

Humpty Dumpty

Kindergarten

Unit 1 – A Colorful Time with Rhythm and Rhyme

Text Connections: *Red Green Blue: A First Book of Colors* by Alison Jay

Design Challenge Summary

Challenge: What will the students be required to do?

When Humpty Dumpty falls off the wall, he falls apart. How can we keep him from cracking when he falls? Design something to protect Humpty Dumpty when he falls off the wall.

Standards: What standards are addressed?

Science:

- NS.1.K.1 Record observations pictorially, orally, and in writing
- NS.1.K.2 Ask questions based on observations
- NS.1.K.3 Conduct scientific investigations as a class and in teams
- NS.1.K.4 Estimate and Measure length...using non-standard units
- NS.1.K.6 Collect empirical evidence as a class
- NS.1.K.7 Use age-appropriate equipment and tools in scientific investigations
- NS.1.K.8 Apply appropriate rules of safety related to daily activities

Math:

Mathematical Practice Standards

- K.CC.1 Count to 100 by ones and by tens
- K.MD.1 Describe and compare measurable attributes of a single object such as length or weight.

ELA:

- W.K.3 Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.
- W.K.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
- SL.K.1 Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups
- SL.K.3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood
- SL.K.6 Speak audibly and express thoughts, feelings, and ideas clearly.

Result: What will students know, value, and be able to do as a result of the lesson? What's the big idea?

Know and apply the engineering design loop process.
Demonstrate ability to modify designs based on observations and predictions.
Work collaboratively on solving a problem.

Assessment: What evidence will be used to determine student learning?

Did they prevent Humpty Dumpty from breaking?
Did they follow the design loop process?
Did they work collaboratively?

Prior Knowledge/Experiences: What prior content knowledge and skills will the students need?

Experiences with the Engineering Design Loop Process
Connections to the Mathematical Practices
Investigations/inquiry in Science
Experiences with the nursery rhyme Humpty Dumpty
Experiences with hardboiled eggs

Humpty Dumpty

Summary/Connections: How will this design challenge connect with new/future learning, other content areas, real world experiences, etc.?

This lesson will help students develop problem solving skills and collaboration skills that are essential in succeeding in the 21st century. It will allow student the opportunity to transfer and apply skills from various content areas within one task.

As a summary activity, you could engage students in: **W.K.3** Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.

Extensions:

Change height of the wall.

Materials/Equipment/Preparation: What materials and equipment will students need to successfully complete this design challenge?

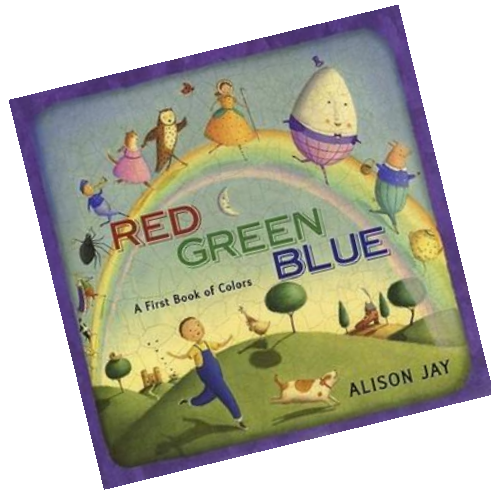
15-20 hardboiled eggs

Tape and/or glue

Teachers may use any available materials (i.e. cotton balls, newspaper, bubble wrap, fabric scraps, etc.)

ADDITIONAL INFORMATION

The “wall” can be the edge of student desk. We suggest having the teacher gently push/tap the egg to fall off the desk – this will allow more consistency in the force of the push off the wall.



Humpty Dumpty



When Humpty Dumpty falls off the wall, he falls apart. How can we keep him from cracking when he falls?

Design something to protect Humpty Dumpty when he falls off the wall.

Group Supplies:

15-20 hardboiled eggs

Tape and/or glue

Teachers may use any available materials (i.e. cotton balls, newspaper, bubble wrap, fabric scraps, etc.)