



A Peek Down the Tunnel

Storytelling gets a new look in this hands-on STEAM activity! Inspired by the projects found in the *Plants and Seeds Enrichment Program*, this STEM freebie challenges students to create a three-dimensional work of art known as a tunnel book. Using an understanding of depth, perspective and imagery, it's their job to create a visual, multi-layered illustration to tell a unique story.



HANDS-ON STEM EDUCATION

For over 30 years, PCS Edventures has inspired students to develop a passion for Science, Technology, Engineering and Mathematics (STEM), focusing our efforts on making learning and discovery a fun and interactive process for grades K-12.

- Classroom
- After-School
- Home Learning

What Is A Tunnel Book?

A tunnel book is a three-dimensional piece of art. Each book is made up of a series of pages that are held together by folded strips of paper on each side. These moveable, pop-up style books are a unique way to use the illusion of space to tell a story in 3D.

The concept of a tunnel book was inspired by the moving sets in a theatrical stage during the mid-18th century. However, it is believed that the name “tunnel book” came about during the mid-19th century to celebrate the construction of the tunnel under the Thames River in London.

When creating a tunnel book, understanding layers and how to use space on the individual pages are essential to telling a story. Before you start engineering your own three-dimensional work of art, let’s take a look at the elements of art and drawing techniques our artists will use!

Elements of Art

In art, there are seven elements that act as building blocks or ingredients in creating something special: *line, shape, space, value-form, texture and color*. For this activity, students focus on their understanding of space which can be broken down into three main parts: *foreground, middle ground and background*.

Foreground

When looking at a piece of art, the foreground is the part of the view that is closest to you. It’s the view that you see at the front.

Middle Ground

The middle ground is just as it sounds and is the part of the middle of an image. Although all art exists on the same surface, images have different depths and distances.

Background

The background is the area of scenery behind the main object. It’s the scene in which your story is being told.

Build A Tunnel Book:

Materials:

- Colored pencils, markers, or crayons
- Glue
- Pencil and eraser
- Rectangle Stencil
- Scissors
- Scratch paper
- White cardstock (5 sheets)

You can also use any arts and crafts materials you have available for additional tunnel book customization!



Step-By-Step Instructions for a Three-Layered Tunnel Book:

1. Gather materials: 3 sheets of cardstock, pencil, eraser and the rectangle stencil (template provided).



2. Grab one sheet of cardstock and your stencil, then trace the inner edge in the center of the paper.



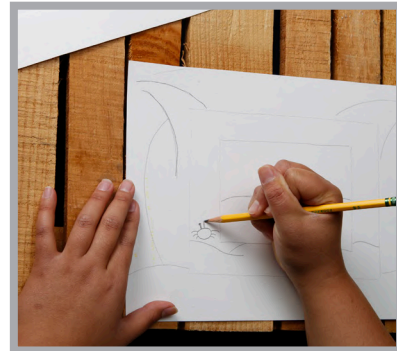
3. On the second sheet of cardstock, trace the outer edge of your rectangle stencil in the center of the paper. Leave the third sheet blank and set all three sheets aside. These are your tunnel book layers.



4. Next, take each template and cut out the rectangle tracing.



5. Then, grab your pencil and piece of scratch paper to create a design for your tunnel book. Sketch out your ideas.



6. Once you've created your design, it's time to transfer it to your cardstock layers and color them in.

Start with the front layer (foreground). Use the cardstock that has the outer edge of the stencil traced and transfer your design.



7. Repeat this process for your middle ground using the cardstock layer that has the inner edge of the stencil traced.



8. Create your background image by transferring your design to the blank cardstock. Finish coloring and decorating your layers. Once your layers are complete, set aside.



9. Next, grab 2 pieces of cardstock to create your accordion folds. These will be used to hold your tunnel book together. Take each piece of cardstock and cut in half.

Note: After completing this step you should have 4 smaller pieces of cardstock. These smaller pieces will allow you to create thinner accordion folds that won't block your designs.

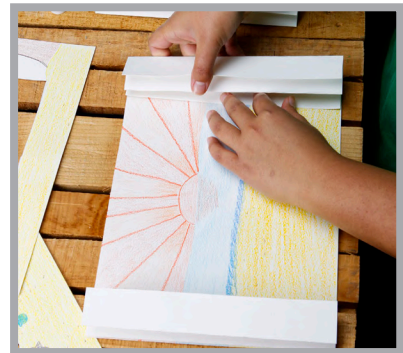


10. Using one piece of cardstock at a time, create an accordion fold. Repeat for the remaining pieces of cardstock.

Note: Each accordion fold should be done in the same manner. This will ensure your tunnel book pages are held together correctly.



11. Assemble your layers by gluing your accordion folded cardstock to the outside edges of your completed layers. Start with your background layer, working towards the front of the tunnel book.



Discussion Questions:

- Did you keep your original design or did you change it?
- Describe the story you created with your tunnel book. What was your inspiration?
- Did you use tricks for creating the illusion of space? If so, how

Template



Explore a Plants Life Cycle with Tunnel Books!

This STEAM activity was inspired by the activities found in *Plants and Seeds: Exploring Life Cycles Through Art*.



Challenge learners to channel their inner storyteller as they create a free-standing, sculptural artwork to visually explain the lifecycle of a plant. Referencing the five kinds of seed dispersal: gravity, water, wind, animal and attachment, each lesson builds problem-solving skills, confidence and creativity as students construct a one-of-a-kind work of art.

Interested In More Art/STEAM Activities?



Unleash Your Wild Side - Investigate the diversity of the planet as globe-trotting artists! From the arctic to the high desert, revel in the complexities of different ecosystems through creative, hands-on art projects that inspect the science of the most intricate environments of the globe.



Discover Digital Video LAB - Students star in their own multimedia production using the Discover Digital Video LAB. Exciting curriculum with digital documentaries, historical recreation, original films, and more. Simple startup and step-by-step activities make it easy to set up in your classroom, student club, or after-school program.



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