Lesson Plan Contributions by Angelica Blanchette

Kindergarten/Early Elementary Lesson Plan Sequence for Science Unit: Living and Nonliving

Situate the Lessons

This six lesson sequence takes students through a science unit on living and nonliving. This unit of study sets the stage for scientific thinking by guiding students to recognize criteria for living and nonliving and use the criteria to classify objects. This critical thinking lays the foundation for deductive reasoning, which is integral to the scientific method. Developing the concept of living and nonliving prepares students for evaluative thinking as they explore in future science units, such as gardening to examine life cycles, experimenting with simple machines, or using the senses to make observations.

Science Vocabulary: living, nonliving, grow, reproduce, move, breathe, react

Objectives

By the end of this lesson sequence students will be able to:

- Identify criteria for living and nonliving.
- Apply living and nonliving criteria to evaluate unfamiliar items.

Lesson 1

Initial Experience: Presenting the Challenge

Present students with an assortment of images and invite them to discuss whether the item in each image is living or nonliving. Allow students to categorize items without intervening to make corrections. Most categorizations are likely to be correct; however, an explanation of why may be lacking or absent. Prompt students by asking why as they sort the items. Keep a list of key words and phrases students use.

Observe student groups for:

- Application of prior knowledge. (What is known? What is unfamiliar?)
• Evaluation of images. (What thinking skills are used effectively? What thresholds are revealed?)

Challenge: Selection of images with varying levels of familiarity and ambiguity with respect to living/nonliving criteria can create degrees of differentiation for the initial sort. Some students may be challenged by working with a collection of less familiar items, such as deep sea giant tube worms (view images and read aloud select information from an online source such as [http://www.seasky.org/deep-sea/giant-tube-worm.html](http://www.seasky.org/deep-sea/giant-tube-worm.html)).

Support: Provide the images already sorted into living and nonliving categories, but do not reveal what the categories are. Ask students why they think the items are in each group and whether any items do not seem to fit.

Call students together, and revisit the images they were just discussing. Invite students to share their thinking and discuss with each other the following question: How do you know if something is living or nonliving? Refer to the list of key words and phrases students used during the initial experience to generate and guide discussion. Write *Something is living if it...* on chart paper/the board and record a list of student thoughts. The generated list may include ideas such as:

• Can walk.
• Gets bigger [*Connect to related vocabulary: grows]*.
• Has a face.
• Has a brain.
• Talks.
• Etc.

Next, provide formative feedback and begin addressing misconceptions by choosing one image everyone is confident is alive, such as a mouse. Tell students their task is to find the things all living things have in common. To do this, they will check the list with several images of living things. Put a check if the criterion applies and cross off criterion they realize does not fit as each living thing is evaluated. For example for mouse, *Talks* would be crossed off. Continue with additional images of items you know will help refine the list.

*Take the opportunity to connect to and explain unit vocabulary as it relates to the discussion and to initiate understanding about items with ambiguous characteristics (e.g., how a tree moves to face the sun, how a fish breathes with gills not lungs, etc.).
Lesson 2

Gradual Release: Read Aloud (primarily teacher guided)

Tell students they will get to do some research to see if their *Something is living if it...* list has all the criteria for what makes something living. They will research by learning from books and a song about living and nonliving.

Use the playful rhyme to engage students as you read aloud *Do You Know Which Ones Will Grow?* by Susan Shea. As criteria is presented for what makes something living, confirm or add to the *Something is living if it...* list.

After researching with this read aloud the list should include the following criteria: grow, reproduce, move, breathe, react, and need food/water.

Support: Provide icons for each criterion to support the list and vocabulary with images. The icons may be used to facilitate future activities, such as matching to vocabulary, sorting new items, and creating a checklist for students to use in their science journals.

Learn, sing, and dance with this Living and Nonliving Things song by Amanda Ellis: [http://www.youtube.com/watch?v=Z_aAkuK_8nQ](http://www.youtube.com/watch?v=Z_aAkuK_8nQ)
Tell students good researchers use more than one source and invite them to check their *Something is living if it*...list with the criteria from the Living and Nonliving Things song.

Harvest the unit vocabulary words from the *Something is living if it*...list, and create a word list to post in the room for reference throughout the remaining lessons.

Have students copy the word list into their science journals and include a quick sketch to illustrate some of the words.

Support: Students who are still developing the fine motor skills needed for fluent writing may cut and paste word cards into their science journal. The word cards can be traced instead of copied and coordinated images can be provided and matched instead of sketched.

Challenge: For each vocabulary word, students may select from a collection of images of various living and nonliving things and write or dictate a sentence about the item using the vocabulary word.

Lesson 2 Cross-curricular Connections: In language arts, students may work with the unit related vocabulary. Depending on each student’s literacy development, have students identify letters/sounds in the words, identify words by beginning letter/sound, or rebuild simple sentences including the words. Students could also construct their own sentence, with an appropriate level of support, for each vocabulary word in their science journal. Coordinate with the physical education teacher to have students list a wide variety of living things that move in different ways and provide the opportunity to move their bodies in the ways listed.

