

<b>Exploring the Extreme</b>			
<b>2006 Mathematics</b>			
<b>Grade Level and Grade Span Expectations</b>			
<b>Rhode Island Mathematics</b>			
<b>Grade 1</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Finding the Center of Gravity Using Rulers	RI	MA.1.M(G&M)-1-7	Demonstrates conceptual understanding of measurable attributes using comparative language to describe and compare attributes of objects (length [longer, shorter], height [taller, shorter], weight [heavier, lighter], temperature [warmer, cooler], and capacity [more, less]); compares objects visually, with direct comparison, and using non-standard units.
<b>Exploring the Extreme</b>			
<b>2006 Mathematics</b>			
<b>Grade Level and Grade Span Expectations</b>			
<b>Rhode Island Mathematics</b>			
<b>Grade 2</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Finding the Center of Gravity Using Rulers	RI	MA.2.M(DSP)-2-6	In response to a teacher or student generated question or hypothesis, groups decide the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions.
<b>Exploring the Extreme</b>			
<b>2006 Mathematics</b>			
<b>Grade Level and Grade Span Expectations</b>			
<b>Rhode Island Mathematics</b>			
<b>Grade 3</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Finding the Center of Gravity Using Rulers	RI	MA.3.M(DSP)-3-6	In response to a teacher or student generated question or hypothesis, groups decide the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions.

Finding the Center of Gravity Using Plumb Lines	RI	MA.3.M(DSP)-3-6	In response to a teacher or student generated question or hypothesis, groups decide the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions.
Changing the Center of Gravity Using Moment Arms	RI	MA.3.M(DSP)-3-4	Uses counting techniques to solve problems involving combinations and simple permutations using a variety of strategies (e.g., student diagrams, organized lists, tables, tree diagrams, or others).
Changing the Center of Gravity Using Moment Arms	RI	MA.3.M(DSP)-3-6	In response to a teacher or student generated question or hypothesis, groups decide the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions.
<b>Exploring the Extreme</b>			
<b>2006 Mathematics</b>			
<b>Grade Level and Grade Span Expectations</b>			
<b>Rhode Island Mathematics</b>			
<b>Grade 4</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Finding the Center of Gravity Using Rulers	RI	MA.4.M(DSP)-4-1	Interprets a given representation (line plots, tables, bar graphs, pictographs, or circle graphs) to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Finding the Center of Gravity Using Rulers	RI	MA.4.M(DSP)-4-3	Organizes and displays data using tables, line plots, bar graphs, and pictographs to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.

Finding the Center of Gravity Using Rulers	RI	MA.4.M(DSP)-4-6	In response to a teacher or student generated question or hypothesis, groups decide the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Finding the Center of Gravity Using Plumb Lines	RI	MA.4.M(DSP)-4-1	Interprets a given representation (line plots, tables, bar graphs, pictographs, or circle graphs) to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Finding the Center of Gravity Using Plumb Lines	RI	MA.4.M(DSP)-4-6	In response to a teacher or student generated question or hypothesis, groups decide the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Changing the Center of Gravity Using Moment Arms	RI	MA.4.M(DSP)-4-1	Interprets a given representation (line plots, tables, bar graphs, pictographs, or circle graphs) to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Changing the Center of Gravity Using Moment Arms	RI	MA.4.M(DSP)-4-3	Organizes and displays data using tables, line plots, bar graphs, and pictographs to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.

Changing the Center of Gravity Using Moment Arms	RI	MA.4.M(DSP)-4-6	In response to a teacher or student generated question or hypothesis, groups decide the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
<b>Exploring the Extreme</b>			
<b>2006 Mathematics</b>			
<b>Grade Level and Grade Span Expectations</b>			
<b>Rhode Island Mathematics</b>			
<b>Grade 5</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Jet Propulsion	RI	MA.5.M(DSP)-5-6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Vectoring	RI	MA.5.M(DSP)-5-6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions; and asks new questions and makes connections to real world situations.

Center of Gravity, Pitch, Yaw	RI	MA.5.M(N&O)- 5-2	Demonstrates understanding of the relative magnitude of numbers by ordering, comparing, or identifying equivalent positive fractional numbers, decimals, or benchmark percents within number formats (fractions to fractions, decimals to decimals, or percents to percents); or integers in context using models or number lines.
<b>Exploring the Extreme</b>			
<b>2006 Mathematics</b>			
<b>Grade Level and Grade Span Expectations</b>			
<b>Rhode Island Mathematics</b>			
<b>Grade 6</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Jet Propulsion	RI	MA.6.M(DSP)- 6-6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Vectoring	RI	MA.6.M(DSP)- 6-6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested, and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Center of Gravity, Pitch, Yaw	RI	MA.6.M(N&O)- 6-4	Accurately solves problems involving single or multiple operations on fractions (proper, improper, and mixed), or decimals; and addition or subtraction of integers; percent of a whole; or problems involving greatest common factor or least common multiple.

