34. Three Wheeler

Classroom Activity: Working in teams, students build a three-wheel vehicle out of k'nex to gain an understanding of wheels and axels.

Grade: 2

Strand: Understanding Structure and Mechanisms

This task addresses the following overall expectations:

- investigate mechanisms that include simple machines and enable movement;
- demonstrate an understanding of movement and ways in which simple machines help to move objectsand the following specific expectations:
- follow established safety procedures during science and technology investigations;
- investigate and describe different kinds of movement;
- investigate the structure and function of simple machines;
- use technological problem-solving skills and knowledge and skills acquired from previous investigations, to design, build, and test a mechanism that includes one or more simple machines;
- use appropriate science and technology vocabulary, including push, pull, beside, above, wheel, axle, and inclined plane, in oral and written communication;
- use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes;
- describe different ways in which objects move;
- identify ways in which the position of an object can be changed;
- identify the six basic types of simple machines - lever; inclined plane; pulley; wheel and axle, including gear; screw; and wedge - and give examples of ways in which each is used in daily life to make tasks easier;
- describe how each type of simple machine allows humans to move objects with less force than otherwise would be needed;
- identify simple machines used in devices that move people.

Assessment Categories:

- Knowledge and Understanding
- Thinking and Investigation
- Communication
- Teambuilding skills

Type of Activity: Classroom

Preparation: 30 minutes.

Assemble materials

Time needed to complete the task: 90 minutes

Materials and Resources for Teachers:

none

Materials and Resources for Students:

Pencil, paper, k'nex

Activity Description:

Explain to students what wheels and axles are, and how they work together. Divide students into teams Each team is given a supply of k'nex and three wheels. They must design and build a functional 3-wheeled vehicle. They must prepare a design on paper before building their vehicle. Students can test their vehicles on a slope and are given the opportunity to make improvements on their original design.

Follow-up Activities: New terminology can be included on a spelling test.

Cross-disciplinary connections: Language Arts