

TIMBERWORKS TOYS

www.timberworkstoys.com



Enhancement of your curricular goals through hands-on creativity

Overview

Timberworks Toys can enhance your classroom by integrating kinesthetic learning seamlessly into your curriculum, with the help of these cross-curricular lesson plans. Timberworks will help you to meet your objectives and allow for differentiated activities, while supporting the development of kinesthetic talent, visual-spatial skills, and critical thinking.

AIRPLANES

Talk with your students about the major impacts airplanes have on our daily lives: Next-day air, military combat, vacations, etc. Read books with your students about Amelia Earhart and the Wright Brothers and discuss why they were such important figures in history. By having your students read about the different kinds of airplanes and then letting them build their own, you give them a better understanding of the complexity of this machine. You could also discuss how different airplanes fly faster or farther than others with less fuel due to weight or shape, you could even introduce aerodynamics as a basic concept.

Cross-curricular Goals

1. Language Arts

- Develop and apply skill and strategies to comprehend, analyze and evaluate fiction, poetry
- Apply a writing process when composing text.
- Develop and apply listening skills

2. Social Studies

- Knowledge of continuity and change in the history of Missouri

- and the United States
- Knowledge of relationships of the individual and groups to institutions and cultural traditions.

3. Mathematics

- Understand numbers, ways of representing numbers, relationships among numbers and number systems
- Understand patterns, relations and functions
- Understand measurable attributes of objects and the

- units, systems and processes of measurement
- Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them.

4. Fine Arts

- Artists communicate ideas through artworks by selecting and applying art elements and principles

Literature

Objective: Students apply design principles to building an airplane, while relating to characters in a story.

Overview: Read a story and then build an airplane out of Timberworks Toys.

1. Read a story to the class that involves flight such as: *Amelia Earhart: The Legend of the Lost Aviator* by Shelley Tanaka.
2. Discuss with your class how the airplane in the book was built or used.
3. Put students into groups and have them build an airplane.
4. After they build, have students discuss any design difficulties they encountered along the way and how they were resolved, as well as how this made them think about the story.
5. Have students write a story about the first time they rode in an airplane or they can use their imaginations to plan where they would go if they were to travel on an airplane.

Social Studies

Objectives: Students are able to name who invented the airplane, and when. Students can also describe who was Amelia Earhart.

Overview: Convey information about airplanes, including historical events involving airplanes, and discuss.

Read some information on the history of flight such as:

1. The Wright Brothers and the invention/ early history of the airplane
2. Amelia Earhart and other long-distance adventurers.

Want more great ideas?

For even more on what you can do with Timberworks Toys, visit our website at www.timberworkstoys.com. You can make many structures in addition to log cabins with Timberworks sets. The wheels that come with most sets give students the opportunity to construct vehicles as well as buildings. The possibilities are endless. We have a full set of lesson plans that incorporate some of our most popular creations, including the bridge, wagon, and car. You can find these lesson plans on our website, along with a step-by-step building video to get you started. You will also find a gallery of pictures of the Timberworks creations. Feel free to send in what your students create! Please call or e-mail us with your questions at 877-LOG-TOYS or timber-works@usa.net.

RESOURCES:

A good resource for song lyrics and more: <http://www.preschooleducation.com/sair.shtml>

For some more information about Amelia go to <http://www.ameliaearhartmuseum.org>

Aviation Art website to learn more about the different types of airplanes. <http://www.amavart.com>

Website with specific names of children's literature texts and descriptions on the topic of airplanes and flight <http://www.carolhurst.com/subjects/flight.html>

Library of Congress website - classroom materials on the topic of Flight and Early Aviators with many primary sources and photographs: <http://www.loc.gov/teachers/classroommaterials/themes/flight/>

Teacher Notes

Take snapshots of the airplanes as the students are working on them. You could have your students write a story about them later.

Each group might need some adult help to get started building, depending on how advanced the students are.

For highly advanced students it is also possible to construct a biplane.

Math/Science

Objective: Students can explain what friction does, and which types of materials provide more friction.

Overview: Run the planes down ramps (not included with Timberworks Toy kit), using different types of friction to see how the planes go faster and slower.

1. Make 3 or 4 different ramps that offer various levels of resistance. (You could use a ridged surface, sandpaper, etc.)
2. Have the students observe which ramps the airplanes go down more quickly or slowly.
3. Discuss with the students how this demonstrates the principles of friction.

Fine Arts

Objective: Students sing songs to reinforce what they've learned about flight.

Overview: Sing song with your students and talk about why airplanes can fly but cars can't.

I'm a Little Airplane and Did You Ever See an Airplane? are great songs you can use that are made to lyrics the students already know such as *I'm a Little Teapot*.