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Pulleys and Force


[Download Full Lesson Plan](#)
(Full teacher resource documents are included)

Lesson Focus

Lesson focuses on the concept of force and the use of pulleys to reduce required force.

Lesson Synopsis

The Pulleys and Friction activity explores the concept of force and shows how pulleys are used in everyday life to make work easier. Students learn about different uses for pulleys, the impact of multiple pulleys, and identify pulley use in school and their community. Students test the ability to move weights using one, two and three pulleys in a series.



Age Levels:

 8-11

Objectives

- Learn about pulleys and pulley systems.
- Learn how using multiple pulleys can dramatically reduce required force.
- Learn how pulley systems are used in machines and impact everyday life.
- Learn about teamwork and problem solving in groups.

Anticipated Learner Outcomes

As a result of this activity, students should develop an understanding of:

- pulleys
- force
- work reduction

- problem solving
- teamwork

Lesson Activities

Students learn how pulleys work, and explore how multiple pulleys used in sequence can reduce required force to move an object. Topics examined include force, pulleys, and problem solving. Students work in teams to design a pulley system to require the least amount of force to move a weight.

Resources/Materials

- Teacher Resource Documents (attached)
- Student Resource Sheet (attached)
- Student Worksheets (attached)

Alignment to Curriculum Frameworks

Curriculum alignment sheet is included in [PDF](#).

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