1st Nine Weeks

Matter and energy. The student knows that matter has measurable physical properties that determine how matter is identified, classified, changed, and used. The student is expected to:

5.6A compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

5.6B demonstrate and explain that some mixtures maintain physical properties of their substances such as iron filings and sand or sand and water

5.6C compare the properties of substances before and after they are combined into a solution and demonstrate that matter is conserved in solutions

Changes to the TEKS In Matter and Energy:

- This is a priority TEKS.
- The students now compare and contrast the properties of matter instead of classifying. They also compare the substances before and after they are combined into a solution.
- The properties of matter now include volume.
- There is more rigor in this content and throughout the entire 5th grade standards.
- There is a NEW TEKS added that readies students for 6th grade.

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Additional TEKS to be taught:

5.6D illustrate how matter is made up of particles that are too small to be seen such as air in a balloon. NEW

Compare and Contrast the Physical Properties of Matter

Yearly Target	Nine Weeks Target	TEKS	Priority Topic: Compare and Contrast the Physical Properties of Matter
Extension			• Use inferences and applications that go beyond the standard.
3.0	1st	Content: 5.6A, 5.6C SEPs: 5.1CD 5.3ABC RTC: 5.5E	I can: • Compare and contrast matter based on their physical properties. • Compare the properties of substances before and after they are combined into a solution and demonstrate that matter is conserved in solutions. • Communicate thinking using diagrams/illustrations, labels, and sentences.
2.5			• In addition to 2.0 content, partial knowledge of 3.0 is evident.
2.0		Content: 5.6A, 5.6B SEPs: 5.1CD 5.3ABC RTC: 5.5E	I can: • Describe matter using the physical properties of physical state, solubility, and the ability to conduct or insulate thermal or electrical energy. • Demonstrate and explain the properties of substances before and after they are combined into a solution. • Communicate observations and data using diagrams/illustrations and labels.
1.5			• In addition to 1.0 content, partial knowledge of 2.0 is evident.
1.0		Content: 5.6A SEPs: 5.1CDE 5.3BC RTC: 5.5E	I can: • Describe matter using the physical properties of mass, volume, relative density, and magnetism. • Demonstrate and explain that some mixtures maintain the physical properties of their substances. • Communicate observations.
0.5			• With help, a partial understanding of the 1.0 content is evident • With help, communicate observations.

2nd Nine Weeks

Force, motion, and energy. The student knows the nature of forces and the patterns of their interactions. The student is expected to:

5.7B design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

Force, motion, and energy. The student knows that energy is everywhere and can be observed in cycles, patterns, and systems. The student is expected to:

5.8C demonstrate and explain how light travels in a straight line and can be reflected, refracted, or absorbed.

Changes to the TEKS In Force, Motion, and Energy:

- This is a priority TEKS.
- Students will apply what they have learned by planning and conducting an investigation. The students will need guidance and support as they plan and conduct an **experimental** investigation. Experimental investigations involve a process in which a "fair test" is designed, and variables are actively manipulated, controlled, and measured to gather evidence to support or refute a causal relationship. Experimental investigations have a control group that does not receive any treatment. For example, a student might conduct an investigation to answer the question "What is the effect of light color on plant growth?" In this experiment, the variable is the color of light. The student may compare red light or green light to natural light. In experimental investigations, it is important to keep all other variables constant. In prior grades, the students only performed descriptive investigations.
- Instead of exploring the uses of energy, including mechanical, light, thermal, electrical, and sound energy, they now investigate and describe the transformation of energy in systems.
- When the students study light, they demonstrate and explain how light travels in a straight line and can be reflected, refracted, or **absorbed**.
- Again, there is more rigor in the standards.

Additional TEKS to be taught:

5.7A investigate and explain how equal and unequal forces acting on an object cause patterns of motion and transfer of energy (NEW)

5.8A investigate and describe the transformation of energy in systems such as energy in a flashlight battery that changes from chemical energy to electrical energy to light energy

5.8B demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit

Demonstrate and Explain How Light Travels and Conduct an Investigation

Yearly Target	Nine Weeks Target	TEKS	Demonstrate and Explain How Light Travels and Conduct an Investigation
Extension			• Use inferences and applications that go beyond the standard.
3.0	2nd	Content: 5.7B, 5.8C SEPs: 5.1BC-G 5.3ABC RTC: 5.5ABG	I can: • Conduct an experimental investigation that explores the patterns of forces such as gravity, friction, or magnetism in contact or at a distance on an object. • Demonstrate and explain that when light travels, it can be refracted or absorbed. • Communicate thinking using diagrams/illustrations, labels, and sentences.
2.5			• In addition to 2.0 content, partial knowledge of 3.0 is evident.
2.0		Content: 5.7B, 5.8C SEPs: 5.1C-G 5.3ABC RTC: 5.5ABG	I can: • Plan an experimental investigation that explores the patterns of forces such as gravity, friction, or magnetism in contact or at a distance on an object. • Demonstrate and explain that when light strikes an object, it is reflected. • Communicate observations and data using diagrams/illustrations and labels.
1.5			• In addition to 1.0 content, partial knowledge of 2.0 is evident.
1.0		Content: 5.7B,5.8C SEPs: 5.1ACD 5.3BC RTC: 5.5BG	I can: • Investigate the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string. • Demonstrate and explain that light travels in a straight line. • Communicate observations.
0.5			• With help, partial understanding of the 1.0 content is evident • With help, communicate observations.

