DISPLAYING DATA
Overview, Objectives, Inquiry Questions, and Planning

THINGS TO CONSIDER FOR MILESTONE #3

- You can either choose one type of graph for your students to use to display their data or give them a choice of a pie graph, line graph, or bar graph. If your students don't have much experience using Excel or Google Sheets, you might want to choose one so you can model it for the whole class.

LEARNING OBJECTIVES FOR MILESTONE #3

At the conclusion of this milestone, students will be able to:

- Identify jobs that require data analysis.

- Choose a type of graph to display their data and explain their choice.

- Create a graph to show the attendance at their team's sporting events.

- Explain how using a graph to display data can help you make decisions for growth hacking.

EXTENSIONS AND ENHANCEMENTS FOR MILESTONE #3

- Could you have your students practice reading different types of graphs? Have them watch the StudyJams videos on bar graphs, line graphs, and circle graphs. Then, they can complete the quizzes.

STUDENT INQUIRY QUESTIONS FOR MILESTONE #3

- What are some jobs that require you to analyze data?

- Which type of graph is the best one to use to display your data? Why?

- How can you create a graph to show your team's attendance data?

- Why would a company use a graph to display data? How could it help them make decisions for growth hacking?

ASSESSMENT FOR MILESTONE #3

- **Formative Assessment for Individual Activity**: Check each student's "Displaying Data" printable on page 11 of the Student Pack.

- **Formative Assessment for Group Activity:** Have each student share what type of graph they chose to create and why they made that decision.

- **Summative Assessment:** Have the students complete the response printable on page 12 of the Student Pack for the Inquiry Question, "Why would a company use a graph to display data? How could it help them make decisions for growth hacking?"

- **Summative Assessment:** Have the students complete the "Graphing and Data Quick Quiz" on page 8 of the Teaching Guide. They will need a piece of graph paper or a computer to create the graph. Use the "Graphing and Data Quick Quiz Answer Key" on page 9 of the Teaching Guide to correct the quizzes prior to starting Milestone #4.

Project Activities for Milestone #3: Displaying Data

PREPARE (Bell-ringer/opener activity)

Have the students turn and talk about jobs in which collecting, analyzing, and reporting data is essential. Have the students share their answers, and discuss the importance of data in jobs like a meteorologist, social media programmer, school principal, teacher, and website administrator.

PRESENT (Lecture/model)

Show the students the "Which Graph to Use" video from Turtle Diary. You can stop it after 3 minutes. Discuss when to use a bar graph, a circle graph, and a line graph. Tell the students that today they will be choosing one of these ways to display their data.

Review the use of Excel or Google Sheets to create graphs. Use the "Digital Graph Creation Resources" on page 6 of the Teaching Guide to do mini lessons or to provide your students with step-by-step directions.

If your students don't have access to technology, they can create a line or bar graph on the graph paper on page 7 of the Teaching Guide.

PARTICIPATE (Student/group share, group activity)

Give the students the "Displaying Data" printable on page 11 of the Student Pack. Have the students use the data they collected in Milestone 2 to create a graph that shows the trends in attendance using Excel, Google Sheets, or graph paper. They should write about how they decided which type of graph to make.

As the students complete their graphs, have them meet with their groups to continue creating a plan to increase ticket sales for their teams. They should write about 1 or 2 "Big Ideas" that the franchise can use to increase ticket sales in the upcoming season. The students should add their ideas to the "Big Ideas" section of the printable.

Formative Assessment: Have each student share what type of graph they chose to create and why they made that decision.

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PRACTICE (Homework/independent work/extensions)

Give each student the writing response template on page 12 of the Student Pack and ask them to write an answer to the inquiry question for this Milestone: "Why would a company use a graph to display data? How could it help them make decisions for growth hacking?"

ASSESSMENT

Formative Assessment for Individual Activity: Check each student's "Displaying Data" printable on page 11 of the Student Pack.

Formative Assessment for Group Activity: Have each student share what type of graph they chose to create and why they made that decision.

Summative Assessment: Have the students complete the response printable on page 12 of the Student Pack for the Inquiry Question, "Why would a company use a graph to display data? How could it help them make decisions for growth hacking?

Summative Assessment: Have the students complete the "Graphing and Data Quick Quiz" on page 8 of the Teaching Guide. They will need a piece of graph paper or a computer to create the graph. Use the "Graphing and Data Quick Quiz Answer Key" on page 9 of the Teaching Guide to correct the quizzes prior to starting Milestone #4.

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