Lesson 3

Gradual Release: Vocabulary Focus (shared responsibility between teacher and student)

Work with the related vocabulary by sharing a living/nonliving story. Have the story posted with vocabulary highlighted and track the text as you read it aloud to help students follow along. For example:

*Once upon a time, there was a cute little race car.*
*The race car was yellow with blue stripes. She was friends with many living things, like a horse and a sunflower, and her driver of course. She wondered if she was a living thing too. Her friend the horse was very wise and said he would*
help her figure it out. Horse asked if she could move, because all living things move. Race car said, “Oh yes, I can move very fast!” Horse said, “But doesn’t your driver make you move? Can you move on your own?” “Well, no,” replied race car. Horse explained that race car can react to her driver by moving when the driver uses the controls, but she does not move on her own like a living thing does. Horse asked race car if she could breathe. Race car said she can make exhaust, but she does not take in air like her driver and horse do with their lungs. Race car asked if there was anything else living things do. Horse said that living things grow and reproduce. Race car hung her head and sighed, “I don’t get bigger or make new race cars.” Horse said that living things need food and water, too. Race car perked up and said hopefully, “Well, I do need gas, that’s like food.” Horse said, “Yes, that is like food, but to be a living thing you need to do all those things, and you don’t move, breathe, grow, or reproduce.” Race car started to cry because she wanted to be a living thing, too. Horse leaned in close and said, “Race car, don’t cry, nonliving things are just as special as living things. In fact, I have a wonderful friend who is nonliving and I like her just the way she is.” Race car asked, “Who?” “You!” answered horse, and the friends enjoyed the rest of the sunny afternoon together.

Invite students to come up to the story, identify a highlighted vocabulary word, and explain what it means, until all the words have been reviewed.

Then refer to the list of words and have students create their own living/nonliving story by taking turns to add lines to the story and incorporating the vocabulary until all the words have been included. Record the dictated story to post in the room or publish on the class website.

Support: Use the initial living/nonliving story as a structure for the student version by creating blanks for students to complete instead of composing their own entire lines for the story (i.e., Once upon a time, there was a _____.). Composing a story about a living thing and how it demonstrates each criteria for living will be less complex than the sample story in this lesson.

Lesson 3 Cross-curricular Connections: In the interest of time, students may compose a living/nonliving story within language arts instruction instead.

Lesson 4

Gradual Release: Science Journal Sort (shared responsibility between teacher and student)
Read aloud *Is It Living or Nonliving?* By Rebecca Rissman. Prompt students to confirm information on their *Something is living if it...* list as you read and engage in evaluative thinking about living/nonliving as the text explores diverse items from various habitats.

Next, invite students to try out their evaluative thinking in their science journals. Have them open up to two clean pages and label one page *Living* and the other *Nonliving*. Then pass out a page with images of various living and nonliving items in squares to be cut out and sorted into the living and nonliving categories.

Challenge: Invite students to select a pair of new items, one living and one nonliving, to exchange with a partner. The partner will try to identify which one is living and which one is not. Students may try to make the choices tricky! Students may bring items from home (with parameters) or work with images.

Lesson 4 Cross-curricular Connections: Students may use the images they have practiced sorting to create living/nonliving patterns in mathematics. Coordinate with the art teacher to have students categorize a variety of examples of art as living or nonliving (e.g., a painting, a garden, a stone sculpture, a sculpted shrub, jewelry, a dance, etc.).

Lesson 5

Gradual Release: Discovery Walk and Collage (student’s work more independently to apply knowledge)
If the technology is available, take students on a discovery walk around school (inside and out) with a camera. Have students work with a partner to identify items that are living or nonliving. Take pictures of the items for students to use to create a living collage and a nonliving collage after the discovery walk. Allow student pairs to present their collages to the class, and remind them to use the unit vocabulary words and refer to the characteristics of living and nonliving, both ideally posted for reference. You may record the presentations to post on a class website to share with families.

Alternative: Provide an assortment of magazines for students to search through for pictures of various living and nonliving things. Cutouts from the magazines can then be used instead of pictures for the collage and presentation tasks.

Support: Instead of allowing for unlimited images, set a goal, such as five living and five nonliving items.

Challenge: Have student pairs switch picture collections with each other to create their collages.

Extension: Invite a buddy class to view the collages and ask the students questions about the images in their collages. Students work with their partner to answer the questions related to their own collage.

Lesson 6

Evidence of Deep Learning: Realizing the Change (assessment)

While students work at learning centers with activities to reinforce newly acquired knowledge, pull individuals to complete the cumulative assessment task. Learning centers may include a computer-based activity such as: http://www.sciencekids.co.nz/gamesactivities/plantsanimals.html.

For each student, present three items, one at a time, that have some ambiguous characteristics with respect to living and nonliving, such as an image of a cartoon character, cut dried flowers, an image of fire, goo,* a mushroom, a worm, etc. Have students individually categorize their three items and describe their evaluation for each.

Support: If students struggle to work from memory of the characteristics of living and nonliving,
encourage them to use resources from the previous lessons: vocabulary lists, notes in their journals, etc. Student use of resources is more true to real world problem solving. However, some automaticity with the characteristics of living and nonliving is ultimately desired. Include observational notes with the assessment record regarding student need for and effective use of instructional resources to complete the assessment. If automaticity is not demonstrated, reinforce the characteristics when opportunities to discuss living and nonliving arise in subsequent units.

*Goo: To make goo, combine cornstarch and water at approximately a 2:1 ratio. Rolled up sleeves and a work area similar to what you would prepare for an activity using shaving cream (e.g., letter formation practice) is recommended. Extend exploration with goo, perhaps in a subsequent unit when discussing reactions is relevant, by conducting this experiment: http://www.youtube.com/watch?v=wPz9UlM5oXY.

