Hickory Dickory Dock

Kindergarten Science, English Language Arts, and Mathematics

This lesson can be launched with your students during your exploration of nursery rhymes genre study and the relationship of sounds and word patterns.

Objectives

1. Students will learn the characteristics of traditional children's poetry, particularly nursery rhymes, recognizing repeating sounds, and rhyming words.
2. Students will design and build a structure using recycling materials and tools (scissors, low heat glue gun, tape, etc.)
3. Students will practice sequencing and pattern recognition with sounds, letters, numbers, and geometric spaces.

Resources and Tools

- Construction Paper, Crayons, and Pencils
- Recycling materials like paper towel rolls, quart size milk cartons, or cardboard tubes
- String, Pipe Cleaners
- Scissors, tape, low-heat glue gun (optional), regular glue

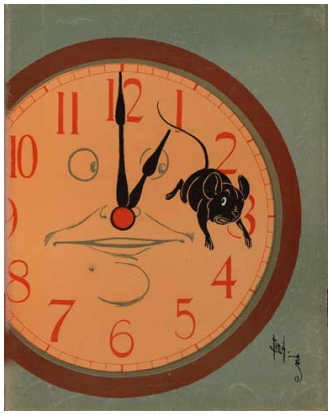
Tools for Extension Activity

- BeeBots
- BeeBot Mat/Grid
- Deck of Rhyming Cards

Lesson 1: Class Exploration of Nursery Rhymes

A. Finding your Challenge

- Identify a challenge that can be addressed within a nursery rhyme.
- Challenges can take many forms, in this instance, the students are being asked to take on an engineering challenge.
- The challenge includes how to:
  - build a clock for your mouse friend
  - make sure the clock is ready to tell time
  - help the mouse get up and down the clock

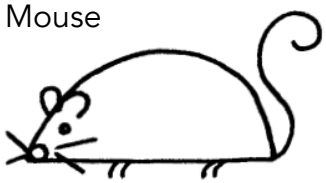


B. Working within an Engineering Framework

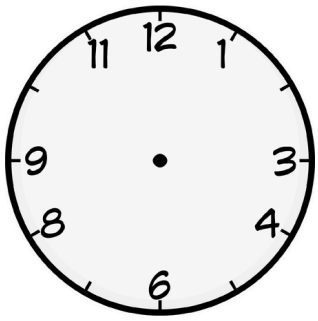
- Introduce students to the Engineering Inquiry Cycle
    - Ask
    - Imagine
    - Plan
    - Design
    - Improve

C. Getting Started

- Is your clock ready to tell time? Have your students prepare their clocks to be ready.
- Make your Mouse

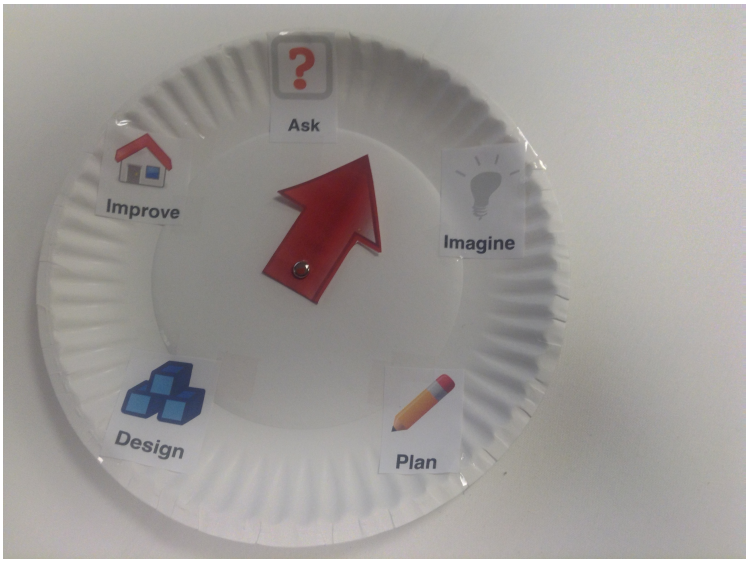


(Scholastic Teaching Resources)



Lesson 2: Jump into Engineering

- Check in with your students about what is happening in this nursery rhyme. Can they tell a story about the mouse and the clock?
- ***Ask*** *your students, what is your mouse doing?*
- ***Imagine*** what your clock might look like to help the mouse. Have your students look over the materials and tools that are available and working in teams start to ***Plan*** *and* ***Design*** *of* their clock and a system for the mouse to get up and down the clock.

