CoAlt Science 2023 Performance Level Descriptors
Grade 5 Science

Emerging
Students performing at this level demonstrate an initial understanding of concepts and skills represented by the Extended Evidence Outcomes (EEOs) of the Colorado Academic Standards (CAS). They will need extensive academic supports to engage successfully in further studies in the content area.

Approaching Target
Students performing at this level demonstrate a limited understanding of concepts and skills represented by the EEOs of the CAS. They will likely need moderate academic supports to engage successfully in further studies in the content area.

At Target
Students performing at this level demonstrate a foundational understanding of concepts and skills represented by the EEOs of the CAS. They are academically prepared to engage in further studies in the content area with appropriate supports.

Advanced
Students performing at this level demonstrate a solid understanding of the concepts and skills represented by the EEOs of the CAS. They are academically well prepared to engage in further studies in the content area with appropriate supports.

Color Legend for Three-Dimensional Alignment


Colorado Essential Skills and Science and Engineering Practice


Grade Level Expectation


Cross Cutting Concept

Physical Science				
	Emerging	**Approaching Target**	**At Target**	**Advanced**
PG 1	**Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding structure, properties, and interactions of matter.**			
GLE 1.1, 1.2, 1.3	Identify that matter is made of particles. (5.1.1.a)	Use a model to identify that matter is made of particles and that the behavior of these small particles have observable effects. **OR** Identify that matter is made of particles too small to be seen and that the behavior of these small particles have observable effects. (5.1.1.a)	Use a model to identify that matter is made of particles too small to be seen and that the behavior of these small particles have observable effects. (5.1.1.a)	
	Identify that the observable properties of matter are a result of matter being made of particles. (5.1.1.b)	Identify a material based on similarities and differences in its properties. **OR** Use evidence from an investigation to identify a material based on its properties. **OR** Identify an investigation that could be used to identify a material based on its properties. (5.1.1.b)	Use evidence from an investigation to classify materials based on similarities and differences in their properties. **OR** Identify an investigation that could be used to classify materials based on similarities and differences in their properties. (5.1.1.b)	Plan an investigation to classify and identify materials based on similarities and differences in their properties. (5.1.1.b)
	Identify that adding or removing matter from a sample changes the mass of the sample. (5.1.2.a)	Identify that heating, cooling, and mixing substances does not change the total mass of the substances. (5.1.2.a)	Use quantitative or qualitative evidence to identify that heating, cooling, and mixing substances does not change the total mass of the substances. (5.1.2.a)	
	Identify the state of matter of a substance. (5.1.2.b)	Identify the state of matter of a mixture of two substances. (5.1.2.b)	Identify and/or compare the properties of two substances before and after mixing. (5.1.2.b)	Use evidence from an investigation to compare the properties of two substances before and after mixing. (5.1.2.b)

Physical Science				
	Emerging	**Approaching Target**	**At Target**	**Advanced**
	Identify down as the direction gravity causes objects to move. (5.1.3.a)	Identify gravity as the force that causes an object to move down toward Earth. (5.1.3.a)	Use evidence to show that the force of gravity pulls all objects down toward Earth. (5.1.3.a)	Use evidence to show that the force of gravity pulls all objects down toward Earth but that not all objects demonstrate downward movement toward Earth. (5.1.3.a)

Life/Physical Science				
	Emerging	**Approaching Target**	**At Target**	**Advanced**
PG 6	**Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how living systems interact with the biotic and abiotic environment.**			
GLE 1.4, 2.1, 2.2	Identify that the Sun is the source of energy for plants. (5.1.4.a)	Use a model to identify that animals' food contains energy. **OR** Identify that the energy in animals' food was once energy from the Sun. (5.1.4.a)	Use a model to show that energy in animals' food was once energy from the Sun. (5.1.4.a)	Use a model to show that the energy in animals' food was once energy from the Sun but that the matter in animal's food is not from the Sun. (5.1.4.a)
	Identify air and water as sources of matter that plants need to grow. (5.2.1.a)	Use evidence to identify that air and water are sources of matter that plants need to grow. (5.2.1.a)	Use evidence to show that air and water, but not soil, are sources of matter that plants need to grow. (5.2.1.a)	Use evidence to show that nutrients from soil can help a plant grow, but air and water are the sources of matter that make up the new mass that plants gain as they grow. (5.2.1.a)
	Use a model to identify an animal's source of food. (5.2.2.a)	Use a model to show the movement of matter between two components of a food chain or web (plants and animals, and the environment). **OR** Use a model of the movement of matter through a food chain or web to identify what living components of the food chain or web make their own food or must eat food. (5.2.2.a)	Develop a model to show the movement of matter between two components of a food chain or web (plants and animals, and the environment). (5.2.2.a)	Develop or use a model to show the movement of matter between three or more components of a food chain or web (plants, animals, and the environment). (5.2.2.a)

