

Pushing the Envelope			
2007 Science			
Model Content Standards			
Colorado Science			
Grades 3-5			
Activity/Lesson	State	Standards	
Types of Engines (pgs. 11-23)	CO	SCI.3-5.2.8	Students know and understand common properties, forms, and changes in matter and energy: changes in speed or direction of motion are caused by forces
Chemistry (pgs. 25-41)	CO	SCI.3-5.1.2	Students apply the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations: select and use appropriate tools and technology to gather and display (for example: graphs, charts, diagrams) quantitative and qualitative data related to an investigation (for example: length, volume, and mass measuring instruments, thermometers, watches, magnifiers, microscopes, calculators, and computers)
Chemistry (pgs. 25-41)	CO	SCI.3-5.2.1	Students know and understand common properties, forms, and changes in matter and energy: objects have physical properties that can be measured (for example: length, mass, volume and temperature)
Chemistry (pgs. 25-41)	CO	SCI.3-5.2.2	Students know and understand common properties, forms, and changes in matter and energy: measurable physical properties can be compared before and after effecting a change to verify a change has occurred and used to predict its outcome in similar circumstances
Physics and Math (pgs. 43-63)	CO	SCI.3-5.2.7	Students know and understand common properties, forms, and changes in matter and energy: there are different types of forces (for example: gravity and magnetism)
Physics and Math (pgs. 43-63)	CO	SCI.3-5.2.8	Students know and understand common properties, forms, and changes in matter and energy: changes in speed or direction of motion are caused by forces
Rocket Activity (pgs. 69-75)	CO	SCI.3-5.2.7	Students know and understand common properties, forms, and changes in matter and energy: there are different types of forces (for example: gravity and magnetism)
Rocket Activity (pgs. 69-75)	CO	SCI.3-5.2.8	Students know and understand common properties, forms, and changes in matter and energy: changes in speed or direction of motion are caused by forces
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Grades 6-8			
Activity/Lesson	State	Standards	
Types of Engines (pgs. 11-23)	CO	SCI.6-8.2.7	Students know and understand common properties, forms, and changes in matter and energy: quantities (for example: time, distance, mass, force) that characterize moving objects and their interactions within a system (for example, force, speed, velocity, potential energy, kinetic energy) can be described, measured and calculated
Chemistry (pgs. 25-41)	CO	SCI.6-8.2.1	Students know and understand common properties, forms, and changes in matter and energy: physical properties of solids, liquids, gases and the plasma state and their changes can be explained using the particulate nature of matter model
Physics and Math (pgs. 43-63)	CO	SCI.6-8.2.7	Students know and understand common properties, forms, and changes in matter and energy: quantities (for example: time, distance, mass, force) that characterize moving objects and their interactions within a system (for example, force, speed, velocity, potential energy, kinetic energy) can be described, measured and calculated
Rocket Activity (pgs. 69-75)	CO	SCI.6-8.2.7	Students know and understand common properties, forms, and changes in matter and energy: quantities (for example: time, distance, mass, force) that characterize moving objects and their interactions within a system (for example, force, speed, velocity, potential energy, kinetic energy) can be described, measured and calculated
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2007 Science			
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Colorado Science			
Grades 9-12			
Activity/Lesson	State	Standards	
Types of Engines (pgs. 11-23)	CO	SCI.9-12.2.9	Students know and understand common properties, forms, and changes in matter and energy: Newton's Three Laws of Motion explain the relationship between the forces acting on an object, the object's mass, and changes in its motion
Chemistry (pgs. 25-41)	CO	SCI.9-12.2.4	Students know and understand common properties, forms, and changes in matter and energy: word and chemical equations are used to relate observed changes in matter to its composition and structure (for example: conservation of matter)

Chemistry (pgs. 25-41)	CO	SCI.9-12.2.5	Students know and understand common properties, forms, and changes in matter and energy: quantitative relationships involved with thermal energy can be identified, measured, calculated and analyzed (for example: heat transfer in a system involving mass, specific heat, and change in temperature of matter)
Physics and Math (pgs. 43-63)	CO	SCI.9-12.2.9	Students know and understand common properties, forms, and changes in matter and energy: Newton's Three Laws of Motion explain the relationship between the forces acting on an object, the object's mass, and changes in its motion
Rocket Activity (pgs. 69-75)	CO	SCI.9-12.2.4	Students know and understand common properties, forms, and changes in matter and energy: word and chemical equations are used to relate observed changes in matter to its composition and structure (for example: conservation of matter)
Rocket Activity (pgs. 69-75)	CO	SCI.9-12.2.9	Students know and understand common properties, forms, and changes in matter and energy: Newton's Three Laws of Motion explain the relationship between the forces acting on an object, the object's mass, and changes in its motion