

## World Biome Tunnel Book

*A short research project presented in a tunnel book*

Grade level: 3<sup>rd</sup> +

Time Required: 3-4 45 minute lessons,  
depending on age/ability

Teaching Strategy: Whole group

- I. Subject/Content Area  
Visual Art, Science, Technology
- II. National Arts Standards, Common Core Key Points, 8 Mathematical Practice Standards



<b>Visual Arts</b>	
<b><i>K-4</i></b>	
1	Understanding and applying media, techniques, and processes
2c	Students use visual structures and functions of art to communicate ideas
6	Making connections between visual arts and other disciplines
<b><i>5-8</i></b>	
1b	Students intentionally take advantage of the qualities and characteristics of art media, techniques, and processes to enhance communication of their experiences and ideas
2c	Students select and use the qualities of structures and functions of art to improve communication of their ideas
6	Making connections between visual arts and other disciplines
<b><i>9-12</i></b>	
1	Understanding and applying media, techniques, and processes
2	Using knowledge of structures and functions
6	Making connections between visual arts and other disciplines

<b>CCSS Key Points</b>	
<b><i>English Language Arts</i></b>	
Research—both short, focused projects (such as those commonly required in the workplace) and longer term in depth research—is emphasized throughout the standards but most prominently in the writing strand since a written analysis and presentation of findings is so often critical.	
The standards expect that students will grow their vocabularies through a mix of conversations, direct instruction, and reading. The standards will help students determine word meanings, appreciate the nuances of words, and steadily expand their repertoire of words and phrases.	
Just as media and technology are integrated in school and life in the twenty-first century, skills related to media use (both critical analysis and production of media) are integrated throughout the standards.	

## 8 Mathematical Practice Standards

### *CCSS.Math.Practice.MP4 Model with mathematics.*

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another.

III. Concepts  
World Biomes, Space, Layout

IV. Behavioral Objectives: TSW

Objective	Bloom's Taxonomy
1 Recognize terms: biome, habitat, tunnel, proportion, foreground, background, frame	Remembering
2 Write a summary of the biome they have researched (and Earth Day poem, if desired)	Comprehension
3 Develop a set of proportionately sized plants and animals	Application
4 Develop a tunnel book incorporating principles of design, science knowledge, and written work to showcase their biome	Synthesize

V. Evaluation

1 Teacher observation of student vocabulary use
2 Standard state scoring rubric for informational summary
3 Teacher observation, final rubric
4 Produced product, final rubric

VI. Materials/Media

*The Great Kapok Tree* by Lynne Cherry ISBN: 0152026142

Computer with printer access (Internet capabilities)

Cardboard (for background/back layer)

Cardstock or sturdy paper (for frames)

Template for frame and book sides

Various colored papers

Scissors

Glue

VII. Teaching/Learning Procedures

A. Motivation

Ask the question, "What is a tunnel?" and then "What do you think a tunnel book would be?" Show students interesting examples of tunnel books with pictures or samples.

Explain that they will make a tunnel book based on their learning.

B. Instructional Procedures

1. Read the children's story *The Great Kapok Tree* and discuss why it is important to save the tree. Highlight Earth Day and the reasons we celebrate. Make a list of things students can do to help the environment. Tell students that knowing about all the plants and animals in the world can help understanding of why locations are so important.
2. Introduce biomes. Show students the website (<http://kids.nceas.ucsb.edu/biomes/index.html>) and the research recording sheet. While at the computer, have students search for "coloring page \_\_\_\_" to find realistic, reproducible pictures of animals and plants from their biome. They should copy and paste these onto a blank document and size them appropriately to fit their project. Demonstrate how the research and animal pages should be completed, then allow computer time to complete (monitoring as necessary). Print the animal pages.
3. Review how to write summaries of informational text. Model a sample of a written summary. Allow students time to write their own summary of their biome. Edit and publish as desired.
4. Give students several examples of poem forms. Allow them to choose a form (rhyming, limerick, cinquain, haiku, or acrostic) Edit and publish as desired.
5. Have students (or prepare ahead of time) cut out one cardboard background and at least four cardstock frames. Students should use colored paper to create the background on the cardboard sheet. This is the "setting" and should be fairly plain, but indicative of the land region. For example, rainforests might be green with large trees or foliage while a desert might be tan with a plateau in the background and large sun. Students should color the front of each frame to blend into the background.
6. Color and cut out the animal and plant pages. Stress realism and neat cutting. If white space remains, have students color it the background color in order to blend in. Students may create more plants or landforms out of colored paper.
7. Demonstrate layering and the importance of planning. Have students work to attach plants and animals to each of the frames. All of the animals should extend inward. Check regularly to make sure animals and plants aren't overlapping to the point background images can't be seen. **Note:** Show students how to cut animals in half to be entering or leaving the frame. Demonstrate how to create leaves, rocks, or landforms so that animals are not floating in the air!
8. Students should color the side pages (on the template file) to match the background. (Alternatively they can be printed on colored paper, if available.) Fold along each of the black lines in a fan style. Lay flat for assembly.
8. If students are assembling, demonstrate how to assemble the book. Glue the background to the first section of each of the side pages. Bring in the next fold, forward and back, then attach the first frame to each side. Continue folding and attaching a frame at each level until the frames are all assembled. Add the writing to each of the front flaps.

C. Closure

The teacher will ask students to tell three things they learned today, which will encourage recall of facts or main points. Then students can present their projects and the teacher can highlight some of the similarities and differences, providing positive critiques to encourage more creativity in future projects.

### VIII. Supplemental Activities (Early Finishers, Remediation, Enrichment)

**Early Finishers:** Early finishers can help clean up project materials and then find a library book that highlights one of the plants, animals, or areas in their biomes. They can create more 3D foliage for their project, or help others.

**Remediation:** Students can work in pairs to complete research. They can rewrite each section of their research paper into a sentence in order to compose a summary. The teacher can assist with assembly.

**Enrichment:** Encourage students to learn more about their biome and what some of the problems facing plants, animals, or the land are. Challenge students to find endangered animals and plants and research ways to help.

### IX. Professional Reflection



frames separated and finished



frames laying on top of each other to see layout



gluing the background in place



adding a frame layer



folding and adding