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| **Lesson Title:**  Amazing Animals |  |
| **Grade Level:** 3rd | **Quarter:**  2nd  |
| **Standards:**Science**S3L1**  Students will investigate the habitats of different organisms and the dependence of organisms on their habitat.1. Differentiate between habitats of Georgia (mountains, marsh/swamp, coast, Piedmont, Atlantic Ocean) and the organisms that live there.

Math**MGSE3.MD.3** Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. |
| **Lesson Essential Question:** * How can I differentiate between the habitats of Georgia and the organisms that live there?
* How can I represent data using a scaled picture graph?

  | **Vocabulary:** HabitatMountainsPiedmontCoastal PlansMarsh/SwampAtlantic OceanData Picture Grap |
| **Lesson Materials:**• Student Journal Pages • Construction/tissue paper • Cotton balls • Toilet paper tube one/group• Brads • Pipe cleaners • Cloth/felt • Cardboard pieces • Glue/tape • Ruler • Scissors• Markers/Crayons • Aluminum foil• String/Yarn •   | **Lesson Assessment:** Student JournalTeacher Observations  |
| **STEM Challenge Overview:** Build a three dimensional animal out of a toilet paper tube that is native to Georgia. |
| **Teacher Background:** **Teacher prep**: You will need one toilet paper tube/group for this challenge.We just learned about five habitats of Georgia and important plants and animals that live in each habitat. This PPT is a great overview of each habitat: <http://www.powershow.com/view4/585d69-OTRmM/Georgia_Regions_and_Habitats_powerpoint_ppt_presentation> |
| **INSTRUCTION** |
| 1. **Ask/Engage (day 1)**
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| Show a map of Georgia to the class and have students point out the different habitats: mountain, Piedmont, coastal plains, swamp/marsh, Atlantic Ocean.  Name an animal or plant and call on a student to point to the habitat of Georgia it lives in (note: some animals/plants can live in multiple habitats.) You can make a game out of it and use the organisms from the PPT to help you. Here is a start:Alligator- swamp/marshShark- Atlantic OceanGopher Tortoise- Coastal PlainsPitcher plant- swamp/marshIntroduce the challenge to the class.**Challenge:** You have been called on by the producers of America’s Best Animals to create and build a three-dimensional animal that is native to Georgia. The producers will be looking for the top three animals to showcase in their next TV show. Good luck and have fun!Have students complete the ask/engage part on their student journal.  |
| 1. **Imagine/Brainstorm (day2)**
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| **Criteria:*** Be three dimensional
* Stand on its own
* Be no taller than 1 foot
* Name the animal and habitat it is found in Georgia

**Constraints:*** Use the materials provided
* Complete the challenge in the time allotted

Have students individually think of a solution to the problem and draw and label their design. |
| 1. **Plan/Design (day 3)**
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| Each student will present their ideas to their team. Teams will collaborate and decide on a final design plan. Students draw and label their final design plan and make a list of needed supplies. Build their design according to their plan. |
| 1. **Create / Test (day 3 continued- day 4)**
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| Student teams build their design according to their design plan.   |
| 1. **Evaluate/Improve –** and repeat Steps 1-5 **(day 5)**
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| Students evaluate their design for success. Did it meet the established criteria? Did their final design match their planned design? How would students improve their design?After all groups have finished their designs model for students how to make a scaled picture graph. In groups have students create a scaled picture graph of the amazing animals of Georgia.  |

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Amazing Animals STEM Challenge

 3rd Grade

 

**Challenge**:

You have been called on by the producers of America’s Best Animals to create and build a three-dimensional animal that is native to Georgia. The producers will be looking for the top three animals to showcase in their next TV show. Good luck and have fun!

**Criteria:**

* Be three dimensional
* Stand on its own
* Be no taller than 1 foot
* Name the animal and the habitat it is found in Georgia

**Constraints:**

* Use the materials provided
* Complete the challenge in the allotted time

**Materials:** Various materials will be provided by your teacher.

1. **ASK / ENGAGE:** What is the problem you are being asked to solve?

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1. **IMAGINE/BRAINSTORM:** What are some possible solutions to the problem that you are trying to solve? After you brainstorm, draw and label your ideas below.

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| **Idea #1** | **Idea #2** |

1. **PLAN/DESIGN:** Share your ideas with your group and collaborate to decide on a final design plan. Draw your team’s design below and make a list of the materials that you will need to complete your design.

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| **Team Design Plan**  | **Materials List** |

1. **CREATE/TEST**: Use your Final Design Plan to create and build your solution. Test your design. Did it work? Why or Why not?

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1. **EVAULATE/IMPROVE:**  How well did your design work? Did your solution solve the problem within the given constraints?

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How can you improve your design? How can you make it better? Draw and label your improved design below.

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| **Improved Design Plan** |