**Middle School STEM Science Lab/Activity Planner**

|  |  |  |  |
| --- | --- | --- | --- |
| Name of Lab/Activity: Organisms and Water Resources | | | Grade: 6 |
| California Science Standard(s):  [SCI.6.ES.6.b Students know different natural energy and material resources, including air, soil, rocks, minerals, petroleum, fresh water, wildlife, and forests, and know how to classify them as renewable or nonrenewable.](http://www.curriki.org/ab/en/alignments/view/Coll_MsRiley.OrganismsandWaterResources/ca/ca-content-standards/35/312) | | | |
| Learning Objective/Goal: SWBAT recognize that fresh water is a limited resource, and that different organisms use different amounts. | | | |
| Language Objective/Goal: (based on California Common Core Standards) SWBAT  Grade Level Standard:  [LA.6-8.WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.](http://www.curriki.org/ab/en/alignments/view/Coll_MsRiley.OrganismsandWaterResources/cc/cc-common-core-state-standards/486/4185) | | | |
| Materials & Resources:  Materials:  1. Sponge, small, medium and large for reach group.  2. bowl of water  3. number cube  4. graduated beaker  5. graph paper | | | |
| Procedure:  Hook: Show “Why Care About Water?” Discuss video and have students answer the question “why care about water”?   1. Obtain 3 sizes of sponges. Large sponges represent elephants, medium sponges represent antelopes, small sponges represent birds. 2. Obtain a bowl of water to represent a watering hole. Measure the amount of water in the bowl initially. 3. Groups of 4, take turns rolling the number cube. Highest roll goes first, and soaks any one of the sponges in the bowl of water. Squeeze soaked sponge into a graduated beaker until fairly dry. Measure the water in the beaker and record. Next highest roll follows, does the same. 4. For each round, record the number and kinds of animals that receive water, as well as how much water is obtained in each sponge. Continue until all of the water has been absorbed. 5. Students should be able to identify that water can be used up and, therefore, is a resource for which animals may compete. | | Teaching Notes: (include timing)  Video is about 2 minutes long. | |
| Math Connection:  Standard:  [MA.6.6.SP.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.](http://www.curriki.org/ab/en/alignments/view/Coll_MsRiley.OrganismsandWaterResources/cc/cc-common-core-state-standards/487/4202)  [MA.6.6.SP.5 Summarize numerical data sets in relation to their context, such as by:](http://www.curriki.org/ab/en/alignments/view/Coll_MsRiley.OrganismsandWaterResources/cc/cc-common-core-state-standards/487/4202)  [MA.6.6.SP.5.a Reporting the number of observations.](http://www.curriki.org/ab/en/alignments/view/Coll_MsRiley.OrganismsandWaterResources/cc/cc-common-core-state-standards/487/4202)  [MA.6.6.SP.5.b Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.](http://www.curriki.org/ab/en/alignments/view/Coll_MsRiley.OrganismsandWaterResources/cc/cc-common-core-state-standards/487/4202) | | 1. Teaching Notes: Graph could show Y axis is mL of water consumed. X-axis is roll/animal | |
| Technology Extension of Learning:  National Geographic website video, “Why Care About Water?” | | Teaching Notes: | |
| Formative Assessment: (please attach a copy)  Students will write a paragraph showing their understanding of what took place in the lab, using specific evidence from their experience. | | Teaching Notes:  Show a sample of what is expected from scientific publication. | |
| Strategies for EL and Special Needs Students:  Heterogeneous grouping of students will help provide support for both EL and Special Needs Students. Scaffolding of the lesson would be done prior to doing the lab to provide support as well. | | Vocabulary:  Resource  Available | |
| Alignment in science unit: (Brief description of lessons taught **prior to & after** this lab/activity)  Study of biomes | | | |
| Brief description of lessons taught **after** this lab/activity:  Next lesson would involve learning about the creation of fresh water. | | | |
| Lab/Activity adapted from: (website, textbook, etc.)  Holt, Reinhart, Winston 6th grade Earth Science textbook | Formative Assessment adapted from:  N/A | | |
|  | | | |
| This lesson was developed by: | | | |
| Teacher’s Name: | Currently Teaching at: (School & District) | | |
| Allegra Riley and Lori Haven | Price Middle School/Cambrian Elementary District and Meadows Elementary/FMSD | | |
|  |  | | |
|  |  | | |