

KNME K-5 LESSON PLAN TEMPLATE
APS @Home
APS Curriculum and Instruction TLN

Title of Lesson: Consumer evidence – skulls	Submitted by: Vince Case & Steven Henley
Content Area: Science, grades 4-5	
Materials Needed: paper and pencil	
Handouts Attached: none	
Standard Addressed: NGSS 5-LS2 Ecosystems: Interactions, Energy & Dynamics (see attached NGSS standards sheet for full information)	
Skill to be Maintained: Understand the structure, function, and adaptations of consumer’s skulls	
Essential Question: How do consumer’s teeth help them eat producers and/or other consumers as they seek out food sources? Why are these adaptations important to their survival?	
Academic Vocabulary/Word Wall words: adaptation, consumers, omnivore, carnivore, herbivore	
Brain Drain or Warm Up Activity: N/A	
<p>Basic Lesson Description and Procedure:</p> <ol style="list-style-type: none"> 1. Students will watch the video from the SMNHC. 2. Students will make observations of different kinds of consumer skulls. They will specifically observe skulls from an herbivore, an omnivore, and a carnivore. 3. Students will also learn about other teeth adaptations like the sheering scissor-like teeth in carnivores and omnivores and the structure and function of incisors. 4. During these observations in the video, students will pay particular attention to the structure, function, and adaptations of the consumer’s teeth. 5. Students will have the opportunity, during the video, to think about and identify different kinds of animals native to the Sandias and Rio Grande Bosque. 6. Students will then participate in two activities: drawing skulls (teeth) and writing a creative consumer survival story. 	
<p>Skull drawing and creative writing activity: #1 - Students will collect and/or observe food sources outside their home or inside their kitchen, think about what kind of teeth are best for consumers to eat their type of food, and draw pictures of skulls and teeth that would help consumers eat the food. Students will also identify whether the consumers are herbivores, omnivores, or carnivores.</p> <p>#2 - Students will also write a story about a self-selected consumer that lives in the Sandia Mountains, focusing on how that consumer lives and survives in the mountains specifically focusing on some of the adaptations the animal possesses.</p>	
Lesson Conclusion/Potential Practice at Home: Students can share their drawings and their story with family and household members in a read aloud.	
Accommodations-Modifications: Just about any grade level can do this lesson and its activities.	

5-LS2 Ecosystems: Interactions, Energy, and Dynamics

Students who demonstrate understanding can:

- 5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.** [Clarification Statement: Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food. Examples of systems could include organisms, ecosystems, and the Earth.] [Assessment Boundary: Assessment does not include molecular explanations.]

The performance expectations above were developed using [the following elements from the NRC document *A Framework for K-12 Science Education*](#):

<p>Science and Engineering Practices</p> <p>Developing and Using Models Modeling in 3–5 builds on K–2 models and progresses to building and revising simple models and using models to represent events and design solutions.</p> <ul style="list-style-type: none"> Develop a model to describe phenomena. (5-LS2-1) <p>Connections to the Nature of Science</p> <p>Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena</p> <ul style="list-style-type: none"> Science explanations describe the mechanisms for natural events. (5-LS2-1) 	<p>Disciplinary Core Ideas</p> <p>LS2.A: Interdependent Relationships in Ecosystems</p> <ul style="list-style-type: none"> The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plants parts and animals) and therefore operate as “decomposers.” Decomposition eventually restores (recycles) some materials back to the soil. Organisms can survive only in environments in which their particular needs are met. 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. Newly introduced species can damage the balance of an ecosystem. (5-LS2-1) <p>LS2.B: Cycles of Matter and Energy Transfer in Ecosystems</p> <ul style="list-style-type: none"> Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. Organisms obtain gases, and water, from the environment, and release waste matter (gas, liquid, or solid) back into the environment. (5-LS2-1) 	<p>Crosscutting Concepts</p> <p>Systems and System Models</p> <ul style="list-style-type: none"> A system can be described in terms of its components and their interactions. (5-LS2-1)
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Connections to other DCIs in fifth grade:

5.ESS2.A (5-LS2-1); **5.PS1.A** (5-LS2-1)

Articulation of DCIs across grade-levels:

2.PS1.A (5-LS2-1); **2.LS4.D** (5-LS2-1); **4.ESS2.E** (5-LS2-1); **MS.PS3.D** (5-LS2-1); **MS.LS1.C** (5-LS2-1); **MS.LS2.A** (5-LS2-1); **MS.LS2.B** (5-LS2-1)

Common Core State Standards Connections:

ELA/Literacy -

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. *(5-LS2-1)*

SL.5.5 Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. *(5-LS2-1)*

Mathematics -

MP.2 Reason abstractly and quantitatively. *(5-LS2-1)*

MP.4 Model with mathematics. *(5-LS2-1)*