

CREATEKIT™

Winches & Ramps Lesson Directions Overview

Equipment List

- 1 Winches & Ramps Game Mat
- 6 Rainbow® Foam Golf Balls
- 6 Rainbow® GoRings™
- 2 Foam Dice (6" sq)
- 75 Cardboard Modeling Rolls
- 100 Cardboard Sheets (8" x 10")
- 100 Jumbo Craft Sticks
- 4 Glue Bottles (4 oz)
- 100 Pipe Cleaners
- 100 Brads
- 2 Rolls Tape
- 180' Yarn
- 100 Wood Dowels (1/8")

Learning Objectives

1. Students utilize the engineering design process to build functioning winches and ramps that transport a ball from one point to another on the game mat.
2. Students discuss areas of energy conversion within the game.

Grade Levels: Upper Elementary and Up

Vocabulary Covered

- Force
- Gravity
- Friction
- Acceleration
- Torque
- Potential Energy
- Kinetic Energy
- Machine

NGSS Topics Addressed

- Engineering Design
- Forces and Interactions
- Energy