Assessment Chart (for record keeping during Evidence of Deep Learning activities)

<table>
<thead>
<tr>
<th>Vocabulary</th>
<th>Student A</th>
<th>Student B</th>
<th>Student C</th>
<th>Student D</th>
<th>Student E</th>
</tr>
</thead>
<tbody>
<tr>
<td>living</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nonliving</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>grow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>reproduce</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>move</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>breathe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>react</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>need food</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>need water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accurate categorization of items as living/nonliving</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriate use of vocabulary in description of evaluations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Alternate Assessment (to be read aloud to students)

1. True or False: Living things reproduce. __________
2. Which word means to change when something happens:
   a. move
   b. react
   c. grow
d. reproduce

3. Two Part Question:
   a. Is a (name an ambiguous item) living or nonliving? ____________
   b. Finish the sentence: I know it is living/nonliving because ____________.
4. True or False: Nonliving things grow. __________

5. What do all living things need:
   a. food
   b. soil
   c. sunlight
   d. oxygen

6. Which word means to become larger:
   a. react
   b. breathe
   c. move
   d. grow
Grade 2 Lesson Plan for Geography Unit: Boarders and Maps

Situate the Lessons

This three lesson sequence falls early in a Geography Unit on Boarders and Maps. Students have experience with various geographic puzzles from initial lessons in this unit: continent pieces on a world (Earth) puzzle, country pieces on a continent (North America) puzzle, and state pieces on a country (United States of America) puzzle. Following this lesson sequence, students will learn more about reading and creating maps.

Geographic Vocabulary: planet, Earth, continent, North America, country, United States of America, state, (your state), city/town, (your city/town)

Objectives

By the end of this lesson sequence students will be able to:

• Name the planet, continent, country, state, and city/town where they live.
• Identify the relative size of each geographic level explored in these lessons.
• Use border related vocabulary accurately in a real world context.

Lesson 1

Initial Experience: Presenting the Challenge

Present students with exploration time to work on puzzle sets in small groups.

The puzzle set for each group should be an Earth, North America, and United States puzzle with the pieces removed, and the continent, country, and state pieces all jumbled in one pile.

Challenge: Present the jumbled puzzle pieces without their associated puzzle boards.

Observe student groups for:

• Application of prior knowledge. (What is known? What is unfamiliar?)
• Problem solving. (What thinking and strategies are used effectively? What thresholds are revealed?)
Support: Hold up two different types of pieces and ask students to identify what is different about them. Guide them to discover there are three types of pieces.

Alternative: Students who may benefit from more guided exploration may alternatively work in a small group using textured maps of the Earth, North America, and the United States. Textures for the continents, countries, and states may be varied by using felt, sandpaper, wax paper, etc. The textures will engage students in attending to the maps and facilitate discussion about similarities and differences between the maps. Following guided discussion, invite students to decide which map is best for applying each of the following labels: North America, United States, and (your state name). Students may apply word labels and/or use glue and glitter to indicate each on the respective maps.

Call students together, and use the following questions to prompt discussion:

- What did you think when I gave you the pile of pieces?
- What did you do first?
- How did you figure out what the pieces were?
- Did anyone in your group do something that surprised you?
- What did you decide to do with your pieces?
- Where their other ideas that your group did not do?
- What felt easy?
- What felt hard?

Provide formative feedback by confirming accurate use of related vocabulary, complimenting effective strategies for grouping the puzzle pieces into their three categories: continent, country, and state, and correcting any misconceptions revealed (e.g., Texas is big so it must be a country.).

Lesson 1 Cross-curricular Connections: Reinforce understandings about the shape and relative size of the geographical boarders being studied by: 1) Collaborate with the art teacher on ideas for applying art techniques with the geographical boarders, and 2) In math, explore and compare the sizes of various geographical boarders.

Lesson 2

Gradual Release: Read Aloud (primarily teacher guided)

Read aloud Me on the Map by Joan Sweeney to highlight geographic levels from planet to city. Use observations from Lesson 1 to guide
discussion and inquiry with the text. Point out where the text reinforces known content and provides information about less familiar content.

Gradual Release: Observation Exercise (shared responsibility between teacher and student)

1. Have students stand at one end of the school hallway and make observations about what they see at the opposite end of the hallway. Engage all students by having them record observations in a journal or share with a partner.

2. Then have students walk half way down the hallway and make new observations about what they see at the end. Support students in discovering that smaller details become noticeable as they get closer.

3. Finally, have students walk all the way to the end of the hallway and make new observations about what they can see now that they are up close. You may enhance the experience by placing small objects (e.g., pennies) at the end of the hallway ahead of time, which will not be visible until students are up close.

4. Ask students to make connections between the observation exercise and Me on the Map. Guide student thinking to recognize the parallels: seeing smaller details as you walk closer to the end of the hall is similar to zooming in on geographic levels across the images in the book.

5. Have students share or write a concluding understanding about perspective.

Lesson 2 Cross-curricular Connections: Reinforce understandings about the relative size of the geographical boundaries being studied by viewing satellite images in science of the Earth, North America, the United States, (your state), and (your city/town) to discuss how geographical features vary at the different levels.

Lesson 3

Gradual Release: Create a Booklet (student’s work more independently to apply knowledge)

Students create a booklet of their planet, continent, country, state, and city/town. Provide a variety of materials (e.g., lined paper, colored paper, pencils, crayons, shapes for tracing planet, continent, country, and state, etc.). Make a couple booklet variations for inspiration, such as one with the pages made from the appropriate shapes cut out for each of the five geographic levels and one with five squares of lined paper. Remind students to use the puzzles, Me on the Map text, and any other relevant materials as resources. Booklet criteria:
• One page for each geographic level: planet, continent, country, state, and city/town
• Each page notes the geographic level and corresponding proper name (e.g., country/United States of America)
• Each page has an associated image

Support: Work with a small group of students to guide them in completing one page at a time and assist with fine motor needs, such as cutting and writing.

