Pulley: Heavy Lifting

Materials

- *Simple Machines* Video: https://bit.ly/littlesteamersvirtual

- *What Can a Crane Pick Up?* by Rebecca Kai Dotlich from your local library or view an animated read aloud on YouTube

- Rolling Pin

- 2 Chairs

- String (length will vary)

- Assorted objects*

- Miniature box or pail (optional)

*Note: Testing objects should be of varying sizes, shapes, and made of different materials. Students will enjoy selecting their own materials. If the string cannot be tied around the object, a miniature box or pail may be used to hold the material.

Learning Objectives

I can build a pulley system to lift objects.

I can describe what happens when I lift objects using a pulley.

I can identify examples of simple machines in the world around me.

Skills

- Language Development
- Creative Play
- Fine Motor
- Scientific Inquiry

Exploration

Begin this activity by explaining to students that today, they will be investigating the **pulley,** which is one type of simple machine. View the *Simple Machines* video, which highlights the pulley at 02:50. As students watch the video, encourage students to make observations and ask questions about what they see:

- ***What do you notice about the pulley? What shape is it? What materials are used?***
- ***How is the boy making the pulley work?***
- ***What is a pulley used for?***

Then, read (or view) Dotlich's book, *What Can a Crane Pick Up?* As students explore the text, discuss the crane's pulley system and attributes of the objects that are being lifted (shape, weight, size).

Then, using a rolling pin and string, students can create their own pulley to lift objects. As students collect objects to lift, set up the pulley by placing the rolling pin between two chairs. Wrap the string around the rolling pin so that each end hangs to the floor. Tying one end of the string to an object, students can then pull to lift the object into the air. Discussion questions include:

- ***How is the pulley lifting the objects?***
- ***Are all of the objects easy to lift? Explain.***
- ***What else could you use a pulley to lift?***