Beneficial Bats

Lesson Title: Beneficial Bats

Subjects: Life Sciences; Ecology; English Language Arts

Grade Level: Grades 3 -6

Estimated Time:

- Varies depending on teaching strategy
    - Recommendation: 2-3 class periods accompanied by 1-2 weeks of research and preparation outside of class or in computer lab and/or school library

General Goal: Upon completion of this lesson, students will understand the importance of biodiversity in maintaining the overall health of ecosystems.

Objectives:

- Students will define the following terms: ecosystem, habitat, and food web.
- Students will discover how animals, plants, and microorganisms, often viewed as little more than pests, contribute to the overall health and balance of the ecosystem.
- Students will research one species and investigate how it fits into an ecosystem and its contribution to the balance and health of that ecosystem.
- Students will create one of the following: a poster, media-based presentation, or blog/website which depicts their findings.
- Students will deliver an effective 5-7 minute presentation of their findings.

Standards: Aligned with National and California State content standards for Life Sciences. See standards addressed in the standards document.

Episode Summary: *America's Heartland* Episode 511 – "Beneficial Bats"

- Texas is swarming with millions of bats. They may sound like a nuisance, but for many farmers and ranchers these winged creatures are a valuable asset in destroying millions of mosquitoes and other destructive insects which affect crops, livestock, and humans.

Materials:

- Show clip available at americasheartland.org/episodes/episode_511/beneficial_bats.htm or for purchase at kviestore.org/amhe.html.
- Attachments: Standards, Bingo, Bingo List, Viewing Guide, Rubrics
- United States Atlas or online mapping tool
- Online access for students (if possible)
- Presentation Tools (chart paper, markers, rulers, pencils, etc.)

Teacher Preparation:

- Screen the *America's Heartland* clip, Episode 511 - "Beneficial Bats"
- Cut choices from "Bingo List" provided and place in container to use for the Bingo game
- Write "Words of the Day" on a visible place in classroom (*Suggestion: This can be part of an ongoing "Science Vocabulary Wall"*)

Lesson Procedure:

Introduction/Hook: (20 min)

- "Words of the Day:" Ask students to write down definitions for each of these terms in their daily journal, notebooks, etc. (whatever device you currently use to build their science vocabulary). *You may choose to simplify the definitions depending on your student's grade level.*
    - Ecosystem - All the individuals, species and populations in a spatially defined area, the interactions among them, and those between the organisms and the physical environment.
    - Habitat - The natural characteristics of the area where an organism lives; the particular location where an organism normally lives.
    - Food Web - A diagram showing the connections among everything that organisms in a location eat and are eaten by. A food web is more complex than a food chain, by showing more connections.[1]
- "Things that make my skin creep…BINGO!"
    - Each student will start this lesson with a blank Bingo card. On that card they will need to fill in each square with the name of an animal, plant, or microorganism (any living thing) that makes their skin "creep." What animal or plant makes them uncomfortable?

[1] All "Word of the Day" definitions from: animaldiversity.ummz.umich.edu/site/glossary/page/f.html

What plant makes them itch just thinking about it? With those thoughts in mind, each student will fill out their own Bingo card.

- Please see the list included in the lesson for the choices that the teacher will select for the Bingo game. This is a list of commonly feared or disliked plants and animals. Many of these will be the same plants and animals that your students choose and some will be different.
- After the students have completed their Bingo cards, the teacher should explain that this game of Bingo will be different. The winners will be the students with the *least* amount of spaces selected after the teacher has read all the choices from the list. Those students will then share the choices they made with the rest of the class.
    - To make this game even more fun, have the students use unusual Bingo space markers. For example, gummy worms or the unconventional jelly beans inspired from Harry Potter's, "Bertie Bott's Every Flavor Beans."
- Discuss:
    - We all have animals, plants, and microorganisms that scare us, make us feel uncomfortable, or that we just plain don't like. However, this doesn't mean that these same organisms aren't valuable species that contribute to the earth's biomes. It is not only pretty butterflies and cute pandas that we should care about. Many of the most disgusting creatures play a vital role in their local food web, habitat, and ecosystem.

