



a WOW Lab

BLUEPRINT

Indoor Rockets - Math

Achievements and Competencies

Learning Outcomes

Grades 10-12
Quadratic Relations
Trigonometric Functions

Achievements and Competencies are based on the Canadian Provincial curriculum.

Specific Expectations

Grade 10

Quadratic Relations

Identifying Characteristics of Quadratic Relations

Collect data that can be represented as a quadratic relation, from experiments using appropriate equipment and technology. Identify the key features of a graph of a parabola (i.e., the equation of the axis of symmetry, the coordinates of the vertex, the y-intercept, the zeros, and the maximum or minimum value), using a given graph or a graph generated with technology from its equation, and use the appropriate terminology to describe the features.

Students identify three points along the rocket's path to derive the quadratic function that describes the rocket's motion.

Grade 11

Trigonometric Functions

Determining and Applying Trigonometric Ratios

Investigation of two new types of relationships in the Exponential Functions and Trigonometric Functions strands.

Students begin to investigate trigonometry through the measurement of the angle of launch and discovering the optimal launch angle for maximum distance.