

## Virtual Event & Lesson Plan: Data Science Career Exploration

| Teacher Deliverables & Incentives                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                 |
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| <b>Data Science Foundations Course</b>                  | <p>These three free digital courses introduce students to what data science is and why it matters. Through interactive exercises, students explore foundational data science knowledge, including collecting, visualizing, and understanding data. Data Science Foundations is the 101-course with two extension opportunities in the form of a Financial Wellness and Banking Fraud simulation.</p> <p><b>At-A-Glance:</b></p> <ul style="list-style-type: none"> <li>- Grade Level: 9-12</li> <li>- Languages: English &amp; Spanish</li> <li>- Length: 3 digital courses with a total of 7 lessons, 15-30 minutes each</li> <li>- Curriculum Fit: Economics, Math, Statistics, and College &amp; Career Prep</li> <li>- Standards: Common Core Standards in Statistics &amp; Probability, International Standards for Technology in Education (ISTE) Standards</li> </ul> | <a href="#">Accessible here</a> |
| <b>Scholarship Opportunity / Confirmed Class Winner</b> | <p>Give your students the opportunity to win one of ten \$5,000 scholarships made possible by Principal Foundation! If your class is selected to participate, a scholarship will be reserved for your student applicants, ensuring a much smaller scholarship “pool” and securing an academic gift for one of your students.</p> <p>Students are eligible to apply with a 300-500 word essay after completing one module of the Data Science Foundation course.</p>                                                                                                                                                                                                                                                                                                                                                                                                          | <a href="#">Accessible here</a> |
| <b>Data Visualization Lesson Plan &amp; Activity</b>    | After completing the Data Science Foundation course, administer the “Data Visualization” activity to your students in groups using a provided lesson plan and rubric. Students will have the opportunity to present their projects on the virtual webinar for data science professionals.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <a href="#">Download here</a>   |
| <b>Data Science Virtual Webinar</b>                     | Students will have the opportunity to hear from a data scientist in a variety of industries such as sports, music, or social media, engage in discussion with a career panel of data science professionals, and ask questions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <a href="#">Download here</a>   |

| Run of Show (Overview), 60-Minute Run Time |                                                                                          |  |
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| <b>Discover Data Science</b>               | <i>What is Data Science?</i>                                                             |  |
|                                            | Introductions of participants and general overview of the diverse field of data science. |  |

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| <b>Demystifying Data Science</b>                           | <i>A Conversation with a Guest Data Scientist</i>                                                                                                                                                                                                              |
|                                                            | Hear directly from a data scientist in a variety of industries such as the sports, television, science, energy, or more.                                                                                                                                       |
| <b>Data Demonstrations &amp; Dialogue</b>                  | <i>Student Present Data Visualization Project</i>                                                                                                                                                                                                              |
|                                                            | Introduce panel of Principal Financial Group who will offer feedback and discuss student projects. Students will present their data visualization representations and describe their design choices, processes, and any insights gathered throughout creation. |
| <b>“Distinguished Data Scientist” Scholarship Delivery</b> | <i>Scholarship Delivery and Winner Celebration</i>                                                                                                                                                                                                             |
|                                                            | Principal Foundation awards an essay-based scholarship winner a \$5,000 academic scholarship and celebrates them in live time.                                                                                                                                 |

## About the DataSetGo Program

DataSetGo is a first-of-its-kind, free digital education program designed to empower youth with the knowledge of data science fundamentals and its value in the job market. Scholars will learn how to apply data science concepts in the finance industry and to build their personal financial literacy and wellness. This program consists of two digital courses designed for high school students, *Data Science Foundations* and *Data Science Exploration: Financial Wellness*. Principal® Foundation launched this program in 2021 in collaboration with EVERFI, the leading Impact-as-a-Service™ education innovator, and reached over 5,500 students during the 2021-22 school year. Since 2010, they have provided almost 75,000+ K-12 students with foundational financial education.