3rd Nine Weeks

Earth and space. The student recognizes patterns among the Sun, Earth, and Moon system and their effects. The student is expected to:
5.9 demonstrate that Earth rotates on its axis once approximately every 24 hours and explain how that causes the day/night cycle and the appearance of the Sun moving across the sky, resulting in changes in shadow positions and shapes.

Earth and space. The student knows that there are recognizable patterns and processes on Earth. The student is expected to:
5.10A explain how the Sun and the ocean interact in the water cycle and affect weather

Changes to the TEKS In Earth and Space:

- This is a priority TEKS.
- Students do not study weather and climate. It is now taught in 4th grade. They also do not identify and compare the physical characteristics of the Sun, Earth, and Moon
- There is more rigor. The verbs have changed. Students must explain what they are learning.
- With the water cycle, the students explain what interactions occur with the Sun and the ocean and how it affects our weather.
- Shadows are now studied in 5th grade.

Additional TEKS to be taught:

5.10B model and describe the processes that led to the formation of sedimentary rocks and fossil fuels
5.10C model and identify how changes to Earth's surface by wind, water, or ice result in the formation of landforms, including deltas, canyons, and sand dunes

Earth and space. The student understands how natural resources are important and can be managed. The student is expected to:
5.11A design and explain solutions such as conservation, recycling, or proper disposal to minimize environmental impact of the use of natural resources

Demonstrate and Explain Patterns in the Earth and Sky

Yearly Target	Nine Weeks Target	TEKS	Priority Topic: Demonstrate and Explain Patterns in the Earth and Sky
Extension			• Use inferences and applications that go beyond the standards.
3.0	3rd	Content: 5.9, 5.10A SEPs: 5.1CDFG 5.3ABC RTC: 5.5ABC	I can: • Demonstrate and explain that Earth 's rotation causes the apparent movement of the Sun across the sky and changes in position and shape of shadows. • Explain how the interaction between the Sun and the ocean affects weather. • Communicate thinking using diagrams/illustrations, labels, and sentences.
2.5			• In addition to 2.0 content, partial knowledge of 3.0 is evident.
2.0		Content: 5.9, 5.10A SEPs: 5.1CDFG 5.3ABC RTC: 5.5ABC	I can: • Demonstrate and explain that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle. • Explain how the Sun and the ocean interact in the water cycle. • Communicate observations and data using diagrams/illustrations and labels.
1.5			In addition to 1.0 content, partial knowledge of 2.0 is evident.
1.0		Content: 5.9, 5.10A SEPs: 5.1CD 5.3BC RTC: 5.5AD	I can: • Describe the relationship between the Sun and the Earth, including orbit and position. • Describe and illustrate the processes in the water cycle including evaporation, condensation, precipitation, and accumulation. • Communicate observations.
0.5			• With help, partial understanding of the 1.0 content is evident • With help, communicate observations.

4th Nine Weeks

Organisms and environments. The student describes patterns, cycles, systems, and relationships within environments. The student is expected to:

5.12C describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

Organisms and environments. The student knows that organisms undergo similar life processes and have structures and behaviors that help them survive within their environments. The student is expected to:

5.13A analyze the structures and functions of different species to identify how organisms survive in the same environment

Changes to the TEKS In Organisms and Environments:

- This is a priority TEKS.
- Students describe the cycling of matter as they study flow of energy through food webs.
- The vocabulary of the TEKS has changed. For example: Living and nonliving are biotic and abiotic.
- The TEKs are the same, but there is more rigor and in-depth learning of organisms and their environments.
- 5th graders no longer study fossils.
- There is a change in 13B. Students do not differentiate between inherited traits of plants and animals and learned behaviors but focus on behavioral traits that are instinctual or learned.

Additional TEKS to be taught:

Organisms and environments. The student describes patterns, cycles, systems, and relationships within environments. The student is expected to:

5.12A observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem
5.12B predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web
5.12C describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

5.13B explain how instinctual behavioral traits such as turtle hatchlings returning to the sea and learned behavioral traits such as orcas hunting in packs increase chances of survival.

Compare the Interactions of Organisms Within Ecosystems

Yearly Target	Nine Weeks Target	TEKS	Priority Topic: Compare the Interactions of Organisms Within Ecosystems
4.0			• Use inferences and applications that go beyond the standards.
3.0	4th	Content: 5.13A SEPs: 5.1CD 5.3ABC RTC: 5.5BEFG	I can: • Analyze the structures and functions of different species to identify how organisms survive in the same environment. • Communicate thinking using diagrams/illustrations, labels, and sentences.
2.5			• In addition to 2.0 content, partial knowledge of 3.0 is evident
2.0		Content: 5.13A SEPs: 5.1CD 5.3ABC RTC: 5.5BEFG	I can: • Explain how the structures and functions help at least three different organisms (animals and plants) live and survive in the same environment. • Communicate observations and data using diagrams/illustrations and labels.
1.5			• In addition to 1.0 content, partial knowledge of 2.0 is evident
1.0		Content: 5.13A SEPs: 5.1CD 5.3ABC RTC: 5.5BEFG	I can: • Identify the structures and functions that help organisms (animals and plants) live and survive in the same environment. • Communicate observations.
0.5			• With help, partial understanding of the 1.0 content is evident. • With help, communicate observations.