

Matrix #	Matrix Strand	TEKS Knowledge and Skill	Student Expectation	TAKS Obj.	Resources	Time/Pace	Assessment	Student Work Products	Teaching Notes
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Chemistry and Matter (15 Days)

310	Patterns, Properties, Models	7.7 Students know that substances have physical and chemical properties.	A. Student is expected to: Identify and demonstrate everyday examples of chemical phenomena such as rusting and tarnishing of metals and burning of wood. (7A) B T-3	4. The student will demonstrate an understanding of the structure and properties of matter.	Glencoe— Chapter 3: Structures of Matter Sections 1, 2, 3 Glencoe— Chapter 4: Physical and Chemical Properties Sections 1 & 2 Glencoe Chapter Resources Booklet for Chapter 3 & 4 Scitogo: ✘ Something Like a Phenomenon Lab , p. 1-5 supplemental	1 5 days	Responses to lab questions, ✘ Something Like a Phenomenon Lab and periodic table reflection. Vocabulary: Metal Non-metal Metalloid Period Group Physical change Chemical change	Steel-Wool lab report and periodic table reflection	5 E Instructional Model: See labs posted on Scitogo. ✘ Suggested Sequence: 1. Cosmic Chemistry 2. Student Made Periodic Table 3. Virtual Density Lab 4. Separation Anxiety Lab 5. Lifesaver Lab 6. Something Like a Phenomenon Lab
314		B. Describe physical properties of elements and identify how they are used to position an element on the periodic table. (7B) T-3	B. Describe physical properties of elements and identify how they are used to position an element on the periodic table. (7B) T-3	Students make foldable about physical and chemical change, or metals, non-metals, and metalloids.	✘ Cosmic Chemistry "Understanding Elements" {R}				



Academic Rigor
Students should be able to explain the placement of elements on the periodic table according to properties and atomic structure.

Clear Expectations:
Teachers should show good examples of elements to be placed on the periodic table.



Accountable Talk
Example of classroom discussion starters:
Where do you see physical and chemical change in your daily life?
Explain how photosynthesis and respiration related to chemistry and matter?

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316			C. Recognize that compounds are composed of elements. (7C) T - 3		Website for Iron in Cereal— Separation of Iron from cereal http://www.chemmolecules.unl.edu/chemistry/beckerdemos/Bdoo7c.html ✘ Cosmic Chemistry “Understanding Elements” {R}, p. 6-28 supplemental Scitogo: ✘ Student Made Periodic Table, p. 29-43 supplemental ✘ Separation Anxiety Lab, p. 44-47 supplemental ✘ Lifesaver Lab, p. 48-49 supplemental ✘ Virtual Density Lab-go to www.explorelarning.com and sign up for a 1 month trial membership			✘ Student Made Periodic Table ✘ Separation Anxiety Lab ✘ Lifesaver Lab ✘ Density Lab	

<http://www.austinschools.org/matrix>

NOTE: Many of the matrix items can be covered simultaneously

TEKS = (##); Local Objective = (L); Benchmark = B; TAKS = T; * = Middle School Science TAKS Objective
 [R] = Required Investigations (required labs or investigations should be conducted for all AISD students.) [S] = Supplemental Investigations
 Labs or Investigations should comprise 40% of the curriculum.

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Force, Motion, and Energy (15 days)									
117	Scientific Processes	7.3 The student uses critical thinking and scientific problem solving to make informed decisions.	C. Represent the natural world using models and identifies their limitations. (3C) B T-1	1. The student will demonstrate an understanding of the nature of science.	Glencoe – Chapter 5: Motion, Forces, and Simple Machines Sections 2 and 3	15 days	Labs Reports Glencoe Ch 5 Lab 2 –as time permits	Lab Reports: X Newton's First Law Activity	
118			D. Evaluate the impact of research on scientific thought, society, and the environment. (3D) B T-1	5. The student will demonstrate an understanding of motion, forces, and energy.	Chapter 6: Energy Section 1				
120			E. Connect Grade 7 science concepts with the history of science and contributions of scientists. (3E) B T-1		<u>Investigations and Labs for Force & Motion:</u> X Newton's First Law Activity, p. 50-52 supplemental • Ch. 5 Lab 2: Newton's First Law of Motion {R},				
216	Systems	7.8 The student knows that complex interactions occur between matter and energy.	A. Illustrate examples of kinetic and potential energy in everyday life such as objects at rest, movement of geologic faults and falling water. (8A) * B T-4						

New CPO kits at your campus have activities and materials for Force and Motion.

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117	Scientific Processes	7.3 The student uses critical thinking and scientific problem solving to make informed decisions.	C. Represent the natural world using models and identify their limitations. (3C) * B T-1	1. The student will demonstrate an understanding of the nature of science.	Glencoe – Chapter 5: Motion, Forces, and Simple Machines Sections 2 and 3 Chapter 6: Energy Section 1 <u>Investigations and Labs for Force & Motion:</u> ✖ Double Pendulum Lab, p. 53-54 supplemental www.myphysicslab.com www.maths.tcd.ie/~plynch/swingingspring/doublependulum.html • Lab: Incline Racers {R} Rollercoaster (CPO equipment) ✖ Simple machines Station lab, p. 55-60 supplemental United Streaming: www.unitedstreaming.com Physical Science: Forces and		Labs reports Glencoe Ch 5 Lab 2 –as time permits Vocabulary: <u>Within the context of the lessons, the students should develop an understanding of the terms:</u> Work Force Motion Simple machine Inclined plane Screw Wedge Lever Pulley Wheel and axle Potential energy Kinetic energy Mechanical advantage Inertia	Lab Reports • Lab: ✖ Double Pendulum Lab • Incline Racers {R} Lab: Roller Coasters in the Classroom, Balloon Drop • Vernier Probe Lab - First Class Levers{S}	<u>Unit: Force and Motion</u> Suggested Topic Sequence: What work is What force is Law of Inertia Simple Machines Potential & Kinetic Energy In Chapter 5, Section 1 contains a lot of material that is not covered in the 7 th grade TEKS. 5 E Instructional Model: See labs posted on Scitogo.
118			D. Evaluation the impact of research on scientific thought, society, and the environment. (3D) B T-1	45. The student will demonstrate an understanding of motion, forces, and energy.					
120			E. Connect Grade 7 science concepts with the history of science and contributions of scientists. (3E) B T-1						
216	Systems	7.8 The students knows that complex interactions occur between matter and energy.	A. Illustrate examples of kinetic and potential energy in everyday life such as objects at rest, movement of geologic faults and falling water. (8A)* B T-4						
415 419	Constancy and Change	7.6 The student knows that there is a relationship between force and motion.	A. Demonstrate basic relationships between force and motion using simple machines including pulleys, levers and inclined planes. (6A)* B T-45						<div style="border: 1px solid black; padding: 5px; width: fit-content;"> Frames Activity Prompt use TEK 6C: Relate forces to basic processes in living organisms including the flow of blood and the emergence of seedlings. </div>

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			B. Demonstrate that an object will remain at rest or at a constant speed in a straight line unless acted upon by an unbalanced force. (6B) B T-5		Gravity (20:20) Glencoe Chapter Resources Booklet for Chapter 5				

Interventions, Reteaching, and Six Weeks Test (2 days)

✘ Indicates differentiation from the IPG. The APGs are color-coded to explain the type of differentiation used.
GREEN = Extensions using depth/complexity, RED = Substitutions, PURPLE = Additions
 Color-coded APGs are available on the AISD GT website at: <http://www.austinsd.org/academics/curriculum/gt/apg.phtml>