

Goldilocks' Chair - Stem Design (Grade K-2)

Summary

After reading Goldilocks aloud, students will retell identifying the main events and the problem. In collaboration with the classroom teacher they will complete a chair design challenge. The lesson will close by discussing how experiences with fiction and nonfiction can help them solve real life problems with people and objects.

Main Core Tie

Elementary Library Media (K-5)

[Strand 4 Standard 1](#)

Additional Core Ties

Elementary Library Media (K-5)

[Strand 1 Standard 2](#)

Time Frame

3 class periods of 15 minutes each

Group Size

Pairs

Materials

Goldilocks and the Three Bears by Carolyn Buehner & Mark Buehner.

- ["How to Make Chairs for Kids"](#)

five minute YouTube video

Design Challenge Bag:

Masking tape

Craft sticks

Drinking straws

Scissors

Tag board or card stock 8 X 11

Full juice box

Posted Graphic of the Engineering Design Process - see under attachments

Student Prior Knowledge

Vocabulary:

Fairy Tale

Main Event

Fiction

Nonfiction

Problem

Solution

Intended Learning Outcomes

Students will be able to name Goldilocks as a fiction story and the "Chair" video as an informational (non fiction) story.

Students will use nonfiction information to solve an "imaginary" problem as if they were the character.

Instructional Procedures

Lesson 1: (15 minutes) whole group

Read Goldilocks and the Three Bears by Caralyn Buehner and Mark Buehner

Teacher charts the main event story line using ask, answer, and record.

What did Goldilocks do wrong? How could Goldilocks rebuild her reputation by rebuilding something?

Can she un-eat the porridge? Can she un-sleep in the bed? Can she repair the chair or build another?

Lesson 2 Whole group and then pairs (15 minutes)

Design Challenge: Make a chair that will support a "baby bear" made out of a full juice box.

Assign pairs with ONLY TWO jobs:

Make your "bear"

TALK about your chair design.

Regroup into whole class to watch the video "How to Build a Chair for Kids" listed in the Materials section while charting a list titled What does the builder do that results in a strong chair?

Discuss how the materials in the build bag can be put together to result in a strong chair?

Lesson 3 Whole groups and pairs (30 minutes)

Build / Test / Improve and Closing Discussion

Students work with previously assigned pairs to build, test and improve their chairs.

Processing Discussion: How did you use the Engineering Design Process?

Teacher example, Think, Pair, Share

Have you ever broken something and fixed or replaced it?

How did you feel?

How did the other people feel?

What advice would you give Goldilocks?

Strategies for Diverse Learners

Use an anchor chart with vocabulary. Allow students to decorate the chairs after they have tested to support the juice box weight. Make additional versions of Goldilocks available for independent readers.

Extensions

This could be taught as a collaboration piece with the librarian doing lesson one and then having the bear and chair building be an extension that the classroom teacher does in the classroom and then followed up with the final discussion by the librarian.

2nd Grade: Have them draw/plan the design for their chair, create then improve.

Assessment Plan

Did the chair hold the weight of the juice box? Discussion participation and reflection.

Bibliography

<http://www.getcaughtengineering.com/enchanted-engineering/> Goldilock and the Three Bears

<https://www.youtube.com/watch?v=0IJHRBu0Z4c> <http://lincolnheightses.wcpss.net/stem-at-lh.html>

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