

4th Grade Science Q2

The purpose of this document is to clarify what students should know and be able to do each grading period.

The **Competencies** listed in the table below are developed from the Texas Essential Knowledge and Skills (TEKS) for that grade level. The chart defines which quarter the Competency is reported (Q1 = Grading Period 1, Q2 = Grading Period 2, etc.)

Teachers will report on the competencies using the **Learning Progressions** which are comprised of four proficiency levels (developing (DV), progressing (PG), proficient (PG) and advanced (AV)) and defines the knowledge and skills students will master on their pathway to proficiency. The Learning Progressions for each Competency are below the yearlong outline of the Competencies. Following the Learning Progression are the Competency Success Criteria which define what a student knows and is able to do related to that competency at the end of a unit or quarter.

Students who receive a mark of “**Proficient**” meet the grade level expectation for that Competency.

Competencies	Q 1	Q 2	Q 3	Q 4
C1 Scientific Explanations The student analyzes and interprets information and is able to construct reasonable explanations from evidence.	X	X	X	X
C2 Matter The student measures and compares matter based on physical properties, and compares a variety of mixtures.	X			
C3 Force, Motion, and Energy The student differentiates between forms of energy, and designs an investigation that tests the effects of forces on objects.		X		
C4 Earth's Surface The student examines properties of soils and describes the effects of weathering, erosion, and deposition on Earth's surface.		X		
C5 Patterns in the Natural World The student recognizes patterns in weather, the water cycle, and among the Sun, Earth, and Moon system.			X	
C6 Organisms and Environments The student explores that living organisms within an ecosystem interact with one another and their environment and have structures and behaviors that help them survive.				X

Learning Progression for Competency 1: Scientific Explanations

The student analyzes and interprets information and is able to construct reasonable explanations from evidence.

Developing	Progressing	Proficient	Advanced
Did not make a claim; or claim does not answer the question	Claim does not completely answer the question	Claim completely answers the question	Claim completely answers the question
Did not provide evidence; or evidence does not support the claim; or evidence does not include specific data (exact words or numbers) to support claim	Uses some evidence to support claim Evidence includes specific data (exact words or numbers) to support claim	Uses sufficient evidence to support claim Evidence includes only relevant specific data (exact words or numbers) to support claim	Uses sufficient evidence to support claim Evidence includes only relevant specific data (exact words or numbers) to support claim
Did not provide reasoning; or reasoning does not connect the claim to the evidence	Attempts to explain how the claim is connected to the evidence using a scientific concept	Explains how the claim is connected to the evidence using a scientific concept	Explains how the claim is connected to the evidence using only relevant scientific concepts.
<p>Success Criteria for Proficient in Scientific Explanation:</p> <p>The student can:</p> <ul style="list-style-type: none"> • answer a question by making a claim. • use specific data as evidence to support the claim. • attempt to state a scientific principle or scientific idea that justifies how evidence supports the claim. 			

Learning Progression for Competency 3: Force, Motion, and Energy

The student differentiates between forms of energy, and design an investigation that tests the effects of forces on objects.

Developing	Progressing	Proficient	Advanced
<p>Describes mechanical, sound, light, thermal, and electrical energy</p> <p>Designs a descriptive investigation to test the effect of force (push or a pull, gravity, friction, or magnetism) on an object, with the class</p> <p>Describes the effects of friction on an object</p>	<p>Provides examples of objects that use or produce mechanical, sound, light, thermal, and electrical energy</p> <p>Designs a descriptive investigation to test the effect of force (push or a pull, gravity, friction, or magnetism) on an object, with a peer</p> <p>Describes the effects of gravity and magnetism on object</p>	<p>Differentiates among forms of energy</p> <p>Designs a descriptive investigation to test the effect of force on an object</p> <p>Describes the effects of forces on an object</p>	<p>Describes the uses of energy (mechanical, light, thermal, electrical, and sound energy) around the world</p> <p>Evaluates the design of descriptive investigations about forces and provides useful feedback toward their improvement</p>

Success Criteria for Proficient in Force, Motion, and Energy:

The student can:

- differentiate among forms of energy.
 - o mechanical energy
 - o sound energy
 - o electrical energy
 - o light energy
 - o thermal energy
- design a descriptive investigation to test the effect of force on an object.
 - o push
 - o pull
 - o gravity
 - o friction
 - o magnetism

- describe the effects of forces on an object.
 - o push
 - o pull
 - o gravity
 - o friction
 - o magnetism

Learning Progression for Competency 4: Earth's Surface

The student examines properties of soils and describe the effects of weathering, erosion, and deposition on Earth's surface.

Developing	Progressing	Proficient	Advanced
<p>Observes soil and records observations about color, particle size, and texture</p> <p>Describes the role of weathering in the formation of soil</p>	<p>Describes soil by the properties of color, particle size, and texture</p> <p>Tests and calculates the capacity of soils to retain water</p> <p>Explains how the processes of weathering, erosion, and deposition</p>	<p>Examines and analyzes properties of soils</p> <p>Identifies slow changes to Earth's surface caused by weathering, erosion, and deposition from wind, water, and ice</p>	<p>Tests soil's ability to support the growth of plants</p> <p>Identifies causes of changes to Earth's surface using evidence to justify</p>
<p>Success Criteria for Proficient in Earth's Surface:</p> <p>The student can:</p> <ul style="list-style-type: none"> examine and analyze properties of soil. <ul style="list-style-type: none"> color texture capacity to retain water ability to support the growth of plants identify slow changes to Earth's surface caused by weathering, erosion, and deposition. <ul style="list-style-type: none"> weathering erosion deposition 			