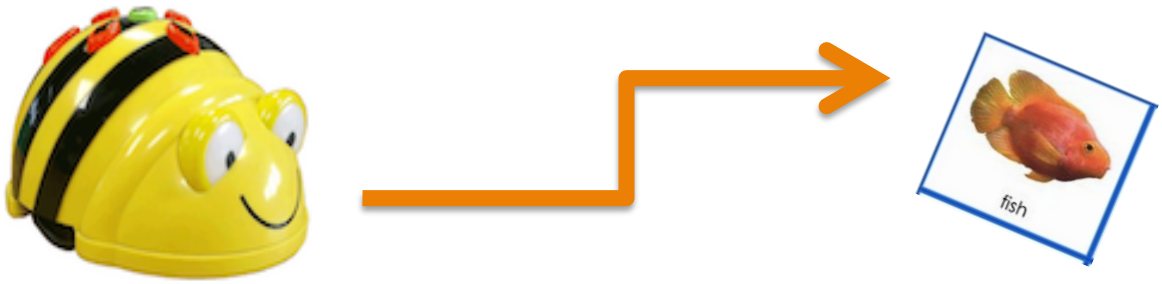


Lesson 3: Improve through Sharing

- Have your students engage in a gallery walk, sharing their thinking, demonstrating their strategies to meet these challenges.
- Ask why some details seem to be the same and some are different.
- Notice that there is a wide range of solutions being shared.
- Let them share what they liked about each other's challenge solutions.
- Close the lesson with a reflection, asking if anyone would change or improve his or her model, particularly after having seen everyone else's thinking.

Lesson 4: Extending Students' Experience with Language

- In a small group format, have your students engage in a rhyming challenge that involves a deck of rhyming word cards.
- Some of the cards will be placed randomly on the BeeBot mat and the others will be used for students to draw from.
- Each student will take a turn drawing a card, then programming their BeeBot to find the word on the mat that that rhymes with the word that they selected.
    - Your students can program the BeeBot by entering several short moves one after the other until the BeeBot reaches its destination;
    - Or your students can attempt a greater challenge by trying to enter a long series of commands before selecting "Go".



Addendum

Massachusetts Curriculum Framework

ENGLISH LANGUAGE ARTS

- RL K.8. A Identify and respond to characteristics of traditional poetry for children: rhyme; regular beats; and repetition of sounds, words, and phrases.
- RFS K.2.a Recognize and produce rhyming words.

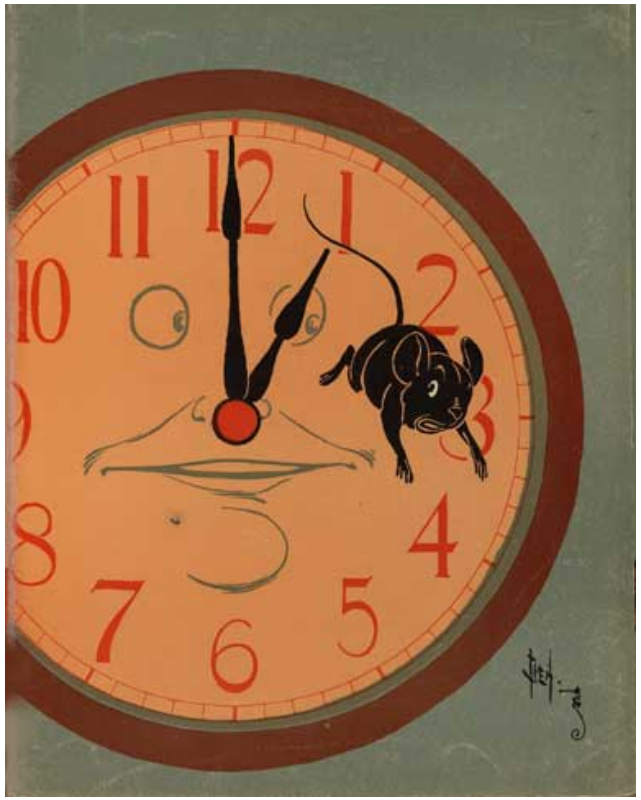
MATHEMATICS

- KCC 2. Count forward beginning from a given number within a known sequence.
- KG 5. Model shapes in the world by building shapes from components and drawing shapes.