Group Activity - Film Clip & Discussion:

- Before viewing
    - Explain the clip will profile an example of a creature that most people despise, but we will discover plays a vital role to its host ecosystem.
    - Recommended clip (5 minutes in length): *America's Heartland* Episode 511 (part 5) – "Beneficial Bats" - americasheartland.org/episodes/episode_511/beneficial_bats.htm
- During the clip
    - Distribute a viewing guide to each student and instruct them to complete their responses while watching the video. *Make sure to pause throughout the video if your students need extra guidance.*
- After viewing
    - **Review** the responses to the viewing guide as a class. Allow students to complete the bonus question in class or as a homework assignment. (If you allow time to complete the bonus question in class, students will need access to either a U.S. atlas or an online mapping tool).
    - **Discuss** the positive impacts bats have on Texas farms and why they are threatened. Wind turbines may harm bats, but why are they helpful (*alternative energy source*). What are the complications? Is there an easy solution to this problem?
    - In small groups, have your students discuss how the other animals and plants the students listed in their Bingo game may also be suffering the same fate as the bats: They

are commonly feared and their benefits to the ecosystems in which they live are widely unknown. Which animals does your group dislike the most? Are there any species that you still think bring no benefit to their respective ecosystems?

Independent Activity:

- After students have finished their small group discussions, bring the class back together to explain their independent assignments.
- Each student will need to choose an animal, plant, or microorganism that they had listed on their Bingo card to investigate *(no bats allowed – the work will already be done for them)*.
- After they have chosen their species, they will need to research the following questions:
    - Where is the native home of this species?
    - In what type of ecosystem does this species exist? (For example, do they live in tropical rain forests, North American grasslands, farmland, oceans, lakes, deserts, etc.?)
    - What is one common misconception of this species? (For example, all bats will suck your blood or all mosquitoes carry disease.)
    - How does this species fit into its ecosystem's food web?
        - For example, if a student was studying bees, they could chart a food web that included the sun, plants, bees, and humans – demonstrating producer and consumer relationships. Depending on grade level, expectations for this question may vary.
    - What benefits does this species provide for its local environment (this may tie into how it fits into its ecosystem's food web)?
- To present their findings, students can either create one of the following:
    - Poster
    - Power Point Presentation
    - Blog/Website
- Utilizing one of the three above presentation tools, each student will give a 5-7 minute presentation of his/her findings.

Assessment:

- Teachers can use the presentation of each student's research as the final assessment. Rubrics aligned to California English Language Arts Content Standards for grades 3-6 has been provided to be utilized for student assessment.

Extensions/Suggested Activities:

- More Biomes and Diversity – So much to discover!
    - To explore the world's biomes in more detail, have your students explore ***Eeko World*** on PBS Kids Go! (pbskids.org/eekoworld/index.html).

        - Have students click on "The Environment" button to learn more about the planet's five main biomes (Tundra, Forest, Aquatic, Grasslands, and Desert) and the ecosystems they support.
    - Do you want to incorporate more basic knowledge of producer-consumer relationships, the food web, and diversity into this lesson? ***Eeko World's*** online interactive simulations are the perfect tool! Have your students click on "Plants and Animals" at pbskids.org/eekoworld/index.html to explore these concepts.
- What about invasive species?
    - There are some species, that when artificially introduced to a new area, thrive in their new environment and prove detrimental to the overall balance of the ecosystem. The species themselves may not be harmful, but when introduced to a new environment they were not meant to be part of, can prove extremely damaging - ecologically and economically.
    - *America's Heartland* Episode 511, "A Biting Problem," profiles fire ants in Texas. This story depicts one example of the potential threat of invasive species. For further exploration, have students investigate case studies of invasive species throughout the world and the negative effects they inflict on their new home – e.g. cane toads of Australia, pigs of Hawaii, etc.
        - americasheartland.org/episodes/episode_511/a_biting_problem.htm
- NY Times article on "ugly animals" and the research behind the human reaction to "ugly animals"
    - nytimes.com/2010/08/10/science/10ugly.html?pagewanted=1&th&emc=th
    - This article can be used as an alternative introduction or "hook" for this lesson. The photos of "ugly animals" are sure to spark the interest of every student.
- The PBS science program, *Nature*, produced an episode called, "The Beauty of Ugly." The accompanying lesson plan, "U-G-L-Y? I've Got a Great Alibi," is an excellent resource and/or companion for this lesson and can be found here:
    - pbs.org/wnet/nature/lessons/u-g-l-y-ive-got-a-great-alibi/lesson/423/

