Pushing the Envelope			
2005 Mathematics			
Essential Knowledge and Skills			
Texas Mathematics			
Grade 5			
Activity/Lesson	**State**	**Standards**	
Chemistry (pgs. 25-41)	TX	MA.5.10.B	Connect models for perimeter, area, and volume with their respective formulas.
Chemistry (pgs. 25-41)	TX	MA.5.10.C	Select and use appropriate units and formulas to measure length, perimeter, area, and volume.
Chemistry (pgs. 25-41)	TX	MA.5.11.A	Solve problems involving changes in temperature.
Pushing the Envelope			
2005 Mathematics			
Essential Knowledge and Skills			
Texas Mathematics			
Grade 6			
Activity/Lesson	**State**	**Standards**	
History of Aviation Propulsion (pgs. 5-9)	TX	MA.6.8.B	Select and use appropriate units, tools, or formulas to measure and to solve problems involving length (including perimeter), area, time, temperature, volume, and weight.
Types of Engines (pgs. 11-23)	TX	MA.6.4.B	Use tables of data to generate formulas representing relationships involving perimeter, area, volume of a rectangular prism, etc.
Types of Engines (pgs. 11-23)	TX	MA.6.8.B	Select and use appropriate units, tools, or formulas to measure and to solve problems involving length (including perimeter), area, time, temperature, volume, and weight.
Chemistry (pgs. 25-41)	TX	MA.6.4.B	Use tables of data to generate formulas representing relationships involving perimeter, area, volume of a rectangular prism, etc.
Chemistry (pgs. 25-41)	TX	MA.6.8.B	Select and use appropriate units, tools, or formulas to measure and to solve problems involving length (including perimeter), area, time, temperature, volume, and weight.
Physics and Math (pgs. 43-63)	TX	MA.6.2.C	Use multiplication and division of whole numbers to solve problems including situations involving equivalent ratios and rates.
Physics and Math (pgs. 43-63)	TX	MA.6.3.A	Use ratios to describe proportional situations.
Physics and Math (pgs. 43-63)	TX	MA.6.3.B	Represent ratios and percents with concrete models, fractions, and decimals.
Physics and Math (pgs. 43-63)	TX	MA.6.3.C	Use ratios to make predictions in proportional situations.
Physics and Math (pgs. 43-63)	TX	MA.6.4.A	Use tables and symbols to represent and describe proportional and other relationships such as those involving conversions, arithmetic sequences (with a constant rate of change), perimeter and area.

Physics and Math (pgs. 43-63)	TX	MA.6.4.B	Use tables of data to generate formulas representing relationships involving perimeter, area, volume of a rectangular prism, etc.
Physics and Math (pgs. 43-63)	TX	MA.6.5.A	The student is expected to formulate equations from problem situations described by linear relationships.
Physics and Math (pgs. 43-63)	TX	MA.6.8.B	Select and use appropriate units, tools, or formulas to measure and to solve problems involving length (including perimeter), area, time, temperature, volume, and weight.
Rocket Activity (pgs. 69-75)	TX	MA.6.4.B	Use tables of data to generate formulas representing relationships involving perimeter, area, volume of a rectangular prism, etc.
Rocket Activity (pgs. 69-75)	TX	MA.6.8.B	Select and use appropriate units, tools, or formulas to measure and to solve problems involving length (including perimeter), area, time, temperature, volume, and weight.
Pushing the Envelope			
2005 Mathematics			
Essential Knowledge and Skills			
Texas Mathematics			
Grade 7			
Activity/Lesson	**State**	**Standards**	
Types of Engines (pgs. 11-23)	TX	MA.7.2.D	Use division to find unit rates and ratios in proportional relationships such as speed, density, price, recipes, and student-teacher ratio.
Types of Engines (pgs. 11-23)	TX	MA.7.4.A	Generate formulas involving unit conversions within the same system (customary and metric), perimeter, area, circumference, volume, and scaling.
Chemistry (pgs. 25-41)	TX	MA.7.4.A	Generate formulas involving unit conversions within the same system (customary and metric), perimeter, area, circumference, volume, and scaling.
Chemistry (pgs. 25-41)	TX	MA.7.4.B	graph data to demonstrate relationships in familiar concepts such as conversions, perimeter, area, circumference, volume, and scaling.
Physics and Math (pgs. 43-63)	TX	MA.7.4.A	Generate formulas involving unit conversions within the same system (customary and metric), perimeter, area, circumference, volume, and scaling.
Physics and Math (pgs. 43-63)	TX	MA.7.4.C	Use words and symbols to describe the relationship between the terms in an arithmetic sequence (with a constant rate of change) and their positions in the sequence.
Rocket Activity (pgs. 69-75)	TX	MA.7.4.A	Generate formulas involving unit conversions within the same system (customary and metric), perimeter, area, circumference, volume, and scaling.

Pushing the Envelope			
2005 Mathematics			
Essential Knowledge and Skills			
Texas Mathematics			
Grade 8			
Activity/Lesson	**State**	**Standards**	
Physics and Math (pgs. 43-63)	TX	MA.8.4.A	Generate a different representation of data given another representation of data (such as a table, graph, equation, or verbal description).
Physics and Math (pgs. 43-63)	TX	MA.8.5.B	Find and evaluate an algebraic expression to determine any term in an arithmetic sequence (with a constant rate of change).
Pushing the Envelope			
2005 Mathematics			
Essential Knowledge and Skills			
Texas Mathematics			
Grades 9-12 (Algebra I)			
Activity/Lesson	**State**	**Standards**	
Physics and Math (pgs. 43-63)	TX	MA.9-12.1.D	Represent relationships among quantities using concrete models, tables, graphs, diagrams, verbal descriptions, equations, and inequalities.
Physics and Math (pgs. 43-63)	TX	MA.9-12.3.A	Use symbols to represent unknowns and variables.
Pushing the Envelope			
2005 Mathematics			
Essential Knowledge and Skills			
Texas Mathematics			
Grades 9-12 (Algebra II)			
Activity/Lesson	**State**	**Standards**	
Physics and Math (pgs. 43-63)	TX	MA.9-12.6.B	Relate representations of quadratic functions, such as algebraic, tabular, graphical, and verbal descriptions.
Physics and Math (pgs. 43-63)	TX	MA.9-12.9.B	Relate representations of square root functions, such as algebraic, tabular, graphical, and verbal descriptions.
Physics and Math (pgs. 43-63)	TX	MA.9-12.10.B	Analyze various representations of rational functions with respect to problem situations.