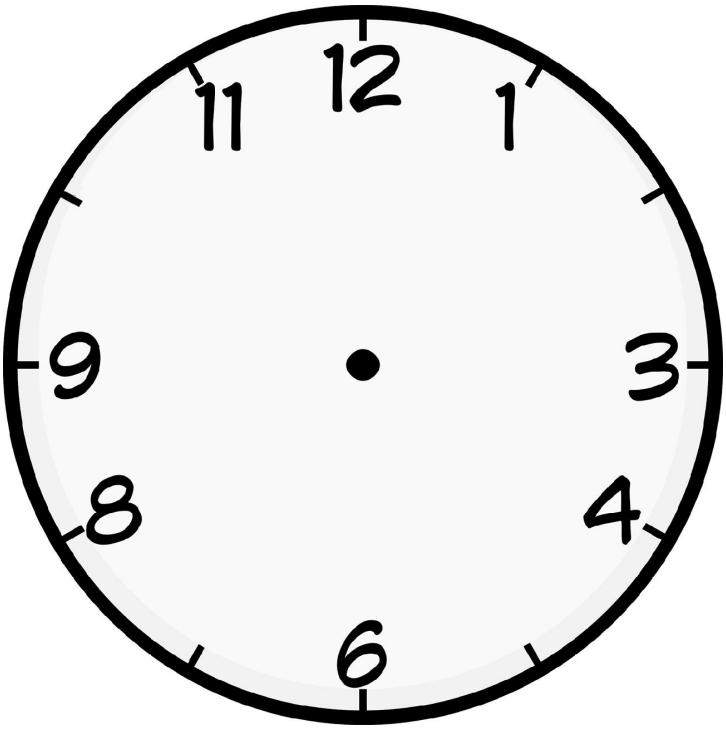
SCIENCE (Draft 2013)

- K-PS2 Motion and Stability: Forces and Interactions
- K-PS2-1. Compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.

Hickory Dickory Dock



Hickory Dickory Dock,
The mouse ran up the clock.
The clock struck one,
The mouse ran down!
Hickory Dickory Dock.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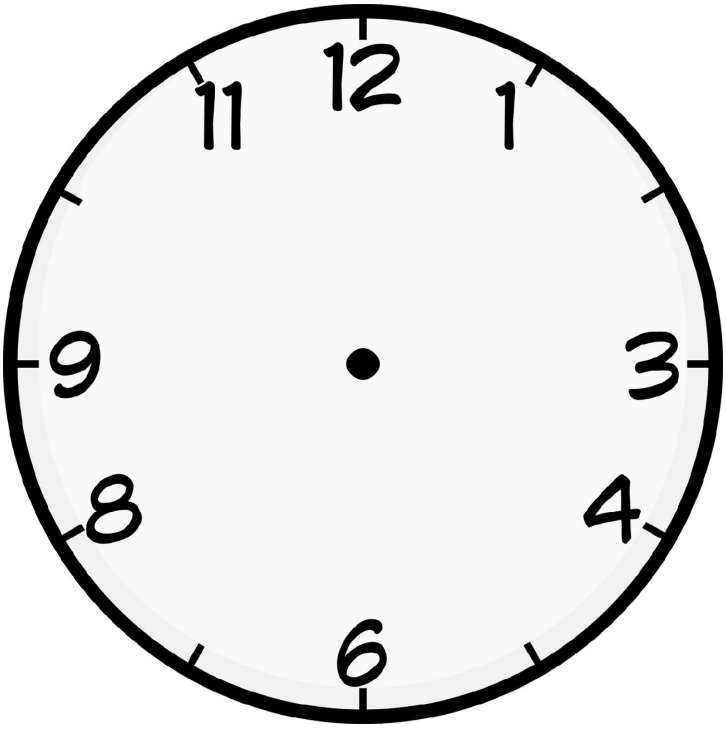
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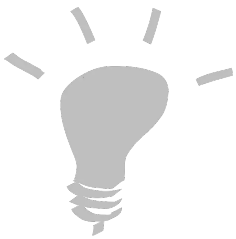
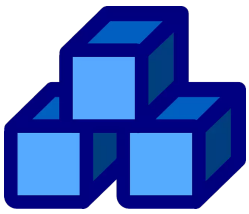
Ask

Plan

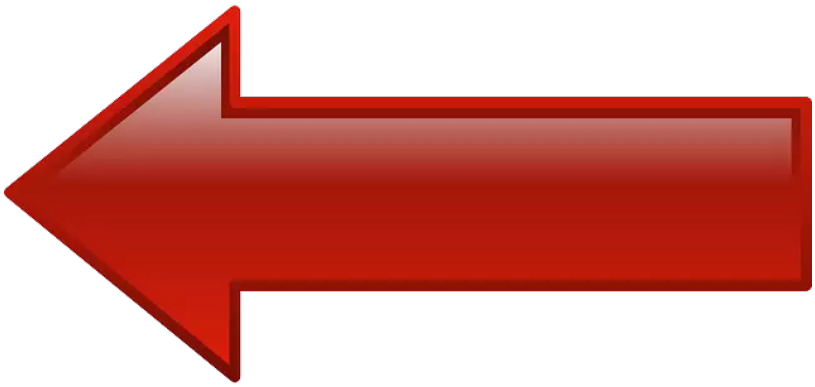


Imagine



Design

Improve



The Engineering Cycle