Online Resources:

- americasheartland.org
- pbsteachers.org
- University of Michigan Museum of Zoology: animaldiversity.ummz.umich.edu/site/glossary/page/f.html
- NY Times article about Bat fungus altering entire ecosystems: nytimes.com/2010/08/10/opinion/10tue4.html?th&emc=th
- California State Board of Education: cde.ca.gov/be/st/ss/
- McRel (Mid Continent Research for Education and Learning): mcrel.org/compendium/SubjectTopics.asp?SubjectID=2

Attachments

Standards addressed by the "Beneficial Bats" Lesson[2]

National Standards: Science: Life Sciences (McREL)[3]

- Standard 6: Understands relationships among organisms and their physical environment
    - Level II (Grades 3-5)
        1. Knows the organization of simple food chains and food webs (e.g., green plants make their own food with sunlight, water, and air; some animals eat the plants; some animals eat the animals that eat the plants)
        2. Knows that the transfer of energy (e.g., through the consumption of food) is essential to all living organisms
        3. Knows that an organism's patterns of behavior are related to the nature of that organism's environment (e.g., kinds and numbers of other organisms present, availability of food and resources, physical characteristics of the environment)
        4. Knows that changes in the environment can have different effects on different organisms (e.g., some organisms move in, others move out; some organisms survive and reproduce, others die)
        5. Knows that all organisms (including humans) cause changes in their environments, and these changes can be beneficial or detrimental
    - Level III (Grades 6-8)
        1. Knows that all individuals of a species that exist together at a given place and time make up a population, and all populations living together and the physical factors with which they interact compose an ecosystem
        2. Knows factors that affect the number and types of organisms an ecosystem can support (e.g., available resources; abiotic factors such as quantity of light and water, range of temperatures, and soil composition; disease; competition from other organisms within the ecosystem; predation)
        3. Knows ways in which organisms interact and depend on one another through food chains and food webs in an ecosystem (e.g., producer/consumer, predator/prey, parasite/host, relationships that are mutually beneficial or competitive)

State Standards

Science Content Standards for California Public Schools[4]

- Grade 3: Life Sciences
    - Adaptations in physical structure or behavior may improve an organism's chance for survival. As a basis for understanding this concept:

[2] The standards listed in this document represent those standards which *can* be addressed by this lesson, but may not be addressed depending on how the teacher administering the lesson decides to implement the material. Some standards are more directly connected to this lesson and some will only be addressed by extended activities and discussions.

[3] www.mcrel.org

[4] http://www.cde.ca.gov/be/st/ss/documents/sciencestnd.pdf

1. Students know plants and animals have structures that serve different functions in growth, survival, and reproduction.
2. Students know examples of diverse life forms in different environments, such as oceans, deserts, tundra, forests, grasslands, and wetlands
3. Students know living things cause changes in the environment in which they live: some of these changes are detrimental to the organism or other organisms, and some are beneficial.
4. Students know when the environment changes, some plants and animals survive and reproduce; others die or move to new locations.

- Grade 4: Life Sciences
  - All organisms need energy and matter to live and grow. As a basis for understanding this concept:
    1. Students know plants are the primary source of matter and energy entering most food chains.
    2. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.
  - Living organisms depend on one another and on their environment for survival. As a basis for understanding this concept:
    1. Students know ecosystems can be characterized by their living and nonliving components.
    2. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.
    3. Students know many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter.
    4. Students know that most microorganisms do not cause disease and that many are beneficial.

- Grade 6: Ecology (Life Sciences)
  - Organisms in ecosystems exchange energy and nutrients among themselves and with the environment. As a basis for understanding this concept:
    1. Students know energy entering ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis and then from organism to organism through food webs.
    2. Students know matter is transferred over time from one organism to others in the food web and between organisms and the physical environment.
    3. Students know populations of organisms can be categorized by the functions they serve in an ecosystem.
    4. Students know different kinds of organisms may play similar ecological roles in similar biomes.
    5. Students know the number and types of organisms an ecosystem can support depends on the resources available and on abiotic factors, such as quantities of light and water, a range of temperatures, and soil composition.

