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| **Jack and the Beanstalk** https://s-media-cache-ak0.pinimg.com/236x/e9/4b/83/e94b830f96154945516c190727cc8929.jpg | |
| **Background** | |
| Last week, we read Jack and the Beanstalk by Steven Kellogg and Trust Me, Jack’s Beanstalk Stinks! By Eric Braun. Students heard the same story from the narrator’s point of view and the giant’s point of view. The student’s then compared and contrasted the stories. Students observed the life cycle of a plant from seed to maturity by recording the changes over a period of time. Students used this knowledge to understand plants take time to grow. | |
| **Design Challenge** | |
| Oh no! Jack has done it again. He can’t resist the magic beans! Jack is ready to climb the beanstalk, but will the beanstalk hold his weight while he climbs? That’s where YOU come in! Your task is to build a beanstalk that will hold the most washers. Your goal is to have a beanstalk that holds more washers than another group. | |
| **Criteria** | |
| * Using the internet (iPads and laptops), students will research beanstalks and different versions and interpretations of Jack and the Beanstalk. * Each beanstalk must be a minimum of 24 inches tall, but cannot exceed 36 inches. * Design and create beanstalk using recyclable materials. * Design and draw the prototype of the beanstalk. * Beanstalk must be made from given recyclable materials. * Test and record each trial. How many washers does your beanstalk hold? | |
| **Materials/Tools:** | |
| * Copy paper boxes * Newspaper * Paper bags * Toilet paper rolls * Tissue boxes * Paper towel rolls * Shipping boxes * Shoe boxes * rulers * Tape * glue | * recyclable materials * washer * rulers * Internet Resources:   Mackin Via  <https://cobb.mackinvia.com/>  Discovery Education Login: sjb19347 Password: zelda333  <https://app.discoveryeducation.com/builders/boards?assetGuid=65B842D5-F4CB-3321-72DF-CAB320B7E4C9&includeHeader=true&layout=default> |
| **Standards** | |
| **Science**  **S2L1.** Students will investigate the life cycles of different living organisms.  b. Relate seasonal changes to observations of how a tree changes throughout a school year.  c. Investigate the life cycle of a plant by growing a plant from a seed and by recording changes over a period of time.  **Math**  **MGSE2.MD.1** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.  **MGSE2.MD.2** Measure the length of an object twice, using length units of different measurements; describe how the two measurements relate to the size of the unit chosen.  **MGSE2.MD.3** Estimate lengths using units of inches, feet, centimeters, and meters.  **MGSE2.MD.4** Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit  **MGSE2.MD.9** Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.  **Reading**  **ELAGSE2RL5:** Describe the overall structure of a story including describing how the beginning introduces the story, the middle provides major events and challenges, and the ending concludes the action.  **ELAGSE2RL6:** Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud. | |
| **I Can Statements**  **Science:** I can identify the life cycle of a plant from seed to maturity by recording the changes over a period of time.  **Reading:** I can describe how characters in a story respond to major events and challenges.  **Writing:** I can write a narrative to retell a story in sequential order and include actions, thoughts, feelings, transition words, and a closing.  **Math:** I can generate measurement data. I can generate and graph data for the number of washers my beanstalk can hold. | |
| **Assessment** | |
| Students will complete a life cycle of a plant and reading comprehension over Jack and the Beanstalk on iRespond.  Students should complete a graph that reflects the trials of each washer trial.  Students will write their own version of Jack and the Beanstalk using their information from the design and experiment as well as the information they gained from testing their washers. | |

Jack and the Beanstalk 

2nd Grade

**Challenge**:

You will help Jack get to the top of the beanstalk by planting bean seeds and investigating the life cycle of the plant and recording the changes over a 3 week time period. Next, you will construct a beanstalk using recyclable materials. You will only have 3 chances to hold the most washers. Record your data using a graph.

**Criteria/Constraints:**

* Using iPads and laptops, students will be research the life cycle of a plant and different versions and interpretations of Jack and the Beanstalk.
* Each beanstalk must be a minimum of 24 inches tall and cannot exceed 36 inches.
* Design and create a beanstalk.
* Design and draw the prototype of the beanstalk.
* Your beanstalk must be made from recyclable materials.
* Be sure to include a way to hold the washers.
* Test and record the 3 trial times on how many washers your beanstalk will hold.

**Materials:**

Copy paper boxes, newspaper, paper bags, toilet paper rolls, paper towel rolls, paper plates, tissue boxes, shipping boxes, shoe boxes, tape, glue, rulers

**Internet Resources:**

[**https://cobb.mackinvia.com/**](https://cobb.mackinvia.com/)

<https://app.discoveryeducation.com/builders/boards?assetGuid=65B842D5-F4CB-3321-72DF-CAB320B7E4C9&includeHeader=true&layout=default>

**Data: Record the number of washers your beanstalk holds.**

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|  | **Trial 1** | **Trial 2** | **Trial 3** |
| **Number of washers** |  |  |  |