

Exploring the Extreme			
2004 Mathematics			
Curriculum Standards			
Kansas Mathematics			
Grade 1			
Activity/Lesson	State	Standards	
Finding the Center of Gravity Using Rulers	KS	MA.1.3.2.K4	selects appropriate measuring tools for length, weight, volume, and temperature for a given situation.
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2004 Mathematics			
Curriculum Standards			
Kansas Mathematics			
Grade 2			
Activity/Lesson	State	Standards	
Finding the Center of Gravity Using Rulers	KS	MA.2.3.2.K1	uses whole number approximations (estimations) for length, weight, and volume using standard and nonstandard units of measure, e.g., the height of the classroom door is 14 chalkboard erasers laid end to end or 7 feet high or an apple weighs about 42 unifix cubes.
Finding the Center of Gravity Using Rulers	KS	MA.2.3.2.K3	selects and uses appropriate measurement tools and units of measure for length, weight, volume, and temperature for a given situation.
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2004 Mathematics			
Curriculum Standards			
Kansas Mathematics			
Grade 3			
Activity/Lesson	State	Standards	
Finding the Center of Gravity Using Rulers	KS	MA.3.3.2.K1	uses whole number approximations (estimations) for length, width, weight, volume, temperature, time, and perimeter using standard and nonstandard units of measure.
Finding the Center of Gravity Using Rulers	KS	MA.3.3.2.K3.a	selects, explains the selection of, and uses measurement tools, units of measure, and degree of accuracy appropriate for a given situation to measure length width, and height to the nearest half inch, inch, foot, and yard; and to the nearest whole unit of nonstandard unit
Finding the Center of Gravity Using Rulers	KS	MA.3.3.2.K3.b	selects, explains the selection of, and uses measurement tools, units of measure, and degree of accuracy appropriate for a given situation to measure length, width, and height to the nearest centimeter and meter

Finding the Center of Gravity Using Rulers	KS	MA.3.3.2.K3.c	selects, explains the selection of, and uses measurement tools, units of measure, and degree of accuracy appropriate for a given situation to measure weight to the nearest whole unit of a nonstandard unit
Finding the Center of Gravity Using Rulers	KS	MA.3.3.2.K3.f	selects, explains the selection of, and uses measurement tools, units of measure, and degree of accuracy appropriate for a given situation to measure temperature to the nearest degree
Finding the Center of Gravity Using Plumb Lines	KS	MA.3.2.1.K2.d	uses these attributes to generate patterns (measurements, e.g., 1 ft, 2 ft, 3 ft, ...; 3 lbs, 6 lbs, 9 lbs; or 2 cups, 4 cups, 6 cups, ...)
Finding the Center of Gravity Using Plumb Lines	KS	MA.3.3.2.K1	uses whole number approximations (estimations) for length, width, weight, volume, temperature, time, and perimeter using standard and nonstandard units of measure.
Finding the Center of Gravity Using Plumb Lines	KS	MA.3.3.2.K3.a	selects, explains the selection of, and uses measurement tools, units of measure, and degree of accuracy appropriate for a given situation to measure length width, and height to the nearest half inch, inch, foot, and yard; and to the nearest whole unit of nonstandard unit
Finding the Center of Gravity Using Plumb Lines	KS	MA.3.3.2.K3.b	selects, explains the selection of, and uses measurement tools, units of measure, and degree of accuracy appropriate for a given situation to measure length, width, and height to the nearest centimeter and meter
Finding the Center of Gravity Using Plumb Lines	KS	MA.3.3.2.K3.c	selects, explains the selection of, and uses measurement tools, units of measure, and degree of accuracy appropriate for a given situation to measure weight to the nearest whole unit of a nonstandard unit
Finding the Center of Gravity Using Plumb Lines	KS	MA.3.3.2.K3.f	selects, explains the selection of, and uses measurement tools, units of measure, and degree of accuracy appropriate for a given situation to measure temperature to the nearest degree
Changing the Center of Gravity Using Moment Arms	KS	MA.3.3.2.K1	uses whole number approximations (estimations) for length, width, weight, volume, temperature, time, and perimeter using standard and nonstandard units of measure.

