Updated 7/2021

UNIT 2

Course: Language Arts/Science/SEL	**Grade Level:** 5th Grade
Unit Title: Life Science: Energy Flows and Matter Cycles	**Length of Unit:** Until the end of the first trimester - Approximately 5 weeks

Unit Summary: By gaining knowledge of producers, consumers and decomposers and experience with food webs, students gain an understanding of how energy flows and matter cycles in ecosystems. They will understand that the energy in an ecosystem originates from the sun's energy that is captured by plants and that plants get the matter they need to grow from air and water. Students will use a variety of reading strategies to read and be able to summarize a wide range of texts, identifying key details that support the main idea, comparing story elements and connections between events, ideas and people. Students will produce well sequenced narrative pieces of writing which develop real or imagined experiences with an introduction, narration, character's reactions, sensory details and a conclusion.

SEL
Throughout this unit, students will be asked to <u>monitor their progress and self-assess</u> their ability to have empathy for others and express compassion in order to succeed in school.

Stage 1- Desired Results

STANDARDS	**Transfer**
Priority: **Science:** **5-LS2-1: Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment** **Language Arts:** **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.**	*Students will be able to independently use their learning to…* **TG1: Apply an understanding of energy transfer in ecosystems to develop a model in response to a real-world problem.** **TG2: Read and analyze a wide range of texts, drawing on key details to compare story elements and/or determine the connections between people, events, or ideas, and to communicate an understanding of the main ideas or theme of a text.** **TG3: Write a narrative that uses effective technique to develop a real or imagined experience.**
	Meaning

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.5.3: Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).** **RI.5.3: Explains relationships between people, events/ideas using text information.** **W.5.3: Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.** **A. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally.** **B. Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations.** **C. Use a variety of transitional words, phrases, and clauses to manage the sequence of events.** **D. Use concrete words and phrases and sensory details to convey experiences and events precisely.**	ENDURING UNDERSTANDINGS *Students will understand that…* **EU1:** A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. **EU2:** Matter is transported into, out of, and within systems. *(Energy can be transferred in various ways and between objects.)* **EU3:** Effective readers use summarizing strategies; identify main ideas, key details and a theme in the text. **EU4:** Effective readers recognize how an author's organizational techniques can affect the overall meaning of the text. **EU5:** Effective readers use specific details from a literary text to support their thinking about characters, settings or events. **EU6:** Writers use dialogue and description to advance the plot; it provides the reader with background, creates conflict, develops characters and creates mental pictures. **EU7:** Disagreeing respectfully and with compassion affects others positively.	ESSENTIAL QUESTIONS *Students will continue to consider . . .* **EQ1:** What helps us maintain life? **EQ2:** How do matter and energy flow through an ecosystem? **EQ3:** How can readers share their understanding of a text? **EQ4:** How do relationships and interactions (between people, events, ideas) help readers better understand a text? **EQ5:** How does comparing and contrasting story elements help readers better understand a text? **EQ6:** How can I create a memorable story? *What will make people want to read my writing?* **EQ7:** How do my responses affect others?
	Acquisition	

E. Provide a conclusion that follows from the narrated experiences or events. **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-PS3-1: Use models to describe that energy and animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. 5-LS1-1: Support an argument that plants get the materials they need for growth chiefly from air and water. Language Arts: 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	*Students will know…* **K1:** Academic Vocabulary **Science** **K2:** The food of almost any kind of animal can be traced back to plants **K3:** Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants **K4:** Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plants parts and animals) and therefore operate as "decomposers" **K5:** Decomposition eventually restores (recycles) some materials back to the soil **K6:** Organisms can survive only in environments in which their particular needs are met. **K7:** Newly introduced species can damage the balance of an ecosystem **K8:** A system can be described in terms of its components and their interactions **K9:** Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die	Year-Long English/Spanish "I Can" Statements *Students will be skilled at…* **Science** **S1:** I can use models to describe phenomena. **S2:** I can support an argument with evidence, data, or a model. **Language Arts/Digital Literacy** **S3:** I can use the details in a text to determine a theme. (RL.2) **S4:** I can summarize the text. (RL/RI.2) **S5:** I can explain how the main ideas of a text are supported by key details. (RI.2) **S6:** I can compare and contrast two or more characters, settings, or events, using key details from a text. (RL.3) **S7:** I can explain the relationship between people, events/ideas using text information. (RI.3) **S8:** I can write a narrative about a real or imagined experience or event. (W.3) ● I can use sensory details and story structures that make clear what is happening and who is involved. ● I can arrange events into authentic

overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts. RL.5.6: Describe how a narrator's or speaker's point of view influences how events are described. RI.5.6: Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent. 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 of two pages in a single sitting.	**K10:** Organisms obtain gases, and water, from the environment, and release waste matter (gas, liquid, or solid) back into the environment **K11:** Plants acquire their material for growth chiefly from air and water **K12:** The energy released [from] food was once energy from the sun that was captured by plants in the chemical process that forms plant matter (from air and water) **K13:** Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion. *(secondary)* **Language Arts/Digital Literacy** **K14:** Reading strategies **K15:** The structure of narrative writing (use of literary elements ie: plot, character, setting, event to establish and introduce the story, develop through a logical sequence and end in a logical conclusion) **K16:** The writing process **K17:** Narrative writing techniques (dialogue, transition words, describe details and employ concrete and sensory details) **K18:** How to be a responsible digital citizen	sequences that unfold naturally, adding dialogue, pacing, and description to bring the story and its characters alive. ● I can use various transitional words, phrases, and clauses that orient readers to the sequence of events. ● I can choose words that evoke the full range of sensory details needed to convey the experiences or events being described. ● I can give the story an ending that makes sense in light of all that came before it and provides a satisfying conclusion. **S9:** I can recognize and report inappropriate online behavior. (Info/Dig Lit Goal 1) **S10:** I can protect my identity using usernames and passwords. (Info/Dig Lit Goal 1) **S11:** I can read various texts from diverse places and perspectives. (Info/Dig Lit Goal 2) **S12:** I can locate materials in the library using the online card catalog and call number. (Info/Dig Lit Goal 3) **SEL** **S13:** I can disagree respectfully while communicating their own perspective.

	K19: Narratives can entertain and inform **SEL** **K20:** The difference between respectful and disrespectful ways to disagree	**S14:** I can respond with compassion.

Stage 2- Evidence	
Evaluation Criteria	**Assessment Evidence**
Task Rubric Reading Rubrics-English Reading Rubrics-Spanish Narrative Writing Rubrics, Prompt and Checklists SEL Rubrics	Performance Task(s): You are an ecologist working with a local environmental organization. The organization has contacted you to help them create a plan to save a natural area. You decide that in order to best help the members of the organization you need to first educate them on how energy flows through the ecosystem via a food web. As the contracted ecologist you can choose to use Google Slides, or create a poster or brochure to explain the food web. (Student can choose an ecosystem or the teacher can assign an ecosystem)
	OTHER EVIDENCE ● Sample Reading Assessments ● Written or recorded reflection on a reading or video ● Written or recorded reflection after a lab experience ● Results of labs and classroom activities ● Exit ticket ● Teacher observation and discussion in class STUDENT SELF-ASSESSMENT & REFLECTION

Stage 3- Learning Plan

The Learning Plan

- ❏ How will I support learners as they come to understand the important ideas and processes?
- ❏ How will I prepare them to independently transfer their learning?

- ❏ How are my students going to learn what they need to know and be able to do?
- ❏ How do I teach for understanding and transfer?

Lessons - **5th Grade Links to Integrated Curriculum Resources**
Life Science Folder
Life Science Teacher Choice Board

- ❏ What are the goals/standards toward which we are working in this lesson? How will I communicate this? *An introduction to the unit goals/standards and the purpose/value of learning them. A preview of the evidence needed to demonstrate learning, including the performance task.*
- ❏ Is there proper alignment with Stages 1 and 2?
- ❏ What will the students be learning? *A preview of the rubric(s) to be used, along with models/exemplars of effective performance. A review of the unit sequence.*
- ❏ From where are the students coming? What prior knowledge, learning styles, talents do they bring?
- ❏ What misconceptions may exist?
- ❏ How will I know? *Pre-assessment to check for students' readiness---knowledge, skill levels, potential misconceptions and interests related to the topic.*
- ❏ What meaning-making activities (facilitative teaching strategies) will move students toward the desired understandings?
- ❏ How will I create opportunities for students to act on feedback?
- ❏ Will students be asked to “perform” (ie- apply their learning in some fashion) with their learning in this lesson? If so, how? *A return to the Essential Questions to consider what has been learned and better understood.*
- ❏ How am I addressing the differing levels of readiness and interests of my students?
- ❏ How will I check the progress of my students? *Formative assessments (other evidence)*
- ❏ What feedback will they need?
- ❏ Are my students able to make connections to previous learning? Future/Real-world applications? *A reflection on the “so what”; for example, “What can I now do with what I have learned?” “How will this learning help me in school? In my life?”*
- ❏ Have I allowed sufficient time for students to self-reflect/self-assess? *An opportunity for students to self-assess their performance based on the unit goals and assessment results. Set future learning goals.*