Challenge: Have students compose one complete sentence related to the geographic level for each page.

Extension: Students who have a strong grasp of the concepts may create an additional booklet for someone they know who lives somewhere different.

Lesson 3 Cross-curricular Connections: Reinforce understandings of the geography vocabulary and the nesting of the geographical boundaries by: 1) Have students compose their own parallel story to Me on the Map in language arts. Provide a word bank of the geography vocabulary for students to include. And 2) Collaborate with the physical education teacher on ideas for having students do movement activities within large concentric circles labeled with the geography vocabulary.

Evidence of Deep Learning: Realizing the Change (assessment)

As students complete their booklets, have them move to one of two activity choices. The activities create real world problem solving opportunities, as well as a means of assessing the application of new knowledge.

A) Prepare five concentric circles (e.g., using chalk outside) and provide the geographic vocabulary terms on cards as labels. Have students label the circles with the largest circle representing the largest geographic level (planet) through to the smallest circle representing the smallest geographic level (city/town). Then have students match the levels with the labels for the proper names (e.g., Earth).

B) Prepare a vertical display of various maps (Earth, North America, United States, and your state), and cut outs of familiar weather icons (e.g., sun, cloud, rain, snow). Have students role play as meteorologists by holding up the weather icons on different parts of the maps and using the geographic vocabulary terms to report on where different types of weather are occurring. To ensure all vocabulary terms are assessed, you may hold up a weather icon on a particular portion of a map and prompt students to tell you about it.

Assessment Chart (for record keeping during Evidence of Deep Learning activities)
<table>
<thead>
<tr>
<th>Vocabulary</th>
<th>Student A</th>
<th>Student B</th>
<th>Student C</th>
<th>Student D</th>
<th>Student E</th>
</tr>
</thead>
<tbody>
<tr>
<td>planet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>continent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North America</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>country</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>state</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your State</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>city/town</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your City/Town</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriate application</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in real world context</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accurate identification of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>relative size of geographic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>levels</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Alternate Assessment

7. True or False: Your continent is smaller than your state. __________

8. The United States of America is your:
   a. City/Town
   b. Continent
   c. Planet
   d. State
   e. Country

9. Imagine you are telling a friend about your trip to (name of familiar state). Which map would be the most helpful reference?

   a. ![Map of Continents](image1)
   b. ![Map of North America](image2)
   c. ![Map of the United States](image3)
   d. Map of Your State

10. True or False: Your state is larger than your city/town. __________

11. (Name of City/Town) is your:
a. State
b. Planet
c. City/Town
d. Continent
e. Country
Grade 4 Lesson Plan for Language Arts Unit: Oral Tradition

Situate the Lessons

This three lesson sequence is a Language Arts Unit introducing oral tradition. The learning objectives establish foundational understandings for approaching text with an evaluative perspective. Use of the featured read text for this lesson sequence, Pink and Say by Patricia Palacco, is enriched by previously or concurrently studying the United States Civil War to promote a depth of comprehension with the text. Subsequent to this lesson sequence students may continue to examine other genres built on oral tradition, such as folk tales.

Content Vocabulary: oral, tradition, origin, theme, critical, essence, alter, embellish

Objectives

By the end of this lesson sequence students will be able to:

• Describe the nature of oral tradition
• Analyze a story passed down by oral tradition for aspects that are more likely to be fact or fiction
• Apply oral tradition related vocabulary accurately in evaluation of a story

Lesson 1

Initial Experience: Presenting the Challenge

Prepare a short story (sample provided below). Pass the story orally around a group of students, telephone-style. The group should be large enough to increase the odds of several alterations occurring throughout the retellings. Have the last student retell the story aloud and transcribe this final version. Students are always entertained by the changes that occurred and enjoy reacting to how the final version differs from the version they remember.

Read the original version aloud. Use a story elements graphic organizer (sample provided below) for each version, the original and final, and compare the two.

Challenge: Some students may complete the telephone-style story telling, transcription of the final version, and comparison with the graphic organizers more independently in small groups instead of in a teacher-led whole group. The complexity of the original story may be increased for additional challenge.
Create a T-chart of story “Elements that stayed the same” and “Elements that changed” between the original and final versions. It may look something like this:

<table>
<thead>
<tr>
<th>Elements that Stayed the Same</th>
<th>Elements that Changed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major characters</td>
<td>Minor characters</td>
</tr>
<tr>
<td>Setting location (e.g., city)</td>
<td>Setting details (e.g., weather)</td>
</tr>
<tr>
<td>Main idea of events (e.g., character got hurt)</td>
<td>Nature of events (e.g., how the character got hurt)</td>
</tr>
<tr>
<td>Theme</td>
<td></td>
</tr>
</tbody>
</table>

Conclude with a discussion of why some story elements may be more likely to change over oral retellings than others. Guide students to understand that the most salient and critical story features are the ones that persist, while story features that can change without altering the essence of the story are more likely to be altered. Story alterations occur as individuals’ unique knowledge impact recall and retell of a story. Use these understandings to complete and record the following class statement: The nature of oral story telling is...

Observe student responses for:

- Application of prior knowledge related to oral tradition, as well as story elements. (What is known? What is unfamiliar?)
- Growing understandings about the flexibility of story elements. (Are connections to other genres made? What thresholds are revealed?)

Support: Focus the comparison of the original and final versions of the story on only one or a couple of story elements.

Provide formative feedback by confirming accurate use of content vocabulary, complimenting accurate understandings of story elements, and referring back to examples from the telephone-style story activity to support growing understandings about the nature of oral tradition.