English Language Arts Standards for California Public Schools

Grade 3: Listening and Speaking

- 1.0 Listening and Speaking Strategies - Students listen critically and respond appropriately to oral communication. They speak in a manner that guides the listener to understand important ideas by using proper phrasing, pitch, and modulation.
    - Organization and Delivery of Oral Communication
        - 1.5 Organize ideas chronologically or around major points of information.
        - 1.6 Provide a beginning, a middle, and an end, including concrete details that develop a central idea.
        - 1.7 Use clear and specific vocabulary to communicate ideas and establish the tone.
        - 1.8 Clarify and enhance oral presentations through the use of appropriate props (e.g., objects, pictures, charts).

Grade 4: Listening and Speaking

- 1.0 Listening and Speaking Strategies - Students listen critically and respond appropriately to oral communication. They speak in a manner that guides the listener to understand important ideas by using proper phrasing, pitch, and modulation.
    - Organization and Delivery of Oral Communication
        - 1.5 Present effective introductions and conclusions that guide and inform the listener's understanding of important ideas and evidence.
        - 1.6 Use traditional structures for conveying information (e.g., cause and effect, similarity and difference, posing and answering a question).
        - 1.7 Emphasize points in ways that help the listener or viewer to follow important ideas and concepts.
        - 1.8 Use details, examples, anecdotes, or experiences to explain or clarify information.
        - 1.9 Use volume, pitch, phrasing, pace, modulation, and gestures appropriately to enhance meaning.

Grade 5: Listening and Speaking

- 1.0 Listening and Speaking Strategies - Students deliver focused, coherent presentations that convey ideas clearly and relate to the background and interests of the audience. They evaluate the content of oral communication.
    - Organization and Delivery of Oral Communication
        - 1.4 Select a focus, organizational structure, and point of view for an oral presentation.
        - 1.5 Clarify and support spoken ideas with evidence and examples.
        - 1.6 Engage the audience with appropriate verbal cues, facial expressions, and gestures.

Grade 6: Listening and Speaking

- 1.0 Listening and Speaking Strategies - Students deliver focused, coherent presentations that convey ideas clearly and relate to the background and interests of the audience. They evaluate the content of oral communication.

- Organization and Delivery of Oral Communication
  - 1.4 Select a focus, an organizational structure, and a point of view, matching the purpose, message, occasion, and vocal modulation to the audience.
  - 1.5 Emphasize salient points to assist the listener in following the main ideas and concepts.
  - 1.6 Support opinions with detailed evidence and with visual or media displays that use appropriate technology.
  - 1.7 Use effective rate, volume, pitch, and tone and align nonverbal elements to sustain audience interest and attention.

Things that Make my Skin Creep...BINGO!

Fill in each space with a plant, animal, or any living thing that makes your squirm.

	FREE SPACE	

Bingo List

Ants	Bacteria
Bats	Bees
Eels	Sharks
Lizards	Mosquitos
Poison Ivy/ Poison Oak	Raccoons
Rats	Snakes
Spiders	Cactus
Worms	Skunk

Viewing Guide

***America's Heartland* - Episode 511 "Beneficial Bats"**

1. _____million Mexican free-tailed bats live in a cave outside _____, Texas, making this state the home to the largest colony of bats in the world.

2. What makes the bats beneficial?

   _____

   _____

   _____

3. Name one threat facing the bat population in Texas.

   _____

4. What is one potential consequence that could result if the bats are killed off?

   _____

   Do the MATH! How many POUNDS of insects will be in the night sky if the bat population didn't exist?

BONUS: The scientist in the video states that with the bat's speed and the help of wind, the bats may fly all the way to the Texas coast to feed in a single night. How many miles is that? Hint: you will need to use an atlas or online mapping tool, like *Google Maps* to help you answer this question.

About_____miles.

Viewing Guide (Answer Key)

***America's Heartland* - Episode 511 "Beneficial Bats"**

1. **20** million Mexican free-tailed bats live in a cave outside **San Antonio**, Texas, making this state the home to the largest colony of bats in the world.

2. What makes the bats beneficial?

   The bats go after insects that damage crops, like the "corn ear worm moth" or the "cotton ball worm moth," making protecting the bats a priority to Texas farmers and ranchers.