Changing the Center of Gravity Using Moment Arms	KS	MA.3.3.2.K3.a	selects, explains the selection of, and uses measurement tools, units of measure, and degree of accuracy appropriate for a given situation to measure length width, and height to the nearest half inch, inch, foot, and yard; and to the nearest whole unit of nonstandard unit
Changing the Center of Gravity Using Moment Arms	KS	MA.3.3.2.K3.b	selects, explains the selection of, and uses measurement tools, units of measure, and degree of accuracy appropriate for a given situation to measure length, width, and height to the nearest centimeter and meter
Changing the Center of Gravity Using Moment Arms	KS	MA.3.3.2.K3.c	selects, explains the selection of, and uses measurement tools, units of measure, and degree of accuracy appropriate for a given situation to measure weight to the nearest whole unit of a nonstandard unit
Changing the Center of Gravity Using Moment Arms	KS	MA.3.3.2.K3.f	selects, explains the selection of, and uses measurement tools, units of measure, and degree of accuracy appropriate for a given situation to measure temperature to the nearest degree

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Kansas Mathematics			
Grade 4			
Activity/Lesson	State	Standards	
Finding the Center of Gravity Using Plumb Lines	KS	MA.4.2.1.K2.d	uses these attributes to generate patterns (measurements, e.g., 3 ft., 6 ft., 9 ft., ...)
Finding the Center of Gravity Using Plumb Lines	KS	MA.4.3.2.K1	uses whole number approximations (estimations) for length, width, weight, volume, temperature, time, perimeter, and area using standard and nonstandard units of measure.
Changing the Center of Gravity Using Moment Arms	KS	MA.4.2.1.K2.d	uses these attributes to generate patterns (measurements, e.g., 3 ft., 6 ft., 9 ft., ...)
Changing the Center of Gravity Using Moment Arms	KS	MA.4.2.1.K3	identifies, states, and continues a pattern presented in various formats including numeric (list or table), visual (picture, table, or graph), verbal (oral description), kinesthetic (action), and written.

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Curriculum Standards

Kansas Mathematics			
Grade 6			

Activity/Lesson	State	Standards	
Center of Gravity, Pitch, Yaw	KS	MA.6.1.4.K1	computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology.
Center of Gravity, Pitch, Yaw	KS	MA.6.1.4.K6	finds a whole number percent (between 0 and 100) of a whole number, e.g., 12% of 40 is what number?
Center of Gravity, Pitch, Yaw	KS	MA.6.3.2.K2	selects, explains the selection of, and uses measurement tools, units of measure, and level of precision appropriate for a given situation to find accurate rational number representations for length, weight, volume, temperature, time, perimeter, area, and angle measurements.
Fuel Efficiency	KS	MA.6.1.4.K1	computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology.
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Kansas Mathematics			
Grade 7			
Activity/Lesson	State	Standards	
Center of Gravity, Pitch, Yaw	KS	MA.7.1.4.K1	computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology.
Center of Gravity, Pitch, Yaw	KS	MA.7.1.4.K5	finds percentages of rational numbers, e.g., $12.5\% \times \$40.25 = n$ or 150% of 90 is what number?
Center of Gravity, Pitch, Yaw	KS	MA.7.3.2.K2	selects and uses measurement tools, units of measure, and level of precision appropriate for a given situation to find accurate rational number representations for length, weight, volume, temperature, time, perimeter, area, and angle measurements.
Fuel Efficiency	KS	MA.7.1.4.K1	computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology.

Fuel Efficiency	KS	MA.7.2.4.K1.j	knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include (frequency tables, bar graphs, line graphs, circle graphs, Venn diagrams, charts, tables, single stem-and-leaf plots, scatter plots, and box-and-whisker plots to organize and display data)
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Kansas Mathematics			
Grade 8			
Activity/Lesson	State	Standards	
Center of Gravity, Pitch, Yaw	KS	MA.8.1.3.K1	estimates real number quantities using various computational methods including mental math, paper and pencil, concrete objects, and/or appropriate technology.
Center of Gravity, Pitch, Yaw	KS	MA.8.1.4.K1	computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology.
Center of Gravity, Pitch, Yaw	KS	MA.8.3.2.K2	selects and uses measurement tools, units of measure, and level of precision appropriate for a given situation to find accurate real number representations for length, weight, volume, temperature, time, perimeter, area, surface area, and angle measurements.
Center of Gravity, Pitch, Yaw	KS	MA.8.1.4.K2.c	performs and explains these computational procedures with rational numbers (approximation of roots of numbers using calculators)
Fuel Efficiency	KS	MA.8.1.3.K1	estimates real number quantities using various computational methods including mental math, paper and pencil, concrete objects, and/or appropriate technology.
Fuel Efficiency	KS	MA.8.1.4.K1	computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology.

Fuel Efficiency	KS	MA.8.2.4.K1.k	knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include (frequency tables, bar graphs, line graphs, circle graphs, Venn diagrams, charts, tables, single and double stem-and-leaf plots, scatter plots, box-and-whisker plots, and histograms to organize and display data)
Fuel Efficiency	KS	MA.8.1.4.K2.c	performs and explains these computational procedures with rational numbers (approximation of roots of numbers using calculators)