

PROJECT DESIGN: STUDENT LEARNING GUIDE **page 1**

Project: The Forestry Food Chain Festival

Driving Question: How might we model the role of producers, consumers, and decomposers and show the flow of energy within this group?

Final Product(s) <i>(presentations, performances, products and/or services)</i>	Learning Outcomes/Targets <i>(knowledge, understanding, and success skills needed by students to successfully complete products)</i>	Checkpoints/Formative Assessments <i>(to check for learning and ensure students are on track)</i>	Instructional Strategies for All Learners <i>(provided by teacher, other staff, experts; includes scaffolds, materials, lessons aligned to learning outcomes and formative assessments)</i>
<p><i>(Individual)</i></p> <p>Create drawings of the parts of a food chain.</p> <p>Generate build plans for the food chain lantern.</p>	<p>Producers, consumers, and decomposers are all part of the food chain. Each have important roles in the food chain.</p>	<ul style="list-style-type: none"> • Science journal 	<ul style="list-style-type: none"> • Students will participate in a field trip to the closest forest or nature preserve (ideally a forestry representative meets with the class to discuss the role a forest plays in the food chain). Students will look for producers, consumers, and decomposers. • Students will draw examples of each. • Students will identify the role of each part of the food chain.
	<p>The sun, plants, animals, and decomposition materials all move energy through the food chain. 3d structures (buildings, sculptures, lanterns) have interior support systems. Light can be refracted or reflected. Light behaves differently on translucent, opaque, and transparent materials. Small LEDs can fill a large space when given the opportunity to reflect.</p>	<ul style="list-style-type: none"> • Science journal • Art work: build plans for the lantern 	<ul style="list-style-type: none"> • Students create a detailed drawing of one aspect of the food chain (ex: the sun). • Students will work with the media specialist to ensure they understand and record the role of their aspect of the food chain (the sun). • Students study images of 3D structures like skyscrapers. • Students create 3D drawings of their chosen aspect (the sun) showing the structure necessary to build it. • Students conduct labs to study how light reflects and refracts on a variety of surfaces. • Students add a light reflection/ electrical diagram to their build plan.

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	I can reflect on my work for this project.	<ul style="list-style-type: none"> Self-Reflection on Project Work Rubric (<i>example</i>): https://my.pblworks.org/resource/document/self_reflection_on_project_work 	<ul style="list-style-type: none"> Review rubric and expectations Upload rubric to digital folio
<p>(Team) Decide on a lantern to build (<i>each group should have no more than four students</i>) based on careful consideration of the build plans.</p> <p>Parade lanterns in the community in a way that demonstrates knowledge of the energy flow within the food chain.</p>	Build plans help to communicate ideas and get all members of a team on the same page. Large scale sculptures need supporting structure. The area of a rectangle may be calculated by multiplying the width by the length. The perimeter may be calculated by adding the length and height and then multiplying it by two.	<ul style="list-style-type: none"> Teacher will monitor the work of students and assist when necessary. 	<ul style="list-style-type: none"> Students will use the bamboo, cardboard strips, and masking tape to create a structure similar to the build plan. Students will wrap the structure with a plastic wrap skin. Students will apply glue to the plastic and then apply tissue paper to the sculpture. As the tissue paper is added, students should calculate the area and perimeter of each color in inches by taking a measurement of each sheet before it is used and then comparing it to the amount left when they finish with the sheet.
	The order of sculptural elements in the Lantern Parade can symbolize the flow of energy in a food chain. Artwork may be used to communicate a theme or an intended meaning.	<ul style="list-style-type: none"> Presentation Rubric for PBL: https://drive.google.com/file/d/1uTisYGD8QAsh-6gylnqT-DoTmlMQPiK6L/view?usp=sharing 	<ul style="list-style-type: none"> Before or after the parade, students stand prepared to answer questions of performance attendees by regarding the aspects of the food chain and their role in the process (artist talk). Rehearse presentation/parade.