Earth and Space Science				
	Emerging	**Approaching Target**	**At Target**	**Advanced**
PG 9	**Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding the universe and Earth's place in it.**			
GLE 3.1, 3.2	Identify that the Sun appears brighter than other stars. (5.3.1.a)	Identify that the Sun is a star that appears brighter than other stars because of their different distances from Earth. **OR** Use evidence to identify that the Sun is a star that appears brighter than other stars. (5.3.1.a)	Use evidence to identify that the Sun is a star that appears brighter than other stars because of different distances of the stars from Earth. (5.3.1.a)	Use evidence to identify that the Sun is a star that appears brighter than other stars because of their different distances from Earth and that distance is proportional to apparent brightness. (5.3.1.a)
	Identify the length of shadows as something that changes at different times of the day. **OR** Identify the amount of daylight as something that changes across seasons. (5.3.2.a)	Identify the position of Earth in its orbit or the revolution of Earth as a cause of changes in the amount of daylight across seasons. **OR** Identify the position of the Sun in the sky or the rotation of Earth as a cause of changes in the length of shadows at different times of the day. (5.3.2.a)	Interpret patterns of daily changes in the amount of daylight across seasons and of the length of shadows at different times of the day. (5.3.2.a)	Interpret and graph patterns of daily changes in the amount of daylight across seasons and of the length of shadows across time and at different times of the day. (5.3.2.a)
PG 10	**Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how and why Earth is constantly changing.**			
GLE 3.3, 3.4, 3.5	Identify a living or nonliving thing involved in an interaction between any two of Earth's systems (geosphere, biosphere, hydrosphere, and atmosphere). (5.3.3.a)	Use a model to identify an interaction between any two of Earth's systems (geosphere, biosphere, hydrosphere, and atmosphere). **OR** Identify the cause or effect of an interaction between any two of Earth's systems (geosphere, biosphere, hydrosphere, and atmosphere). (5.3.3.a)	Use a model to describe an interaction between any two of Earth's systems (geosphere, biosphere, hydrosphere, and atmosphere). (5.3.3.a)	Use a model to explain an interaction between any two of Earth's systems (geosphere, biosphere, hydrosphere, and atmosphere). (5.3.3.a)

Earth and Space Science				
	Emerging	**Approaching Target**	**At Target**	**Advanced**
	Identify oceans as a source of salt water or lakes, rivers, glaciers, groundwater, polar ice caps, or precipitation as a source of fresh water. (5.3.4.a)	Identify that there is much more salt water than fresh water on Earth. **OR** Identify that there is much more water in oceans than in other sources. (5.3.4.a)	Use a graph to compare the relative amounts of salt water and fresh water on Earth found in oceans, lakes, rivers, glaciers, groundwater, and polar ice caps. (5.3.4.a)	Use a graph to describe a cause or effect of the relative amounts of salt water and fresh water on Earth found in oceans, lakes, rivers, glaciers, groundwater, and polar ice caps. (5.3.4.a)
	Identify a way to protect Earth's resources and environment. (5.3.5.a)	Use text and media to identify a way to protect Earth's resources and environment. (5.3.5.a)	Use text and media to compare ways to protect Earth's resources and environment. (5.3.5.a)	Use text and media to compare ways to protect Earth's resources and environment, and describe why one way is better than another. (5.3.5.a)