#### Warm Up to Science: TEKS-Based Engagement Activities for Grade 8 Science

Product Crosswalk for 2021 TEKS



• Aligned items address content included within a student expectation. However, many items do not address all aspects of the student expectation (i.e. SEPs and RTCs connections).

**REGION** 

• Partially aligned items do not fully align with TEKS adopted in 2021.

2021 TEKS	2017 TEKS	Aligned	Partially Aligned	Not Aligned	Notes			
<ul> <li>Matter and Energy</li> <li>(6) The student understands that matter can be classified according to its properties and matter is conserved in chemical changes that occur within closed systems. The student is expected to:</li> </ul>								
<ul> <li>(A) explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures;</li> </ul>	NEW							
<ul> <li>(B) use the periodic table to identify the atoms involved in chemical reactions;</li> </ul>	NEW		25 26					
(C) describe the properties of cohesion, adhesion, and surface tension in water and relate to observable phenomena such as the formation of droplets, transport in plants, and insects walking on water;	NEW							
<b>(D)</b> compare and contrast the properties of acids and bases, including pH relative to water; and	NEW							
(E) investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis.	8(5)(F) 2010	21 22 23 24	25 26					
	8(5)(A) 2017			1 2 3 4 5	Concept moved to high school IPC/Chemistry			
	8(5)(B) 2017			6 7 8 9	Concept moved to high school IPC/Chemistry			
	8(5)(C) 2017			10 11 12 13	Concept moved to high school IPC/Chemistry			
	8(5)(D) 2017			14 15 16 17	Identifying elements and atoms in a formula is addressed in grade 7			
	8(5)(E) 2010			18 19 20	Evidence of chemical reactions is addressed in grade 6			

2021 TEKS	2017 TEKS	Aligned	Partially Aligned	Not Aligned	Notes			
<b>Force, Motion, and Energy</b> (7) The student understands the relationship between force and motion within systems. The student is expected to:								
(A) calculate and analyze how the acceleration of an object is dependent upon the net force acting on the object and the mass of the object using Newton's Second Law of Motion; and	8(6)(A)	37 38 39	32	27 28 29	Balanced and unbalanced forces and net force are introduced in grade 6 Unaligned items may be used to review previous concepts			
(B) investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.	8(6)(C)		36 37 38 39 40		Items address one of three laws of motion Newton's third law (action-reaction) is introduced in grade 6 Newton's first law (inertia) is introduced in grade 7			
	8(6)(B)			30 31 33 34 35	Speed and velocity are addressed in grade 7; Acceleration is introduced in grade 8 Unaligned items may be used to review previous concepts			
Force, Motion, and Energy	<u> </u>			I				
(8) The student knows how energy is transf	erred throu	ugh waves	. The stude	ent is expe	cted to:			
(A) compare the characteristics of amplitude, frequency, and wavelength in transverse waves, including the electromagnetic spectrum; and	NEW							
(B) explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X- rays.	8(8)(C) 2017		59 60		Context for electromagnetic spectrum has been expanded beyond astronomical observations			

2021 TEKS	2017 TEKS	Aligned	Partially Aligned	Not Aligned	Notes		
Earth and Space (9) The student describes the characteristics of the universe and the relative scale of its components. The student is expected to:							
<ul> <li>(A) describe the life cycle of stars and compare and classify stars using the Hertzsprung-Russell diagram;</li> </ul>	8(8)(A)	56			Life cycle of stars was not specified in previous TEKS		
<b>(B)</b> categorize galaxies as spiral, elliptical, and irregular and locate Earth's solar system within the Milky Way galaxy; and	8(8)(A) 8(8)(B)	54 55 57 58			Items 54 and 55 address types of galaxies Items 57 and 58 address location of Sun within Milky Way		
(C) research and analyze scientific data used as evidence to develop scientific theories that describe the origin of the universe.	8(8)(D) 2017 8(8)(E) 2010	63			galaxy		
	8(7)(A)			41 42 43 44	Seasons moved to grade 6 Items may be used as review for STAAR®		
	8(7)(B)			45 46 47 48 49 50	Lunar phases have been removed in 2021		
	8(7)(C)			51 52 53	Tides moved to grade 6 Items may be used as review for STAAR®		
	8(8)(D) 2010			61 62	This SE was streamlined out in 2017		

STAAR® is a registered trademark of the Texas Education Agency.

