UNIT 4

Course: Language Arts/Science/SEL	**Grade Level:** 5th Grade
Unit Title: Physical Science: Changes in Matter	**Length of Unit:** Until the end of the second trimester - Approximately 6 weeks

Unit Summary: In this unit, students will use the skills and knowledge acquired to think critically about the physical changes to matter that students experience in their daily lives. Additionally, students will think critically about how chemical combinations of substances result in chemical changes, in which a new substance with different properties will be created. Students will also gain an understanding that despite changes in the physical or chemical properties of matter, its mass is always conserved. Students will read a wide range of texts. Students will read critically, analyzing text structures, credibility and media format to gather information about a topic. Students will use the writing process to ensure that their informative pieces introduce the topic, develop the topic with facts, details, quotes and examples, use precise language and provide a concluding statement or section related to the information presented.

SEL
Throughout this unit, students will be asked to <u>monitor their progress and self-assess</u> their ability to use effective ways to increase coping and manage strong feelings in order to limit negative consequences.

Stage 1- Desired Results

STANDARDS	Transfer
Priority: Science: **5-PS1-1: Develop a model to describe that matter is made of particles too small to be seen.** **5-PS1-2: Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.** **Language Arts:**	*Students will be able to independently use their learning to…* **TG1: Apply an understanding of the physical and chemical changes of matter to design a model that represents and/or addresses phenomena (of this type) experienced in daily life.** **TG2: Read a wide range of informational texts, determining a text's main idea(s) by analyzing details and by comparing texts to explain how a text's structure affects its meaning and/or style.** **TG3: Gather information from relevant print and digital sources on a topic of choice and draw on this to write an informational/explanatory text that includes a listing of**

	these sources.
RL.5.2: Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text. **RI.5.2: Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.** **RL.5.5: Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.** **RI.5.5: Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.** **W.5.2: Write informative/ explanatory texts to examine a topic and convey ideas and information clearly.** **A. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aid comprehension.** **B. Develop the topic with facts, definitions, concrete details, quotations, or other**	**Meaning**

ENDURING UNDERSTANDINGS *Students will understand that…*	ESSENTIAL QUESTIONS *Students will continue to consider . . .*
EU1: Matter is anything that has mass and takes up space. *(Natural objects exist from the very small to the immensely large.)*	**EQ1:** How is matter defined?
EU2: Matter of any type can be subdivided into particles that are too small to see, but even then the matter still exists and can be detected by other means.	**EQ2:** How can one explain the structure, properties, and interactions of matter?
EU3: Components of a literary text (e.g., chapters, scenes, stanzas) provide the overall structure for a story drama or poem; the overall structure of events, ideas, concepts or information in an informational text can be organized chronologically, according to cause/effect or problem/solution.	**EQ3:** How does a text's structure help me understand the text?
EU4: Analyzing details helps the reader make connections in the text that allow them to determine the main idea or main ideas.	**EQ4:** How does identifying details help the reader to determine the main idea or main ideas the author is trying to convey?
EU5: Effective readers recognize that an author's organizational techniques affect the overall meaning of a text.	**EQ5:** How does an author develop relationships and interactions between ideas in informational text? *How do these relationships and interactions help readers better understand the text?*

information and examples related to the topic.
C. Link ideas within and across categories of information using words, phrases, and clauses (e.g., *in contrast, especially*).
D. Use precise language and domain-specific vocabulary to inform about or explain the topic.
E. Provide a concluding statement or section related to the information or explanation presented.

W.5.7: Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

SEL:
Goal 1: Develop self-awareness and self-management skills to achieve school and life success.

Goal 2: Use social-awareness and interpersonal skills to establish and maintain positive relationships.

Goal 3: Demonstrate decision-making skills and responsible behaviors in personal, school, and community contexts.

Supporting:
Science:
5.PS1-3: Make observations and

EU6: Effective researchers must determine if a source is valid by considering key variables (e.g., the author's purpose for writing; how/where the author got the information; if there is bias in the writing, etc.)

EU7: Emotions exist for a purpose; developing awareness of thoughts and feelings informs our actions and decision-making.

EQ6: How do I convey information accurately? *How do I know if the information I researched is reliable and valid?*

EQ7: Why should we be aware of our emotions? *How does my behavior affect others?*

Acquisition

Students will know…

K1: Academic Vocabulary

Science
K2: Matter of any type can be subdivided into particles that are too small to see, but even then the matter still exists and can be detected by other means

K3: A model showing that gases are made from matter particles that are too small to see and are moving freely around in space can explain many observations, including the inflation and shape of a balloon and the effects of air on larger particles or objects

Language Arts/Digital Literacy
K4: Reading strategies

Year-Long English/Spanish "I Can" Statements
Students will be skilled at…

Science:
S1: I can use models to describe phenomena.

S2: I can conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered.

S3: I can make observations and measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon.

Language Arts/Digital Literacy

measurements to identify materials based on their properties. 5.PS1-4: Conduct an investigation to determine whether the mixing of two or more substances results in new substances. Language Arts: RL.5.4 Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes. RI.5.4 Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area. RL.5.7 Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem). RI.5.7 Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. W.5.6: With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum	**K5:** Text structures **K6:** The writing process **K7:** Structure of informative/explanatory writing **K8:** The research process **K9:** How to be a responsible digital citizen **SEL** **K10:** Goal-setting strategies **K11:** Strategies for monitoring progress on personal goals	**S4:** I can use the details in a text to determine a theme. (RL.2) **S5:** I can summarize the text. (RL/RI.2) **S6:** I can explain how the main ideas of a text are supported by key details. (RI.2) **S7:** I can explain how parts of a text fit together. (RL.5) **S8:** I can compare and contrast the text structure in texts. (RI.5) **S9:** I can write an informative/explanatory text. (W.2) - I can introduce a topic clearly. - I can choose only the details and information related to a topic. - I can organize my writing in paragraphs and sections with headings. - I can incorporate illustrations and use multimedia elements. - I can use quotations when including facts, definitions, concrete details, and evidence. - I can use linking words in my writing. - I can use precise vocabulary and words specific to the topic. - I can write a concluding statement related to the information or explanation presented.

of two pages in a single sitting.		**S10:** I can gather information from several sources and conduct a short research project and build knowledge. (W.7) **S11:** I can determine what words and phrases mean in texts relevant to 5th grade topics or subject areas. (RL/RI.4) **S12:** I can analyze how visuals affect the meaning, tone or beauty of a text. (RL.7) **S13:** I can use information from various print or digital sources to quickly answer a question or efficiently solve a problem. (RI.7) **S14:** I can compose (on my own and collaboratively) texts using digital devices, software, websites, the Internet, and other digital tools. (W.6) **S15:** I can identify the author and title of information in multiple platforms to give credit to my sources. (Info/Dig Lit Goal 1) **S16:** I can share my ideas and thoughts based on my reading. (Info/Dig Lit Goal 2) **S17:** I can articulate the main idea of my source. (Info/Dig Lit Goal 3) **S18:** I can work with others to exchange ideas and solve a problem. (Info/Dig Lit Goal 3)

		S19: I can select the right technology to help me organize my ideas. (Info/Dig Lit Goal 4) **SEL** **S20:** I can describe and demonstrate ways to express emotions in a socially acceptable manner. **S21:** I can describe and apply approaches for making and keeping friends. **S22:** I can monitor and reflect on progress toward achieving a short-term personal goal.