Lesson 1 Cross-curricular Connections: Reinforce understandings about story elements by having students use the graphic organizer to plan their own narrative story. Connect with the concept of probability in mathematics by having students predict the probability of alterations to a sentence that is shared telephone-style as the sentence length or group size is varied.
Lesson 2

Gradual Release: Present the Text (primarily teacher guided)

Read Pink and Say by Patricia Polacco as an example of a story passed down by oral tradition.

Before Reading: Provide or connect to prior knowledge of the U.S. Civil War and preview key vocabulary words from the story to support student access to the text.

During Reading: The reading may be completed independently or as a read aloud depending on the reading levels of the students. Use select stopping points throughout the text where students pause to predict and confirm to support comprehension.

After Reading: Have students complete the story elements graphic organizer for the Pink and Say. Then revisit the understandings about oral tradition from Lesson 1 and tell students they will use these understandings to analyze Pink and Say in the next lesson.

Alternative: Different texts may be used to anchor the examination of oral tradition. Folk tales are an excellent example of a genre rich with stories traditionally passed down orally. The oral tradition of folk tales has yielded various versions of the same story, particularly across cultures. If a text with less complexity is desired, a folk tale may be an appropriate alternative.

Lesson 2 Cross-curricular Connections: Patricia Polacco’s Pink and Say presents several opportunities for cross-curricular connections. For example:

- Extend the language arts study with Pink and Say by guiding students through a close reading to examine symbolism. The symbolism of the handshake is powerful and multi-dimensional. The handshake represents passing down: 1) the story, 2) the memory of a soldier, and 3) ideals of equality. The passages supporting this inquiry are the page with Moe Moe Bay and Pink touching Say’s hand, the page with Pink and Say reaching for each other, and the page with Patricia and her father.
- Students may use the rich text of Pink and Say to support word hunts for spelling practice. For example, if the word sort for the week was words ending in –le or –el, students could search for additional words to add to those categories in the text.
- Exploration with Pink and Say is enhanced by prior or concurrent study of the United States Civil War in social studies.
- Connect in art by examining how Patricia Polacco uses illustrations to enhance the story text.
Lesson 3

Gradual Release: Text Analysis (shared responsibility between teacher and student)

Review student graphic organizers for Pink and Say as well as the understandings about oral tradition from Lesson 1.

Highlight the story elements on the graphic organizer for Pink and Say according to whether each is an aspect that may have changed over retellings or is likely to be the same as the original.

Support: Work with a small group of students who may benefit from more teacher guidance for this evaluation task with the text.

Have students discuss and defend decisions about story elements that are likely to have changed or stayed the same over time. Justifications should be supported by reference to understandings about oral tradition.

Use observations from Lesson 1 to guide discussion and inquiry about how this evaluation connects to the concept of fact and fiction in text. Guide students in recognizing that critical elements of a story are more likely to be grounded in fact, whereas less critical elements may be more fictional. Apply these understandings to answer the big question: How does understanding the nature of oral tradition help with the evaluation of fact and fiction in stories that have been passed down orally?

Gradual Release: Collect an Oral story (student’s work more independently to apply knowledge)

Homework: Elicit and record an oral tradition story from a relative or friend. (May begin with something like “I remember when...” or “Did I ever tell you about the time when...”)

Support: Have one of your own oral tradition stories from your life to share with students who may not be able to complete the task for homework.
Challenge: Have students who have multiple family members or friends who know the same story elicit and record the story from both people separately and compare the versions.

Lesson 3 Cross-curricular Connections: Connect to writing with an examination of author’s craft. Patricia Polacco makes effective use of flashback and flash forward to situate a piece of historical fiction. Students could apply a similar flash back and flash forward structure to writing up their own oral tradition story recorded for homework.

Evidence of Deep Learning: Realizing the Change (assessment)

Analyze the recorded oral tradition story for aspects that are most likely to be fact or fiction. Have students pick and write about one aspect of the story they decided is likely to be fact and one aspect they decided is likely to be fiction. Students should use knowledge about oral tradition to justify why their each aspect is categorized as fact or fiction. Provide a word bank of the content vocabulary for oral tradition for students to reference and include in their written responses.

Assessment Chart (for record keeping during Evidence of Deep Learning activities)

<table>
<thead>
<tr>
<th>Vocabulary</th>
<th>Student A</th>
<th>Student B</th>
<th>Student C</th>
<th>Student D</th>
</tr>
</thead>
<tbody>
<tr>
<td>oral</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tradition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>origin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>theme</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>critical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>essence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>alter</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>embellish</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriate selection of at least one story element likely to be the same and one likely to have changed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Justification of each selection based on understandings about oral tradition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Alternate Assessment

12. Oral tradition refers to:
   a. writing down a story
   b. telling your friends a story
c. passing a story around by telling it to many people
d. passing a story down by telling people across generations

13. True or False: The theme of a story tends to stay the same as the story is retold over time.  

14. Which of the following story elements is most likely to change as a story is retold over time:
   a. Major characters
   b. Setting location
   c. Minor characters
   d. Main idea of events

15. Which of the following terms is the best synonym for essence (of a story)?
   a. alter
   b. embellish
   c. theme
   d. setting

16. Short Answer: Explain why some details in stories may change when a story is passed down through oral tradition.
   
   __________________________________________________________
Sample Story for Telephone Activity (Lesson 1)

Did I ever tell you about the time when I was a little girl and wouldn’t eat my spaghetti? Well, I was young, maybe only three years old. It was dinnertime and the family had been sitting at the table in the kitchen. I say “had” because I was the only one left sitting at the table. My mom was cleaning the dishes and my dad was playing with my baby brother in the family room. I was still at the table because I wouldn’t eat my spaghetti. My parents said I had to eat my dinner before I could leave the table. But I had a very good reason for not eating it: there was a spider in my spaghetti! I told my mom, “Pider in dere.” I told my dad, “Pider in dere.” They didn’t believe me because they thought I was making it up. Finally they looked closer and saw the “pider in dere.” Then they got me something else to eat for dinner.

