

Hammock Among Us

Create a hammock to hold the most golf balls or other weight.

Subjects and Skills

- ◆ Estimation, analysis, prediction
- ◆ Using natural resources

Materials

- ◆ String or yarn
- ◆ Newspaper or fabric scraps
- ◆ Tape
- ◆ Straws or dowels

Vocabulary

- ◆ Hammock
- ◆ Sisal plants
- ◆ Indigenous

Purpose

Hammocks have been around for almost 1,000 years and are still in use today. Learning about the simple design of hammocks, as well as the natural materials traditionally used to create them, will help students better understand basic engineering principles.

Objectives

Students will:

- ◆ learn about the history of hammocks,
- ◆ understand how natural materials can serve as useful resources,
- ◆ analyze the potential flaws of the hammock's design, and
- ◆ provide ideas for solutions to these problems.

Activity Preparation

1. Run off activity sheets.
2. Gather materials and place them in two different areas in the room.
3. Bookmark websites to be used in class.
 - a. <http://www.hammocks.com/historyofhammocksarticle.cfm>
 - b. <http://www.ecomall.com/greenshopping/hammock.htm>

Activity Procedure

1. Students will independently read and highlight the information on the activity sheet, answer the questions, and sketch a hammock based on the reading.
2. Divide students into groups of two or three, and assign group numbers.
3. Ask students to share in their groups one new idea they learned. Ask groups then to share with the class what new things they learned.
4. Review the history of hammocks and the associated vocabulary.
5. Allow groups to settle and discuss plans for creating the hammock before beginning the challenge. Hold the challenge in whatever manner is easiest and most convenient for your classroom.
6. After the competition, have students complete the activity sheet.
7. If you wish, assign one of the projects suggested in Extend the Learning With Hammocks: Project Ideas.

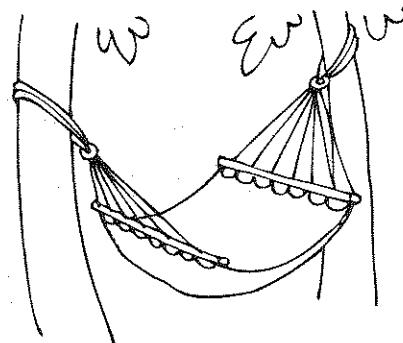
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GOAL

- Create a hammock to hold the most golf balls or other weight.

MATERIALS

- String or yarn
- Newspaper or fabric scraps
- Tape
- Straws or dowels



TIME TO CREATE

- 25 minutes

INDIVIDUAL ACTIVITY

Read the following and highlight the important information, and then respond to the questions.

Hammock

Pronunciation: **Ha**-muk

Etymology: Spanish *hamaca*, from Taino

Definition: A swinging bed usually made of netting and slung by cords at each end.

The hammock is used today by millions of people around the world. Although most people know about the hammock, some may not know where the hammock originated.

History books explain that the bark of the Hammock tree was used to weave the first hammock. The Sisal plant eventually replaced the bark, because Sisal plants were more abundant, and its fibers could be softened. A lot of clothing today is made from this same material.

Hammocks have been used by people in South America and Central America for almost 1,000 years. Hammocks were woven from indigenous fabrics and materials, meaning that people in different areas used the materials native to the area that were available to them; therefore, hammocks were made from a variety of materials, and in a variety of different styles.

By the 18th century, hammocks in North America were a novelty. Most hammocks were narrow, with wood staves, and required a bit of balance and skill on the part of those who sat and lay in them. In the 1880s, a wider hammock was created, and it became quite popular in North America.

1. What material are most hammocks made from today? _____
2. Define indigenous. _____

3. On a separate sheet of paper, draw a sketch of what you think a hammock should look like.

TEAM CHALLENGE

Participants will work together in teams for a total of 25 minutes to design and build a hammock. The teacher will select groups of two or three for the team challenge and will assign a number to each group.

Start Time _____:_____ + 25 Minutes = _____:_____ End Time _____

On a separate sheet of paper, each member must draw a sketch of the agreed-upon team hammock. As a team, and using only the materials provided, build the hammock as closely in keeping with the plan as possible in 25 minutes. The dimensions of the hammock need to be larger than 7" x 7" but less than 11" x 11". The height of the hammock must be at least 6" off the base. Any shape is acceptable for your team's hammock. At some point in the 25 minutes, be sure to test your hammock with one golf ball and record your results in the space provided (Numbers 1 and 2), using your results to refine your hammock design.

1. Predict how many golf balls the hammock will be able to hold. _____
2. Try one golf ball and see what happens. Record your findings and what you learned from the one-golf-ball test. _____

When the teacher signals that it is time to stop working, take your team's hammock to the test site. Any team that continues to work after the stop time may be disqualified from the contest.

1. How many golf balls did your hammock hold?
2. If you were to rebuild the hammock, what would you do differently and why?

3. Getting in and/or out of a hammock can be difficult for some people. How would you design a hammock that would make getting in and/or out easier?

EXTEND THE LEARNING WITH HAMMOCKS: PROJECT IDEAS

1. **Selling the hammock lifestyle.** Create a commercial for a new and improved hammock. Be sure to provide factual information in an entertaining manner.
2. **Hammock H2O.** What modifications would need to be made if you were designing a hammock that would hold water? Write a one-page paper about how you would change your hammock to hold water, and provide a sketch.
3. **Hammocks and sports.** What athletic event could include a hammock as part of the event? Why or how? Write a script for a radio broadcast of this event describing how the hammock plays into the event.
4. **Slings.** The structure of the hammock is based on the shape of the sling. How do we use slings today? Research other ways in which the sling provides a purposeful use. Prepare a two-paragraph report on different ways we use slings.