2021 TEKS	2017 TEKS	Aligned	Partially Aligned	Not Aligned	Notes			
Earth and Space (10) The student knows that interactions between Earth, ocean, and weather systems impact climate. The student is expected to:								
(A) describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate:	8(10)(A)	76 77 78			The term hydrosphere is new in 2021			
		79			include climate			
<b>(B)</b> identify global patterns of atmospheric movement and how they influence local weather; and	8(10)(B)	80 81 82 83			Weather maps were in 2021 but are included as a science tool (8(1)(D))			
(C) describe the interactions between ocean currents and air masses that produce tropical cyclones, including typhoons and hurricanes.	8(10)(C)	84 85			The terms tropical cyclones and typhoon are new in 2021			
Earth and Space								
(11) The student knows that natural events expected to:	and humar	n activity c	an impact g	lobal clima	ate. The student is			
(A) use scientific evidence to describe how natural events, including volcanic eruptions, meteor impacts, abrupt changes in ocean currents, and the release and absorption of greenhouse gases influence climate;	NEW							
(B) use scientific evidence to describe how human activities, including the release of greenhouse gases, deforestation, and urbanization, can influence climate; and	NEW							
(C) describe the carbon cycle.	NEW							
	8(9)(A)			64 65 66	Plate tectonics moved to grade 7			
	8(9)(B)			67 68 69 70 71	Plate tectonics moved to grade 7			
	8(9)(C)			72 73 74 75	This standard was removed in 2021.			

2021 TEKS	2017 TEKS	Aligned	Partially Aligned	Not Aligned	Notes		
<b>Organisms and Environments</b> (12) The student understands stability and change in populations and ecosystems. The student is expected to:							
<ul> <li>(A) explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems;</li> </ul>	NEW						
(B) describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity; and	NEW to grade 8 7(10)(C) B(10)(C)				New SE combines concepts addressed in grade 7 and Biology		
(C) describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.	NEW to grade 8 7 <i>(10)(B)</i>				Concept moved up from grade 7		
Organisms and Environments							
(13) The student knows how cell functions s variation relate to survival. The student is early a student in the student is early a student is early a student in the student is early a student is early a student in the student in the student is early a student in the student in the student in the student is early a student in the student in the student in the student is early a student in the student in	support the xpected to:	health of a	an organisn	n and how	adaptation and		
<ul> <li>(A) identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells;</li> </ul>	NEW to grade 8 7(12)(D)				Concept moved up from grade 7; Ribosomes added in 2021		
<ul> <li>(B) describe the function of genes within chromosomes in determining inherited traits of offspring; and</li> </ul>	NEW to grade 8 7(14)(C)				Concept moved up from grade 7		
(C) describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.	NEW to grade 8 7(11)(B)				Concept moved up from grade 7		
	8(11)(A) 2010			86 87 88 89 90 91	Streamlined out in 2017 Moved to grade 6 in 2021		
	8(11)(B) 2010 8(11)(A) 2017			92 93 94 95	Moved to grade 6 in 2021		

2021 TEKS	2017 TEKS	Aligned	Partially Aligned	Not Aligned	Notes		
Organisms and Environments continued							
	8(11)(C) 2010 8(11)(B) 2017			96 97 98	Partially addressed in new 6(13)(C)		
	8(11)(D) 2010 8(11)(C) 2017			99 100	Moved to grade 7 in 2021		

	# of WUTS					
2021 TEKS	Aligned to Grade 8	Partially Aligned to Grade 8	Not Aligned to Grade 8	Aligned to Grade 6 or Grade 7		
Matter and Energy	4	2	20	7		
Force, Motion, and Energy	3	5	8	10		
Earth and Space	16	0	27	15		
Organisms and Environments	0	0	15	15		
TOTAL PERCENTAGE	23%	7%	70%	47%		