Sample graphic organizer

From http://www.dailyteachingtools.com/language-arts-graphic-organizers.html#21
Grade 6 Lesson Plan for Mathematics: Theoretical vs. Experimental Probability

Situate the Lesson

The purpose of this lesson is to introduce the mathematics concept of theoretical vs. experimental probability. The learning objectives establish foundational understandings for delving into beginning statistics. Students should have an initial understanding of the concept of probability prior to this lesson. Subsequently students may go on to explore the collection and reporting of statistical data.

Content Vocabulary

More content specific: probability, outcome, theoretical, experimental, variable, variance

Less content specific: probable, possible, likely, certain, improbable, impossible, unlikely, never, and even chance (more/less, most/least, equally)

Objectives

By the end of this lesson students will be able to:

• Describe the difference between theoretical and experimental probability
• Predict theoretical probability
• Hypothesize variables that may introduce variance to theoretical probability
• Apply probability related vocabulary accurately in a demonstration

Initial Experience: Presenting the Challenge

Review probability with a concrete example. Using a deck of cards present seven cards with a variety of numbers and suits. Remind students of the P(____) notation for probability and use the notation to record answers as you review.

Ask students if they recall the term for the total possible choices: outcome. Record answers as a fraction using the term outcome to refer to the denominator. In this instance students should be able to set up the probability equation as P(____) = x/7. Possible review questions and answers are presented for the following selection of cards.

• What is the probability of drawing a King? P(King) = 1/7
• What is the probability of drawing a 5? P(5) = 2/7
• What is the probability of drawing a heart? P(heart) = 2/7
• What is the probability of drawing an even number? P(even number) = 3/7
• What is the probability of drawing a multiple of 2? P(multiple of 2) = 3/7
• What is the probability of drawing a 9? P(9) = 0/7*

Note: Answers are provided as proper fractions. At any point you may wish to incorporate review of converting a fraction to a decimal and percentage.
*The probability of zero presents the opportunity to highlight the total possible range of probability as 1-0, with 1 being certain and 0 being never.

Extend: Students may complete independent or partner practice with review questions such as those available for Simple Probability through Khan Academy [LINK: https://www.khanacademy.org/math/precalculus/prob_comb/basic_prob_precalc/e/probability_1].

Support: Simplify the complexity of the review example with fewer outcomes (e.g., three to five instead of six or more; up to five is easier to represent with the fingers on your own hand) and/or fewer characteristics for the outcomes (e.g., solid color squares instead of cards with numbers, colors, and suits).

Once prior knowledge of probability is recalled or provided, present the three objects that will be used for a deeper exploration of probability. A template is provided for the tetrahedron and the cube. Prepare a tetrahedron for modeling that has four different colors on each side.

<table>
<thead>
<tr>
<th>Coin</th>
<th>Tetrahedron</th>
<th>Die (Cube)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Coin" /></td>
<td><img src="image2.png" alt="Tetrahedron" /></td>
<td><img src="image3.png" alt="Die" /></td>
</tr>
</tbody>
</table>

Ask students to identify the total possible outcomes for each object.

<table>
<thead>
<tr>
<th>Coin</th>
<th>P(_) = x/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrahedron</td>
<td>P(_) = x/4</td>
</tr>
<tr>
<td>Cube</td>
<td>P(_) = x/6</td>
</tr>
</tbody>
</table>

Next ask students to predict the probability of getting heads when the coin is tossed. P(heads) = 1/2

Ask the probability of rolling yellow when the tetrahedron is tossed. P(yellow) = 1/4

Ask the probability of rolling a 6 when the dice is tossed. P(6) = 1/6

Then say, “Let’s test it out!”

Conduct ten trial tosses for each object. Create a basic chart to tally the results of each toss for the three objects. Conduct more trails if needed to ensure the result is slightly different than the predicted outcome (e.g., 7/10 coin tosses were heads).

Challenge students to think, discuss, and share about why the result is different from what was predicted.

Observe student responses for:

* Application of prior knowledge related to probability. (What is known?
What is unfamiliar?)

• Growing understandings about how variables influence probability. (Are connections to other applications or examples made? What thresholds are revealed?)

Introduce the terms theoretical and experimental to distinguish the two types of probabilities students just experienced. Explain that theoretical probability is what we expect and experimental probability is what we actually get!

Gradual Release: Highlight the Influence of Variables (primarily teacher guided)

Build on students’ initial awareness about the influence of variables. Probe for prior knowledge of the term variable and explain that it is something that might influence a result. Ask students to brainstorm a list of variables that might have influenced the result of the coin toss. A list may look something like this:

- Different energy put into each toss
- Starting on different sides of the coin
- Different distance in the air
- Whether the coin was flipped over before revealed

Affirm student thinking about the things that could influence the result of a coin toss, thereby creating variance, or differences, between theoretical and experimental probability.