3. Name one threat facing the bat population in Texas.
   wind turbines and/or new virus that is spreading throughout the population

4. What is one potential consequence that could result if the bats are killed off?
   There could be an extra 200 tons (*400,000 lbs*) of insects every night in the San Antonia area.

BONUS: The scientist in the video states that with the bat's speed and the help of wind, the bats may fly all the way to the Texas coast to feed in a single night. How many miles is that? Hint: you will need to use an atlas or online mapping tool, like *Google Maps* to help you answer this question.

About **170** miles.

Rubric for Presentation (Grade 3)[5]

	Excellent	Good	Fair	Needs Improvement
Content	Student addresses all questions from the assignment and provides evidence for their findings. Also, the student uses appropriate props, pictures, and/or charts to enhance their presentation.	Student addresses all questions from the assignment. Also, the student uses appropriate props, pictures, and/or charts to enhance their presentation.	Student addresses most questions from the assignment. Also, the student uses props which relate to the assignment, but may not add to the effectiveness of the presentation. The images used may be messy or unorganized.	Student does not address the questions from the assignment. The props used, if any, are not relevant to the presentation and are displayed in an unorganized fashion.
Organization	Student organizes ideas logically and around major points of information. Student delivers a presentation within the required time limit.	Student organizes most ideas logically and around major points of information. The presentation is not delivered in the required time frame, but is within +/- one minute.	Student organizes some ideas logically, but often falls off topic. The presentation is either too short or too long by more than two minutes.	Student does not organize ideas logically and does not focus on major points. The presentation is either too short or too long by more than three minutes.
Style and Delivery	Student uses clear specific vocabulary to communicate ideas and establish tone. Student speaks loudly and enunciates.	Student uses appropriate vocabulary to communicate ideas and establish tone. Student speaks loudly, but does not always enunciate.	Student uses some appropriate vocabulary to communicate ideas, but struggles with delivery. The student is hard to hear and understand throughout the presentation.	Student struggles to deliver an effective presentation. The student speaks softly and/or quickly throughout the presentation.

[5] Aligned to English Language Arts California Content Standards for Grade 3: Listening and Speaking; http://www.cde.ca.gov/be/st/ss/documents/elacontentstnds.pdf

Rubric for Presentation (Grade 4)[6]

	Excellent	Good	Fair	Needs Improvement
Content	Student addresses all questions from the assignment and expands on the implications of their findings (e.g. If bees are being threatened, what does this mean for crops that humans consume?) Also, the student uses appropriate props, pictures, charts, and/or media presentation tools to enhance their presentation.	Student addresses all questions from the assignment. Also, the student uses appropriate props, pictures, charts, and/or media presentation tools to enhance their presentation.	Student addresses most questions from the assignment. Also, the student uses props which relate to the assignment, but may not add to the effectiveness of the presentation.	Student does not address the questions from the assignment. The props used, if any, are not relevant to the presentation.
Organization	Student organizes ideas logically and around major points of information. Also, the student employs the use of an introduction and conclusion to guide the listener's understanding of their findings. Student delivers a presentation within the required time limit.	Student organizes most ideas logically and around major points of information. The student provides a simple introduction and conclusion in the presentation. The presentation is not delivered in the required time frame, but is within +/- one minute.	Student organizes some ideas logically, but often falls off topic and does not provide a clear introduction and/or conclusion in the presentation. The presentation is either too short or too long by more than two minutes.	Student does not organize ideas logically and does not focus on major points or have a clear introduction and conclusion. The presentation is either too short or too long by more than three minutes.
Style and Delivery	Student uses clear specific vocabulary to communicate ideas and establish tone. Student speaks loudly, enunciates, uses gestures, and varies the volume and pace to enhance meaning.	Student uses clear vocabulary to communicate ideas and establish tone. Student speaks loudly, and often enunciates, but lacks variation in pace and volume.	Student uses some appropriate vocabulary to communicate ideas, but struggles with delivery. The student is difficult to hear and understand throughout the presentation.	Student struggles to deliver an effective presentation. The student speaks too softly and/or quickly throughout the presentation.

