. Standard song forms include but are not limited to ABA, AABA, rondo, etc.

Example

The lines are now blurred
Between cause and effect
Our world ages not with strife
But with the simplicity of neglect

Be generous with your light
Do not fear the giving
Be generous with your love
For all things that are living

Assessment

Students who accurately sing the song they write are able to sing alone and with others. (Music Standard 1)

Students who can independently create melodic lines and/or rhythm patterns are actively composing. (Music Standard 4)

Students who contribute to the lyrics are able to produce clear and coherent writing appropriate to the task. (Writing Standard 4)