**Lesson plan (# )**

| **Adopted from:** **Authors: Angel Boose, Vivienne Perez, and Madelaine Travaille** | **Grade: 5** | **Lesson duration: 3 - 4 days** |
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| **Topic/Title of lesson: Graphing Weather and Climate Data** |

| [**STANDARD(s) ADDRESSED**](https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CSDT.pdf)*(Include the performance expectation number and text of each standard.)* | * 8.1.5.DA.3: Organize and present collected data visually to communicate insights gained from different views of the data.
* 5-ESS3-1: Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.
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| **CS PRACTICE(s)** *that students will engage in throughout the lesson.* P [13-15](https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CSDT.pdf) of NJSLS | 8.1.5.DA.3 Organize and present collected data visually to communicate insights gained from different views of the data.  |
| **CS CORE IDEA(s) or** **SUB-CONCEPT(s)** *related to the performance expectation(s).* P [20-34,](https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CSDT.pdf) includes core idea and performance expectations which are useful for designing general goals, specific objectives, and learning criteria down below | Students will select, organize and transform data into different visual representations and communicate insights gained from the data. |
| **CENTRAL FOCUS** (The central focus is an overarching goal of the lesson or big idea for student learning.) | Students will collect data using sources such as weather.com and organize the data using a spreadsheet. Students will then use the spreadsheet data to create various forms of graphs (bar, line, etc).  |
| **EU/EQ** (*The enduring understanding(s) and/or essential question(s) that guide the lesson.)**Here are some useful examples from math:* [*https://jaymctighe.com/downloads/Essential-Questions-in-Mathematics.pdf*](https://jaymctighe.com/downloads/Essential-Questions-in-Mathematics.pdf) | How can you organize and present data to view it from various perspectives? |
| **PRIOR KNOWLEDGE AND CONCEPTIONS** *(What prior knowledge, skills and/or academic language do these students need to have that will help them be successful with this lesson? Any misconceptions you may anticipate?)* | Students will need to know how to record data in a spreadsheet.  |

**UDL/PLANNED SUPPORT**

*(Discuss the universally designed decisions guided by learner diversity and/or individualized adaptations for the variety of learners in your class/group who may require different strategies/support (e.g., children with IEPs or 504 plans, English language learners, children at different points in the developmental continuum, struggling readers, and/or gifted children).*

| **UDL:***How are you universally designing your lesson with all your learners in mind? What other characteristics of diverse learners should be considered?* | **Multiple means of** [**representation**](https://udlguidelines.cast.org/representation) | **Multiple means of** [**action and expression**](https://udlguidelines.cast.org/action-expression) | **Multiple Means of** [**engagement**](https://udlguidelines.cast.org/engagement/?utm_source=castsite&utm_medium=web&utm_campaign=none&utm_content=aboutudl) |
| --- | --- | --- | --- |
| Display information in a flexible format so that the following perceptual features can be varied: * The size of text, images, graphs, tables, or other visual content
* The contrast between background and text or image
* The layout of visual or other elements
* The font used for print materials
 |  | *Provide learners with as much discretion and autonomy as possible by providing choices:* Students will be able to choose the regions where they would like to research. |
| **Additional ADAPTATIONS, MODIFICATIONS, and SUPPORTS for individual learners (IEPs, 504s, ELLs)** *If you were not able to meet your focus learners needs through UDL, what individual adaptations will you use to meet your focus learners needs (especially ELLS)* |  |

| **ACADEMIC VOCABULARY/****LANGUAGE (including different coding languages)/****SYNTAX (rules of how to combine symbols to make “correct” statements)**  | *Vocabulary: data, weather, climate, bar graph, line graph**Language:* *Syntax:*  | *Describe the additional supports for each language demand in this lesson. Address both the whole class and individual needs.* |
| --- | --- | --- |
| **LEARNING OBJECTIVES** | **LEARNING CRITERIA** *(How will you know that students have met and/or are moving toward meeting that LO?)** Students will be able to track and collect weather data (temperature and rainfall) for a specific region and present the data in a graph of choice (bar, line, etc).
 | **ASSESSMENT** *(What will be the pre assessment, formative, or summative assessment(s) in this lesson?)** Students are able to create a spreadsheet with graphs based on the weather data collected.
* Final presentation of data (students should be able to explain the collection of data in the project).
 |
| **Should include both core ideas and concepts, and practices**  |  |  |

**MATERIALS, RESOURCES, and INSTRUCTIONAL TECHNOLOGY**

| **What resources and technology do you need to teach the lesson:** | **What materials, technology will students need?** |
| --- | --- |
| * Online weather source (weather.com)
* Google Sheets/ MS Excel
* Laptop or desktop
* Smartboard or projector
* A cheat sheet on how to convert information from a spreadsheet into a graph
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 |

**INSTRUCTIONAL STRATEGIES AND LEARNING ACTIVITIES**

*(Describe explicitly what the teacher and the students will do to meet learning outcomes. Use bulleted or numbered list)*

|  | **What is the teacher doing?** | **What are students doing? (including adaptations)** |
| --- | --- | --- |
| **LAUNCH/****Beginning ( 5 mins)***How will you engage students and capture their interest? 3-7 minutes* | The teacher will present the question, set the timer, and walk around to monitor student discussions.  | Turn and Talk. Students will have 2 minutes to discuss the question: Where do you go to find information about the weather?  |
| **LEARNING ACTIVITIES/****Middle ( 45 mins)***“I do” “We do” “You do” How will you explain/ demonstrate knowledge /skills required of each objective? How will you ensure that students have multiple opportunities to practice? How will you address the academic language demands?* | * Teacher will model how to set up a spreadsheet to organize data effectively.
* Teacher will model how to enter data and use functions to convert the data into graphs.
* Teacher will model and teach students about the different types of graphs they can create using the data.
 | * Students will create a spreadsheet.
* Research weather data.
* Input and format data on a spreadsheet.
* Incorporate images and graphs on spreadsheets.
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| **CLOSURE/****End ( 5 mins)***How will students summarize and state the significance of what they learned? 3-7 minutes* |  |  |
| **Extension/Reinforcement/Homework:**  |
| **Family/Community Engagement—** |

**\* Please attach copies of assessments and/or handouts to be used**