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| ***Overview*** | |
| *Topic/Theme*  Please list a brief title for the task | Data and Information |
| *Lesson/Activity Goal* | Students will be able to use productivity apps such as Microsoft Word, Excel, PowerPoint, etc. to incorporate graphs, charts and diagrams. |
| *Rationale and Unit Placement*  Please provide a few sentences that describe how this lesson or activity might fit within an existing unit. | Students working on this unit should have encountered data collection and would be familiar with the structure of Excel or Google Sheets. This background knowledge will then align with the performance task of inputting data to create a chart that will then be used in a PowerPoint, Word etc.  This multi-day lesson activity focuses on …. |

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| ***Standards Alignment***  Please list the standards aligned with this task (e.g. K-2PA.2) |
| **CS Standards**  6-8.DI.3 Represent data in a variety of ways (e.g., text, sounds, pictures, and numbers), and use different visual representations of problems, structures, and data (e.g., graphs, charts, network diagrams, flowcharts).  **Math Standards**  6.DS.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for the variability in the answers. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.  6.DS.2 Select, create, and interpret graphical representations of numerical data, including line plots, histograms, and box plots.  6.DS.3 Formulate statistical questions; collect and organize the data (e.g., using technology); display and interpret the data with graphical representations (e.g., using technology).  6.DS.4 Summarize numerical data sets in relation to their context in multiple ways, such as: report the number of observations; describe the nature of the attribute under investigation, including how it was measured and its units of measurement; determine quantitative measures of center (mean and/or median) and spread (range and interquartile range), as well as describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered; and relate the choice of measures of center and spread to the shape of the data distribution and the context in which the data were gathered.  **ELA Standards**  6.W.6.1 Demonstrate command of English grammar and usage.  6.SL.4.1 Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.  **Science Standards**  6.LS.3 Describe specific relationships (predator/prey, consumer/producer, parasite/host) and symbiotic relationships between organisms. Construct an explanation that predicts why patterns of interactions develop between organisms in an ecosystem.  6.LS.4 Investigate and use data to explain how changes in biotic and abiotic components in a given habitat can be beneficial or detrimental to native plants and animals. |

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| ***Attributions*** | |
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| ***I. Introduction/Anticipatory Set***  How might you make connections to students’ own experiences/ideas or other content to set the stage for the lesson/activity? |
| Many students have played the traditional game of Four Corners. A fun variation of this game and to motivate students for lesson to follow, will be to give each student a card with biotic and abiotic images as they enter the classroom on the first day of the lesson. Teacher will have already placed signs around the room with titles such as: “living”, “non-living”, “consumer-producer”, “predator”, “prey”, “extinct”, etc.. Students will then sort themselves according to the image on their card. |

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| ***II. Summary Description***  Please describe the procedures or parts of the lesson/activity. If you are using an existing activity, you can include a link to the instructions. Feel free to provide any further instructions for how this lesson/activity might be adapted for be integrated with other parts of the unit. |
| **Task 1 (unplugged) Bucket Sort and Graphing**   1. Working in groups of 3-4, each group will sort images that are placed in a bucket 2. A data table will be used to collect data for each sort 3. Using the data table, students will graph these images on graph paper using the data collected   *Class discussion:*   * How many different ways can we sort the biotic? * What was easy about sorting images and what was the most challenging? * What questions do you still have before we graph the data?   **Task 2 (plugged) Create a Digital Graph Using a Productivity App**  It might be helpful if the teacher reviews different productivity apps such as Microsoft Excel and Google Sheets before having students create their digital graph.  Have students use a productivity app to create a graph, chart or diagram to describe specific relationships (predator/prey, consumer/producer, parasite/host) and symbiotic relationships between organisms.  *Class discussion:*      *Extension:*  *Cross-curricular connection:*  IDEAS/alternates   * give the kids a graph with no titles and they interpret the graph and label it based on their interpretation…. * after students have made the graphs they pass them to another group and that group has to present the graph and interpret. * have small groups survey the class and collect data. once data is collected students “plug in” and using Excel/google sheets input the data and create a graph. Students will then prepare a presentation for the class including the graph, mean/median/mode, etc…   + Sample surveys * what organism they represented * Season you’re born * Favorite color * Favorite meal: breakfast, lunch or dinner * Eye color * Type of pet (none, cat, dog, lizard/reptile, bunny…) |

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| ***III. Whole Group Discussion Central Questions***  What 1-2 central questions might be used with the whole class to solidify the main idea of the lesson/activity? |
| How might graphs be used to show collected data? |
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| ***Evidence of Proficiency***  Please list 3-5 categories and brief descriptions of what proficiency looks like for those categories (this can serve as the precursor to a rubric). You do not have to use all of the rows. | |
| Category | Description |
| 1. Data Collection | Students sort objects and collect data accurately |
| 2. Graphing | Students graph data correctly |
| 3. Use of Productivity app | Students use a productivity app correctly to digitally graph data |
| 4.Collaboration | Students work together collectively to sort objects, collect data, and graph the data, sharing the responsibility equally |
| 5. |  |