



Using Graphing to Analyze Music Industry Data

OVERVIEW

ESSENTIAL QUESTION

How can graphing be used to analyze music industry data?

OVERVIEW

In this lesson, students will plot music industry data on a graph and provide an analysis of the information. Using Whitney Houston's recorded music sales history as a case study, students survey her sales data and then practice plotting the data onto a graph. Students then provide an analysis of the results.



There are numerous benchmarks of success in the music industry: concert ticket sales, press coverage, merchandise sales, social media followers, etc. Sales are a particularly important benchmark. They measure profitability and popularity—quantifiable data that can be easily analyzed.

Perhaps the most valued of all music industry sales benchmarks has been recorded music sales. Recorded music sales data is currently in a state of transformation due to the decline in physical product sales and the transition to streaming subscriptions. However, recorded music sales are still a powerful and popular indicator of success. A leader in recorded music sales has been Whitney Houston.

Whitney Houston, the acclaimed singer and performer, has set records for her sales. In the United States, she is the first Black artist to achieve Diamond status (certification of over 10 million sales) for three albums. Houston's third Diamond status was achieved several years after her death in 2012. Her total sales worldwide is estimated at over 150 million albums. Houston's career lasted more than thirty years and spanned both the height of physical product sales and the industry upheaval from digital downloading and streaming. Her recorded music sales data is an excellent case study for analyzing this component of the music industry, and practicing plotting data on a graph.

OBJECTIVES

Upon completion of this lesson, students will:

1. KNOW (KNOWLEDGE):

- The benefits of presenting data with a graph
- How graphs can be used to analyze music industry data
- How to plot data onto a graph
- The work of singer and recording artist, Whitney Houston
- Whitney Houston's recorded music sales data

2. MASTERY OBJECTIVE:

- Students will be able to plot music industry data onto a graph and provide an analysis of the results by using Whitney Houston's album sales as a case study.

ACTIVITIES

MOTIVATIONAL ACTIVITY

1. Show students **Image 1, Music Industry Data Table**. Ask students:

- What data is shown here? How is it organized?
- By glancing at the data table, do you quickly know where revenue increased or decreased over time?
- If you needed to explain this data to someone without the table, how might you gesture with your hand to demonstrate the slope of the revenue data over time?
- Might there be a format or diagram to visually represent this data so the changes in revenue over time are simple to see and understand? What is that kind of diagram called?

2. Show students **Image 2, Music Industry Data Graph**. Ask students:

- What kind of graph is this? (*If needed, prompt students to recognize that this is a line graph.*)
- By glancing at the data graph, what do you quickly notice that might not have been easily understood when viewing the data table?
- Why might a graph be a more useful tool for presenting data rather than simply a table of numbers? Why might a line graph be particularly useful for presenting this kind of data?
- Have you had any experience looking at data plotted on a graph to better understand something?

- Have you had any experience plotting data on a graph to better present and explain something?
- What is the source for the music industry data presented on this graph?

PROCEDURE:

1. Show **Image 3, Recording Industry Association of America**. Ask students:
 - What is the Recording Industry Association of America (RIAA)? *(If needed, prompt students to recognize that the Recording Industry Association of America (RIAA) is the leading music industry trade organization in the United States.)*
 - Who is creating the recorded music for which the RIAA is collecting the data? *(If needed, prompt students to recognize that the answer is music artists.)*
2. Inform students that they will be creating their own graphs from RIAA data. The data will be from one of the top album sellers listed on the RIAA site, Whitney Houston.
3. Show **Image 4, Whitney Houston**. Ask students:
 - Have you heard of Whitney Houston? Do you know any of her songs?
4. Inform students that Whitney Houston was an acclaimed singer and performer. In the U.S., she is the first Black artist to achieve Diamond status (certification of over 10 million sales) for three of her albums. Ask students:
 - Considering your knowledge of the RIAA, how might you find the data on Whitney Houston to plot a graph?
5. Display the RIAA's Gold & Platinum webpage (<https://www.riaa.com/gold-platinum>). Inform students they will be plotting their own graphs using sales data from this page. *(Note to teacher: if internet access is unavailable, static data is contained within **Handout—Music Industry Data Graphing Activity Teacher's Guide**. If students do have devices connected to the internet, ask them to load this page on their browser.)* Scroll around the page, demonstrating for students the various filters and tabs available to customize a data search. Guide students to the "Advanced Search" function on the page, enter Whitney Houston in the "Artist" field and select Album in the drop down menu of the "Format" field.
6. Distribute **Handout - Music Industry Data Graphing Activity** to students. Guide students to review the provided data of Houston's record sales. Instruct students to plot the information onto a graph according to the directions in the handout.

SUMMARY ACTIVITY

1. Bring the class back together as a large group to share their work. Ask students:
 - According to the graphs you plotted and the questions you answered, how might you summarize Whitney Houston's sales history in the United States in a sentence or two?
 - Thinking as a music industry executive, what might be some scenarios and reasons for plotting industry data onto a graph and presenting it to your colleagues?
 - In what other fields or industries might plotting data in a line graph be helpful?

EXTENSION ACTIVITIES

1. Visit the RIAA's Gold & Platinum webpage (<https://www.riaa.com/gold-platinum/>). Review the Top 20 album sales artists. Choose an artist and survey their sales data. Plot the data on a line graph using the same methods you used to plot Whitney Houston's album sales data. Provide a brief written analysis of your conclusions.
2. On the RIAA Gold & Platinum webpage (<https://www.riaa.com/gold-platinum/>), dive deeper into Whitney Houston's data. Using the "Advanced Search" function on the page, enter Whitney Houston in the "Artist" field but explore the different options to select in the drop down menu of the "Format" field. Plot the data of your choice (singles, albums, compilations, Gold status, Platinum status, etc.) on a graph of your choice. Provide a brief written analysis of your conclusions.
3. Visit the RIAA's U.S. Sales Database webpage (<https://www.riaa.com/gold-platinum/>). Review the U.S. Recorded Music Revenues by Format graph. Select three formats (Streaming, Download, CD, LP, etc.) to profile. Provide a brief explanation of the format, including the year it generated the most revenue for the industry.

STANDARDS

COMMON CORE STATE STANDARDS

Geometry

CCSS/Math.Content.5.G.A.1: Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).

CCSS.Math.Content.5.G.A.2: Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

College and Career Readiness Anchor Standards for Reading (K-12)

Craft and Structure 4: Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

Integration of Knowledge and Ideas 7: Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

College and Career Readiness Anchor Standards for Speaking and Listening (K-12)

Comprehension & Collaboration 2: Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

Presentation of Knowledge 4: Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

College and Career Readiness Anchor Standards for Language (K-12)

Language 1: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

Vocabulary Acquisition and Use 6: Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.



RESOURCES

HANDOUTS

- Handout - Music Industry Data Graphing Activity
- Handout - Music Industry Data Graphing Activity (Teacher's Guide)