[6] Aligned to English Language Arts California Content Standards for Grade 4: Listening and Speaking; http://www.cde.ca.gov/be/st/ss/documents/elacontentstnds.pdf

Rubric for Presentation (Grade 5)[7]

	Excellent	Good	Fair	Needs Improvement
Content	Student addresses all questions from the assignment and expands on the implications of their findings (e.g. If bees are being threatened, what does this mean for crops that humans consume?) The student supports all ideas with specific evidence and examples. Also, the student uses appropriate props, pictures, charts, and/or media presentation tools to enhance their presentation.	Student addresses all questions from the assignment and provides evidence. Also, the student uses appropriate props, pictures, charts, and/or media presentation tools to enhance their presentation.	Student addresses most questions from the assignment, but fails to provide evidence and examples. Also, the student uses props which relate to the assignment, but may not add to the effectiveness of the presentation.	Student does not address the questions from the assignment or provide any relevant evidence. The props used, if any, are not relevant to the presentation.
Organization	Student organizes ideas logically and around major points of information. The presentation is focused, organized, and has a clear point of view. Student delivers a presentation within the required time limit.	Student organizes most ideas logically and around major points of information. The presentation is organized and somewhat focused. Student delivers a presentation within +/- one minute of the required time limit.	Student organizes some ideas logically, but often falls off topic and does not provide a clear focus for the presentation. The presentation is either too short or too long by more than two minutes.	Student does not organize ideas logically and does not focus on major points or have a clear focus. The presentation is either too short or too long by more than three minutes.
Style and Delivery	Student uses clear specific vocabulary to communicate ideas and establish tone. Student engages the audience with appropriate facial expressions and gestures and speaks loudly and enunciates throughout the presentation.	Student uses clear vocabulary to communicate ideas and establish tone. Student speaks loudly, and often enunciates, but fails to engage the audience and employ the use of gestures, etc. to enhance meaning.	Student uses some appropriate vocabulary to communicate ideas, but struggles with delivery. The student is difficult to hear and understand throughout the presentation.	Student struggles to deliver an effective presentation. The student speaks too softly and/or quickly throughout the presentation.

[7] Aligned to English Language Arts California Content Standards for Grade 5: Listening and Speaking; http://www.cde.ca.gov/be/st/ss/documents/elacontentstnds.pdf

Rubric for Presentation (Grade 6)[8]

	Excellent	Good	Fair	Needs Improvement
Content	Student addresses all questions from the assignment and expands on the implications of their findings (e.g. If bees are being threatened, what does this mean for crops that humans consume?) The student supports all ideas with specific evidence and examples. Also, the student uses appropriate props, pictures, charts, and/or media presentation tools to enhance their presentation.	Student addresses all questions from the assignment and provides evidence. Also, the student uses appropriate props, pictures, charts, and/or media presentation tools to enhance their presentation.	Student addresses most questions from the assignment, but fails to provide evidence and examples. Also, the student uses props which relate to the assignment, but may not add to the effectiveness of the presentation.	Student does not address the questions from the assignment or provide any relevant evidence. The props used, if any, are not relevant to the presentation.
Organization	Student organizes ideas logically and around major points of information. The presentation is focused, organized, and has a clear point of view. Student delivers the presentation within the required time limit.	Student organizes most ideas logically and around major points of information. The presentation is organized and somewhat focused. Student delivers the presentation within +/- one minute of the required time limit.	Student organizes some ideas logically, but often falls off topic and does not provide a clear focus for the presentation. The presentation is either too short or too long by more than two minutes.	Student does not organize ideas logically and does not focus on major points or have a clear focus. The presentation is either too short or too long by more than three minutes.
Style and Delivery	Student uses clear specific vocabulary to communicate ideas and establish tone. Student engages the audience with appropriate facial expressions and gestures and speaks loudly and enunciates throughout the presentation. The audience is interested and engaged throughout the entirety of the presentation.	Student uses clear vocabulary to communicate ideas and establish tone. Student speaks loudly, and often enunciates, but fails to engage the audience and employ the use of gestures, etc. to enhance meaning.	Student uses some appropriate vocabulary to communicate ideas, but struggles with delivery. The student is hard to hear and understand throughout the presentation.	Student struggles to deliver an effective presentation. The student speaks too softly and/or quickly throughout the presentation.

[8] Aligned to English Language Arts California Content Standards for Grade 6: Listening and Speaking; http://www.cde.ca.gov/be/st/ss/documents/elacontentstnds.pdf