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Indoor Rocket

Achievements and Competencies

Learning Outcomes

Grades 4-6
Geometric and Spatial Sense
Structure and Function

Achievements and Competencies are based on the Common Framework of Science Learning Outcomes (k-12) set by the Canadian Council of Ministers of Education.

Specific Expectations

Grade 5

GEOMETRY AND SPATIAL SENSE

Geometric properties

Measure and construct angles up to 90 degrees, using a protractor.

The students use a protractor to draw the angle lines from zero to 90 degrees on a piece of construction paper in ten degree intervals. In addition, the students draw the 45 degree line.

Grade 6

STRUCTURE AND FUNCTION

Relating Science and Technology to Society and the Environment

Use technological problem-solving skills to design, build and test a flying device.

The students construct the launch pad themselves and make predictions on what angle of launch will give the rocket the greatest vertical displacement and what angle of launch will give the greatest horizontal displacement.

Understanding basic concepts

Identify the properties of air that make flight possible.
Identify and describe the four forces of flight-lift, weight, drag, and thrust.
Describe ways in which flying devices or living things use unbalanced forces to control their flight.
Describe ways in which the four forces of flight can be altered.

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Indoor Rocket - Achievements and Competencies

Students investigate the properties of air and how they affect the trajectory of the rocket. Students alter the angle of launch of the rocket in order to determine what the optimal angle is for the furthest horizontal distance as well as the furthest vertical distance.

Characteristics of Motion

Identify the effects of a force on the displacement of an object.

Students investigate how the force provided to the rocket by the bellow pump affects the displacement of the rocket.