Center of Gravity, Pitch, Yaw	RI	MA.6.M(N&O)- 6-6	Uses a variety of mental computation strategies to solve problems (e.g., using compatible numbers, applying properties of operations, using mental imagery, using patterns) and to determine the reasonableness of answers; and mentally calculates change back from \$5.00, \$10.00, \$20.00, \$50.00, and \$100.00; multiplies a two-digit whole number by a one-digit number whole number (e.g., 45 x 5), two-digit whole numbers that are multiples of ten (e.g., 50 x 60), a three-digit whole number that is a multiple of 100 by a two- or three-digit number which is a multiple of 10 or 100, respectively (e.g., 400 x 50, 400 x 600); divides 3- and 4-digit multiples of powers of ten by their compatible factors (e.g., 360 ÷ 6; 360 ÷ 60; 3600 ÷ 6; 3600 ÷ 60; 3600 ÷ 600; 360 ÷ 12; 360 ÷ 120; 3600 ÷ 12; 3600 ÷ 120; 3600 ÷ 1200); and determines the part of a whole number using benchmark percents (1%, 10%, 25%, 50%, and 75%).
Center of Gravity, Pitch, Yaw	RI	MA.6.M(N&O)- 6-7	Makes estimates in a given situation by identifying when estimation is appropriate, selecting the appropriate method of estimation, determining the level of accuracy needed given the situation, analyzing the effect of the estimation method on the accuracy of results, and evaluating the reasonableness of solutions appropriate to grade level GLEs across content strands.
Center of Gravity, Pitch, Yaw	RI	MA.6.M(G&M)- 6-7	Measures and uses units of measures appropriately and consistently, and makes conversions within systems when solving problems across the content strands.
<b>Exploring the Extreme</b>			
<b>2006 Mathematics</b>			
<b>Grade Level and Grade Span Expectations</b>			
<b>Rhode Island Mathematics</b>			
<b>Grade 7</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	

Jet Propulsion	RI	MA.7.M(DSP)-7-6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested while considering the limitations that could affect interpretations; and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Vectoring	RI	MA.7.M(DSP)-7-6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested while considering the limitations that could affect interpretations; and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Center of Gravity, Pitch, Yaw	RI	MA.7.M(N&O)-7-1b	Demonstrates conceptual understanding of rational numbers with respect to percents as a means of comparing the same or different parts of the whole when the wholes vary in magnitude (e.g., 8 girls in a classroom of 16 students compared to 8 girls in a classroom of 20 students, or 20% of 400 compared to 50% of 100); and percents as a way of expressing multiples of a number (e.g., 200% of 50) using models, explanations, or other representations.
Center of Gravity, Pitch, Yaw	RI	MA.7.M(N&O)-7-7	Makes estimates in a given situation (including tips, discounts, and tax) by identifying when estimation is appropriate, selecting the appropriate method of estimation, determining the level of accuracy needed given the situation, analyzing the effect of the estimation method on the accuracy of results, and evaluating the reasonableness of solutions appropriate to grade level GLEs across content strands.

**Exploring the Extreme****2006 Mathematics****Grade Level and Grade Span Expectations**

Rhode Island Mathematics			
Grade 8			
Activity/Lesson	State	Standards	
Jet Propulsion	RI	MA.8.M(DSP)-8-6	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested while considering the limitations that could affect interpretations; and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Vectoring	RI	MA.8.M(DSP)-8-1	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested while considering the limitations that could affect interpretations; and when appropriate makes predictions; and asks new questions and makes connections to real world situations.
Center of Gravity, Pitch, Yaw	RI	MA.8.M(N&O)-8-1	Makes estimates in a given situation (including tips, discounts, tax, and the value of a non-perfect square root as between two whole numbers) by identifying when estimation is appropriate, selecting the appropriate method of estimation; determining the level of accuracy needed given the situation; analyzing the effect of the estimation method on the accuracy of results; and evaluating the reasonableness of solutions appropriate to grade level GLEs across content strands.

Center of Gravity, Pitch, Yaw	RI	MA.8.M(DSP)- 8-2	<p>Makes estimates in a given situation (including tips, discounts, tax, and the value of a non-perfect square root as between two whole numbers) by identifying when estimation is appropriate, selecting the appropriate method of estimation; determining the level of accuracy needed given the situation; analyzing the effect of the estimation method on the accuracy of results; and evaluating the reasonableness of solutions appropriate to grade level GLEs across content strands.</p>
Fuel Efficiency	RI	MA.8.M(N&O)- 8-7	<p>Demonstrates conceptual understanding of linear relationships (<math>y = kx</math>; <math>y = mx + b</math>) as a constant rate of change by solving problems involving the relationship between slope and rate of change; informally and formally determining slopes and intercepts represented in graphs, tables, or problem situations; or describing the meaning of slope and intercept in context; and distinguishes between linear relationships (constant rates of change) and nonlinear relationships (varying rates of change) represented in tables, graphs, equations, or problem situations; or describes how change in the value of one variable relates to change in the value of a second variable in problem situations with constant and varying rates of change.</p>