

Wartburg College Lesson Plan

Candidate:	Michelle Ankrum	Date:	8-1-18	Subject(s):	Science, 21 st Century Skills, Math, Social Studies, Literacy (Writing), Art
School:		Grade Level:	2nd	Student #:	
Lesson Title:	Habitats Galore!				
Standard(s):	<p><i>21.K-2.ES.2</i> Recognize different roles and responsibilities and is open to change.</p> <p><i>21.K-2.ES.5</i> Work productively and are accountable for their actions.</p> <p><i>2.MD.D.10</i> Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems⁸ using information presented in a bar graph.</p> <p><i>2.OA.A.1</i> Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.</p> <p><i>SS.2.4</i> Construct responses to compelling questions using reasoning, examples, and relevant details.</p> <p><i>VA:Cr1.2.2a</i> Make art or design with various materials and tools to explore personal interests, questions, and curiosity.</p> <p><i>W.2.8</i> Recall information from experiences or gather information from provided sources to answer a question.</p>				
NGSS:	<p>Interdependent Relationships in Ecosystems</p> <p>2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats</p>				
Objective (cognitive):	Students will develop a better understanding of how interconnected ecosystems are through the construction and development of classroom habitats.				
(affective):	Students will listen to classmates' observations of the habitats throughout the experiment as well as express their own ideas and hypotheses.				
(psychomotor):	Students will work in groups to create small habitats consisting of small aquatic animals such as fish and snails and a variety of plants. Students will record data relating to what they have done to their habitats. Students will work together with their groups to care for their habitat. Each student will have a specific job that they will need to complete on habitat workdays; jobs will rotate throughout the group each week.				
Timeline:	Project will take approximately five weeks to complete. The allotted five weeks will allow each student to complete each of the five jobs assigned to each group. At the end of this specific habitat unit, teachers can combine all the				

Wartburg College Lesson Plan

	smaller habitats into one larger tank, so students can predict what will happen to the animals and plants as they interact.
--	---

Books or Supported Readings:

On the Same Day in March: A Tour of the World's Weather- Marilyn Singer

Materials & Supplies:

- *Worksheets:*
 - o Journal Packet: Used by all students, but modifications are made for students needing adjustments.
 - o Enrichment Worksheet: Students needing a challenge will complete an Internet exploration worksheet exploring different habitats, plants, and animals.
 - <http://pbskids.org/wildkratts/creaturepedia/>
 - *Need For Technology: If possible, students will use one-to-one school-provided technology to access this website, however, if this is not available, students can use library computers, a class i-Pad or other class device, or can access the website as a group utilizing the teacher's computer.*
- *Habitat Materials: (Fredericks & Zweifel, p. 102)*
 - o Large Mayonnaise Jar: One for every group of five students
 - After placing the materials in the habitats, place a light cloth or wire mesh over the opening and secure with a string or rubber band. The covering will prevent any of the animals from escaping while still allowing for sunlight.
 - o Soil &/or sand for the bottom of the container
 - o Water
 - o Small plants
 - o Small animals
- *Job Description Sheet:* This sheet contains a message for the teacher and explains the jobs and responsibilities each student will have the opportunity to undertake throughout the unit.
- *Classroom Decoration Ideas:* This letter highlights several ideas that allow students to demonstrate their understanding of what makes up different habitats.

Anticipatory Set/Enticement:

On the Same Day in March can be read to the class to introduce the concept of varying habitats in the real world. Students will gain a better understanding of habitats through exploring habitats across the world. Teacher can then refocus the class onto the idea that animals and plants can be found and survive in different habitats as well.

If possible, contact a local greenhouse, botanical center, nature preserve, or local park to see if the class could come for a visit to learn about real world habitats on a local level. Ask your contact person if it would be possible for the students to pick vegetation samples for their habitats. A benefit of getting plants from listed locations is that several of these may have the plants already identified. Each group could collect different kinds of plant specimens so that the class can observe how the different plants fare in their habitats.

Modeling/ Explanation (I can):

- *As the teacher, I can explain to the class how to construct the habitats and provide the students with examples of what their habitat can consist of. I can divide the class into their small groups and explain*

Wartburg College Lesson Plan

that each group is a different habitat and community; each student will have their own job each week and have the chance to make a large difference in the life of their habitat. I can work with struggling students and help them understand what may be hindering them. I can review students' journal pages to make sure the animals are being taken care of and not harmed in any way.

Guided Practice/ Engagement & Exploration (We can):

- *We can work together as small groups to construct and care for our habitats. We will vote as a group as to what the habitats will consist of; how many fish will we have? What plants will we use? We will discuss any questions we have with our fellow group members to best utilize each student's individual job before going to the teacher for help. We will share our group journal pages week to week, so each student has something to work from. We will each do our jobs to the best of our abilities and ask questions if needed. We will connect our learning from our classroom habitats to the greater habitats in the world.*

Independent Practice/ Elaboration (You can):

- *You can do your assigned job to the best of your ability. You will discuss any changes you would like to make for your habitat with your groupmates and teacher. You can work with your fellow groupmates to care for your habitat and make sure the animals are cared for. You will gain knowledge in several different subjects by rotating through the assigned jobs. You will complete a variety of journal worksheets related to your assigned job and will pass these worksheets to the next assigned student with your job, so they can be used for the prior week's data. You can ask the teacher for help if you are struggling with your groupmates or do not understand what you should be doing.*

Closure:

- *Discuss with students what they have learned throughout this experiment. They have developed a working habitat that simply uses water, fish, dirt, and plants and allows all included living things to survive without added materials, nutrients, etc. Students have learned that habitats can vary in different ways yet can still be successful. Students have learned how to work well in groups while completing different jobs. These students will have learned how to rely on their peers by asking them questions about the jobs they will all have completed. Students have also learned how to work as a group by voting on habitat changes with their groupmates. Students will also have gained a deeper understanding that lessons do not have to be singular but can be cross-curricular; ex: writing, reading, and math in the science classroom.*

Assessment/ Evaluation

- *During the unit, students will be given an "Exit Ticket" each week and be asked to answer the question of the week. This question will relate to the job they completed during the week and will check to see if the student properly did their assigned job. The exit ticket will also allow students to express any concerns they may have regarding their groupmates, etc. that they have not wanted to verbalize earlier.*
- *At the end of the unit, students will be assessed on the work they did in each assigned job. At the end of each week, students will turn in their job's journal sheets for the teacher to look over to make sure there is enough information for the next student to work from. At the very end of this unit, students will present their habitat to their class, and/or students in other classes, and explain what made their*

Wartburg College Lesson Plan

habitat different. Students will choose their favorite job and explain what they did in that job and why they liked it the best. Students will have to be specific and explain what their responsibilities were such as adding water; how much water did they add? What did they have to do before they added the water? Why was the water important?, etc.

Enrichment/Extension

- *Students needing a challenge will further develop their technology skills by using <http://pbskids.org/wildkratts/creaturepedia/> to learn more about two animals of their choice. Each animal must reside in a different habitat, and students will complete a worksheet explaining what allows the animal to live there as well as what plant life can be found.*

Modification/Differentiation:

- *Students with limited writing skills will complete the same journal packet but will only need to draw their observations; they can ignore the describing and explaining questions. These students will still participate in the habitat groups while completing their assigned job, however, will not need to complete the reflection questions. If needed, students will work with either a peer-helper, aide, or receive help from their general educator to help them best complete their job.*

Resources

“A Simple Community.” Simple Nature Experiments with Everyday Materials, by Anthony D. Fredericks and Frances Zweifel, Sterling, 1995, pp. 102–103.