Gradual Release: Experiment with Variables (shared responsibility between teacher and student)

Ask students if adding weight to one side of an object might be a variable that could create variance between theoretical and experimental probability. Have students work in partners or small groups to experiment with weight as a variable. Provide each group with a tetrahedron or cube template and a few stickers. (Puffy stickers work well to add more substantial weight than traditional flat stickers.) Each group should:

1. Choose and record a theoretical probability for their object.
2. Conduct trials without any added weight to acquire and record an experimental probability.
3. Introduce the weight variable by adding a sticker(s) to their object and conducting the trials again.

Tell students to observe for differences and be thinking about how their variables create variance between the theoretical and experimental probabilities.

Support: Work with a small group of students who may benefit from more teacher guidance for the task.

Bring students back together as a whole group to share and discuss their findings.

Support: Provide formative feedback by confirming accurate use of content vocabulary, complimenting accurate understandings of probability and variance, and referring back to examples from the experiments to support growing understandings about the difference between theoretical and experimental probability.

Extend: Relate probability to real-world decision making. Propose additional scenarios where probability is a factor such as, what to pack for a trip based on the weather, which soccer player should take the penalty shots when a technical foul is called, whether to go for three of a kind in a card game, or if it is worth the risk to go for the secret weapon in a video game. (The scenarios present an opportunity to connect with student personal interests!)
Cross-curricular Connections: There are numerous ways to relate and add depth to understandings about probability across content areas.

- Connect probability to weather phenomenon studied in science prior or concurrent to this lesson.
- In physical education, discuss probability of various sports phenomenon.
- Utilize language arts time for vocabulary explorations, such as 1) categorize synonyms, then 2) put words on continuum and identify events each term aptly describes, 3) explore affixes (im- and un-), 4) explore word origins.
- Invite students to apply probability thinking to compose an editorial writing piece about the influence of variables on particular events, such as getting in a car accident, successfully baking a cake, getting an A on a test, winning a card game, etc.

Evidence of Deep Learning: Realizing the Change (assessment)

Invite students to work individually or in pairs to come up with their own probability scenario. Possibilities may include:

- Tossing objects with sides
- Pulling objects from a bag
- Shuffle selection of a song from a playlist
- Randomly choosing a name from a list

Have students:

1. Write out their scenario.
2. Choose and record a theoretical probability for their scenario [e.g., \( P(\text{select a country song from the playlist}) = \frac{4}{25} \)].
3. Hypothesize at least one variable that could create variance between the theoretical and experimental probability (e.g., several red tiles could be on top of the pile in the bag, increasing the odds of a red tile being pulled from the bag).
4. Conclude with a statement about experimental probability related to their scenario.

Students may write or present their probability scenario task to provide the opportunity for evaluation. Provide a word bank of the content vocabulary for probability for students to reference and include in their written or oral presentations.

Assessment Chart (for record keeping during Evidence of Deep Learning activities)

<table>
<thead>
<tr>
<th>Vocabulary</th>
<th>Student A</th>
<th>Student B</th>
<th>Student C</th>
<th>Student D</th>
</tr>
</thead>
<tbody>
<tr>
<td>probability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>outcome</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>theoretical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>experimental</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>variable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>variance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theoretical probability prediction is accurate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypothesized variable that may introduce variance to the theoretical probability is logical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental probability statement reflects understandings from the lesson</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Alternate Assessment
17. If a boy has 6 pennies, 3 nickels, and 2 dimes in his pocket, the probability of pulling out a nickel is:
   a. $P(\text{nickel}) = \frac{3}{11}$
   b. $P(\text{nickel}) = \frac{1}{3}$
   c. $P(\text{nickel}) = \frac{11}{3}$
   d. $P(\text{nickel}) = \frac{5}{11}$

18. True or False: Theoretical and experimental probabilities are never the same. __________

19. Which type of probability is what you expect to happen:
   a. Raw
   b. Theoretical
   c. Outcome
   d. Experimental

20. Which of the following probabilities represents ‘never’?
   a. $\frac{2}{5}$
   b. 0
   c. 1
   d. $\frac{3}{501}$

21. Short Answer: A basketball player has a 90% success rate shooting free throws. She misses two in a row in a game. Identify and explain two variables that may have influenced her missing those shots.

   __________________________________________________________________________________________________________
   __________________________________________________________________________________________________________
Lesson Object Templates
Grade 8 Lesson Plan for Digital Literacy: Considering Text-Image Connections

Situating the Lesson

The purpose of this lesson is to promote deeper thinking about the connections between text and images in visual presentations. The learning objectives foster understandings about how effective text-image connections enhance the communication of meaning. Subsequently, students may apply understandings to the evaluation and creation of visual presentations in other mediums and examine how use of text-image connections may vary for diverse formats and purposes.

Content Vocabulary: applications, digital/electronic resource, format, graphic vs. image, portrait vs. landscape, public domain vs. commercial

Objectives

By the end of this lesson, students will be able to:

- Identify techniques for effective text-image connections
- Evaluate visual presentations for effective text-image connections
- Apply techniques for effective text-image connections to the creation of a visual presentation

Initial Experience: Presenting the Challenge

Prior to the lesson, have students collect pictures of flyers they find in the community. Recommend locations to look, such as grocery stores, coffee shops, community centers, etc. Prompt them to collect examples they like, as well as, examples they do not like. Have students submit the pictures electronically (e.g., email, load to a class website, etc.).

Alternative: Provide guidelines and support for searching online for advertisements for students who may live in rural locations or have other challenges impeding the collection of pictures of flyers.

Support: To simplify the examination of text-image connections, have students collect pictures of business logos instead of flyers or advertisements.

