

<b>Subject: Grade Four 100<sup>th</sup> Day of School STEAM Unit</b>		<b>Date: January 22, 2018</b>			<b>Name: Fourth Grade Team</b>	
	<b>SCIENCE</b>	<b>TECHNOLOGY</b>	<b>ENGINEERING</b>	<b>ART</b>	<b>MATHEMATICS</b>	
<b>Standards Addressed this unit</b>						
<b>Essential Question</b>	How can I design an animal, and an appropriate habitat in which it can thrive, using my knowledge of ecosystems and biomes?	How can photography change my appearance? How does this technology work, and what does it need in order to be manipulated?	What can I build with 100 toothpicks, pipe cleaners, or popsicle sticks? How can I improve or solidify the integrity of a structure I build? How can I maximize my use of limited resources to build a standing structure?	How did Native Americans use natural resources to help them survive? How can I use the same technique to make art?	How can I graph a data set using specific information I am given? How can I create art using mosaic tiles? How can I use math manipulative tools to calculate fractions and graph them in a bar model?	
<b>Objectives</b>	<p><b>Habitats From 100s</b></p> <p><b>Introduce:</b> Explain to students that they will be designing an animal, and a habitat in which it can thrive, using the die-cuts of the number 100.</p> <p><b>Prepare:</b> Allow each student to choose one die-cut 1 and two die-cut 0s (they do not have to be the same color).</p> <p><b>Activity:</b> Students will put the die-cuts together in a way that forms an animal (it can be made up). They may accessorize their animal using construction paper. They will also need to paste their</p>	<p><b>Technology All About Me</b></p> <p><b>Introduce:</b> Explain to students that they will be completing a write-up poster about what would happen if they “lived to be 100.”</p> <p><b>Prepare:</b> Students will be issued photos that were (previously) taken using the AgingBooth app.</p> <p><b>Activity:</b> Students will paste their photos into the center of an All About Me poster and will answer the questions in complete sentence about what their life will be like when they are 100 years old. Students should take their time and make the posters neat and clear, showing effort and creativity, but should also</p>	<p><b>“What Can I Build With...”</b></p> <p><b>Introduce:</b> The teacher will explain to students that we are going to work in teams to create structures using 100 of different objects.</p> <p><b>Prepare:</b> The teacher should divide the class into five equal groups. One student from each group should be the elected representative for their group. The teacher should make a drawing hat with the following papers folded inside: popsicle sticks, pipe cleaners (x2), toothpicks (x2). Each group representative will draw one paper; this will be the materials their group will be using to build.</p> <p><b>Activity:</b> Students will work with their groups to build a structure using the materials they are provide. They <b>must</b></p>	<p><b>Basket-Woven 100</b></p> <p><b>Introduce:</b> Remind students that, during the time of westward expansion, Native American Indians relied on the land and its natural resources, rather than technology, to survive. Explain that the students will be using one common Native American Indian technique, basket weaving, to weave art projects using the number 100.</p> <p><b>Prepare:</b> Issue each student one large “100” and a set of strips printed with “100.” Demonstrate the technique of weaving the strips in and out to create a block pattern in the number.</p> <p><b>Activity:</b> Students should weave each of their strips</p>	<p><b>Math Mosaics, Fractions</b></p> <p><b>Introduce:</b> Teacher should explain to the students that we are creating math mosaic art today. Each student will receive 100 self-adhesive mosaic tiles. They will use the tiles to create a picture. After their picture is created, they will count and graph the number of tiles they used for each color, and will write fractions for each color.</p> <p><b>Prepare:</b> Each student should choose ten color strips for their project (each color strip contains 10 individual tiles). They may choose different colors or some of the same color, but <b>no more than three of the same</b></p>	

	<p>animal onto a construction paper background, on which they design a habitat. Students should attach one paragraph giving details about their animal and its habitat:</p> <ul style="list-style-type: none"> <li>• What is it called?</li> <li>• What does it eat?</li> <li>• Where does it live, and why?</li> <li>• How does it survive, protect itself, fight, etc.</li> </ul>	<p>be done before the end of the class period. They will not have time to complete their posters later in the day, due to other STEAM activities.</p>	<p><b>use all 100 items, and their structure must stand alone.</b></p> <p><b>Presentation:</b> Each group should present its structure to the class at the end of the activity. They should explain what they built, how they decided on that structure, what difficulties they experienced, and how they overcame problems.</p> <p><b>Wrap-Up:</b> If students want to keep structures, teacher may raffle them off to the group members by drawing straws.</p>	<p>through the number until the full 100 is displaying a checkered block, woven pattern.</p> <p><b>Early Finishers:</b> Early finishers may work on the “Find 100...” picture puzzle. Students who complete the puzzle may be eligible to win a small prize.</p>	<p><b>color.</b></p> <p><b>Activity:</b> Students will create a picture using their mosaic tiles. After they are finished, they should create a bar graph of how many tiles they used in each color. Additionally, they should write the fraction for each color under the bar model graph.</p>
<b>Pacing</b>	<p><b>Review:</b> 5 Minutes  <b>Discuss:</b> 10 Minutes  <b>Activity:</b> 30 Minutes  <b>Assess:</b> 10 Minutes  <b>Apply &amp; Extend:</b> Continuous</p>	<p><b>Discuss:</b> 15 Minutes  <b>Activity:</b> 45 Minutes  <b>Apply &amp; Extend:</b> Continuous</p>	<p><b>Introduce:</b> 10 Minutes  <b>Guided Practice:</b> 40 Minutes  <b>Student Supplement:</b> 10 Minutes  <b>Apply &amp; Extend:</b> Continuous</p>	<p><b>Discuss:</b> 5 Minutes  <b>Activity:</b> 40 Minutes  <b>Independent Work:</b> 15 Minutes  <b>Apply &amp; Extend:</b> Continuous</p>	<p><b>Review:</b> 10 Minutes  <b>Instructions:</b> 5 Minutes  <b>Activity:</b> 45 Minutes  <b>Apply &amp; Extend:</b> Continuous</p>

<b>Instructional Strategies</b>	<b>Differentiation</b>	<b>Technology</b>	<b>Assessments</b>
<ul style="list-style-type: none"><li>• Modeling</li><li>• Questioning</li><li>• Activating prior knowledge</li><li>• Independent practice</li><li>• Application of Knowledge</li><li>• Group Work</li><li>• Partner Work</li></ul>	<ul style="list-style-type: none"><li>• Small Group Instruction</li><li>• Partner Work</li><li>• Leveled Assignments</li></ul>	<ul style="list-style-type: none"><li>• Smartboard</li><li>• Seesaw on iPads</li><li>• Building</li></ul>	<ul style="list-style-type: none"><li>• Subject-by-Subject STEAM projects and activities, Hands-On</li></ul>