Initiate the lesson with a presentation of the flyer collection. You may wish to organize the flyers to allow each student to talk about the examples they found and why they choose each one, or you may rather present them randomly to view and discuss collectively. The latter is recommended if participation from the entire group is an issue. Invite students to share and discuss initial reactions about whether they like or do not like about each flyer. As students share and evaluate, categorize the flyers that promote the richest discussion as Effective or Ineffective.

Follow the open discussion by having students revisit the flyers selected as examples that are Effective and build a list of aspects that make them effective. Then revisit the flyers selected as examples that are Ineffective. As ineffective aspects are articulated, help students to see how the critique mentioned either supports a point already on the effective aspects list or help them to flip the critique into positive wording for the effective aspects list. For example, students may say an ineffective flyer has text that is difficult to read because it does not stand out from the background color. “Use contrast to keep text readable” is wording that could flip the criticism to a positive statement for the effective aspects list.

An effective aspects list may shape up as follows:

- A key image or text should immediately communicate the idea
- Keep text concise; tell with images instead of words!

-
In conclusion, ask students, “What do all the effective fliers that employ the aspects on our list accomplish?” Guide students to distill their thoughts down to the common purpose of conveying information or meaning!

Observe student responses for:

- Application of prior knowledge related to text-image connections. (What is known? What is unfamiliar?)
- Growing understandings about how visuals and text can work together to effectively convey meaning. (Are connections to other visual presentation modes made? What thresholds are revealed?)

Gradual Release: Highlight the Influence of Variables (primarily teacher guided)

Tell students they will get to create their own flier and practice incorporating techniques from their list of effective aspects to make it stand out. Give them a few minutes to brainstorm events, services, products, etc. they would like to promote with their flier. Encourage them to have a short list, perhaps three, potential ideas to choose from.

Support: Provide a list of quotes for students who struggle to develop their own ideas. Students may choose a quote and create a flier that brings out the meaning of the quote. You may also consider having students work in partners.

Have an application and tutorial prepared to delve into, such as Google Slides and an accompanying YouTube video tutorial (LINK: https://www.youtube.com/watch?v=LP-VSSueGTU). Ask if students can explain what an application is and, if needed, inform them that it is a program designed for a particular task. Let students know if the application they will be using is from the public domain (free software available to the public) or is commercial (paid software). As the video tutorial is reviewed, stop and make connections to the effective aspects list by highlighting functions that may hinder or facilitate effective text-image connections. For example, changing the background color will require consideration of the text color to maintain high contrast for readability.

Next, have students go back to their list of flier ideas and select the one they think they can represent most effectively now that they have seen the application they will be using. Require students to jot down a few key elements of information or meaning they want to convey; this list should ground the purpose of the flier.

Gradual Release: Experiment with Variables (shared responsibility between teacher and student)

Provide students time to develop their flier using the chosen application. In the interest of time, establish the guideline of using existing images from digital/electronic sources.
resources (e.g., clip art) instead of using applications to create graphics. Tell students how long they have to work and give them a final time warning so they can pace themselves with the goal of having something complete to share at the end of the development time. Remind them that the first format decision is whether to start with a portrait or landscape orientation (model if needed). Circulate while students work to help trouble shoot, to discuss intentions for the flier and support use of techniques from the effective aspects list to promote strong text-image connections, and to compliment the use of techniques from the effective aspects list.

Support: Work with a small group of students who may benefit from more teacher guidance for the task.

Challenge: Students may research information about copyright, especially for images, and develop a Top 10 list of must-know guidelines about copyright. The school librarian may be a helpful resource.

Bring students back together as a whole group and invite students to show their flier and share their favorite effective aspect.

Support: Provide formative feedback by confirming accurate use of content vocabulary, complimenting use of techniques that promote effective text-image connections, and referring back to examples from the original collection of fliers to support growing understandings about power of effective text-image connections.

Cross-curricular Connections:

- Collaborate with the art teacher to enhance learning about the artistic aspects of visual presentations
- Examine text-image connections in fiction picture books, looking for how an illustrator can help readers make inferences and realize deeper meaning than from the text alone
- Examine text-image connections in non-fiction books (e.g., captions)
- In social studies, explore various examples of propaganda and evaluate how text-image connections support the intended message
- Across content areas, develop and represent understandings about concepts by creating a flier (e.g., consequences of westward expansion, plate tectonics, etc.)

Evidence of Deep Learning: Realizing the Change (assessment)

Invite students to select one of the fliers from the original flier collection out of the Ineffective category and rework it by applying what was learned about text-image connections to make it more effective.

Assessment Chart (for record keeping during Evidence of Deep Learning activities)

<table>
<thead>
<tr>
<th>Vocabulary</th>
<th>Student A</th>
<th>Student B</th>
<th>Student C</th>
<th>Student D</th>
</tr>
</thead>
<tbody>
<tr>
<td>applications</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>digital/electronic resource</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>format</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>graphic vs. image</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>portrait vs. landscape</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>public domain vs. commercial</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student can identify effective text-image connections</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student can evaluate text-image connections for effectiveness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Student can apply text-image connections to effectively convey meaning

Alternate Assessment

22. Google Slides is a(n):
   a. Software
   b. Hardware
   c. Application
   d. Both a & b

23. True or False: Applications in the public domain cost money. _________

24. Which characteristic is important to consider for text within a visual presentation:
   a. Size
   b. Color
   c. Font
   d. All of the above

25. Which term best describes the main idea of the following visual presentation?
   a. Spanish
   b. Dance
   c. Formal dress
   d. Music

26. Short Answer: Reword the following sentence into a word or phrase appropriate for a visual presentation “The community event will have music for those who want to simply sit and enjoy, local vendors for adults to explore, games for kids, and even a sandbox for the little ones!”

__________________________________________________________