## Lesson Plan

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| <i>Completed prior to virtual event</i> | <i>Students will complete 1-4 modules of <a href="#">Data Science Foundations</a>, apply for the <a href="#">scholarship</a>, then complete a data visualization project using the following steps. The lesson plan will consist of a deck to share with students, essay writing tips for scholarship completion, discussion questions, and a culminating project of 10-15 small data sets representing miscellaneous fields or applicable areas to teacher’s current class studies. Students will be divided into groups and given an individual data set with the task of creating a data visual representation in the form of their choosing (<b>physically drawn, digitally rendered using a tool like Tableau or Excel, or an abstract representation of their choosing</b>). Teacher and student will also be provided with a rubric containing categories such as: accuracy of data, visual communication of topic, and presentation. Students will work on their data representations in groups for presentation on the webinar and feedback from live data scientists.</i> |
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## Project Preparation

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| <b>Week 1</b> | <b><i>Introduce:</i></b> Have students complete modules 1 – 4 of Data Science Foundations.                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Week 2</b> | <b><i>Discuss:</i></b> As a group or with partners, have students consider the following questions: <ul style="list-style-type: none"> <li>- How would you define data science in your own words?</li> <li>- How does data science relate to everyday life?</li> <li>- Can you think of an example of data science in your daily routine? (<i>Example: Do Instagram or social media likes impact what you post?</i>)</li> <li>- If you were to become a data scientist, which industry would you most prefer to work in? Why?</li> </ul> |
| <b>Week 2</b> | <b><i>Write:</i></b> Have students apply to the <a href="#">Distinguished Scholar Award</a> for a chance to win \$5,000 in educational funding by writing a 300-500 word essay in response to the following question:<br><br><b><i>What was the most memorable or surprising thing that you learned about data science and how will you use this new knowledge in your career, to advance your personal financial goals, or in other parts of your life?</i></b>                                                                         |
| <b>Week 3</b> | <b><i>Skill Application:</i></b> In groups, have students complete the “data visualization” project using data provided below or live-time data gathered in class among peers.                                                                                                                                                                                                                                                                                                                                                           |
| <b>Week 4</b> | <b><i>Career Exploration:</i></b> Have students attend or watch the DataSetGo Virtual Webinar featuring data scientist professionals in a variety of industries.                                                                                                                                                                                                                                                                                                                                                                         |

### Scholarship Essay Writing Tips

**Make it personal!** Add your own experiences and stories to help you stand out.

**Address the course** by stating the course, what you learned from the course, and why it resonated with you.

**Use an outline** to organize your thoughts and goals before starting the essay.

Follow a few writing tips: 1) **utilize transitional phrases** like additionally, furthermore, etc., 2) **avoid repetition**, and 3) try to be as **clear and concise** as possible.

**Always proofread** for grammar to help with effective story telling.

### Data Visualization Rubric

|  | Accuracy of Data | Visual Communication of Topic | Insightfulness | Presentation of Material | Teacher Input (Collaborative Group Work / Creativity / Deadline / Completion of Course) |
|--|------------------|-------------------------------|----------------|--------------------------|-----------------------------------------------------------------------------------------|
|  |                  |                               |                |                          |                                                                                         |

|          |                                         |                                                                                   |                                        |                              |                    |
|----------|-----------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------|------------------------------|--------------------|
| <b>4</b> | Data is accurate and complete.          | Information is presented clearly and effectively with relevance to the topic.     | Deep insights with strong analysis.    | Clear and engaging delivery. | <i>Description</i> |
| <b>3</b> | Minor inaccuracies, mostly accurate.    | Information is clear, but could be improved, with limited relevance to the topic. | Some meaningful insights and analysis. | Adequate delivery.           | <i>Description</i> |
| <b>2</b> | Some inaccuracies or missing data.      | Information is somewhat unclear and irrelevant to the topic.                      | Limited insights with weak analysis.   | Weak delivery.               | <i>Description</i> |
| <b>1</b> | Data is inaccurate or missing entirely. | Information is unclear and irrelevant to the topic.                               | No insights drawn from data.           | Poor delivery.               | <i>Description</i> |
|          |                                         |                                                                                   |                                        |                              | <b>Total: X/20</b> |

| <b>Lesson Plan (Follow slides provided)</b> |                                                                                                                                                                                                                                                                                                               |
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| <b>Slide 3</b>                              | <i>About the program; teacher-facing</i>                                                                                                                                                                                                                                                                      |
| <b>Slide 4</b>                              | <i>Teacher resources listed above</i>                                                                                                                                                                                                                                                                         |
| <b>Slide 5</b>                              | <i>Timeline and preparation; can share with students as needed</i>                                                                                                                                                                                                                                            |
| <b>Slide 6</b>                              | <i>Virtual event Run of Show; can share with students as needed</i>                                                                                                                                                                                                                                           |
| <b>Slide 7</b>                              | <b>Student-facing material:</b> <ul style="list-style-type: none"> <li>- After students complete at least one module of the Data Science Foundation course, project and discuss the discussion questions provided to brainstorm various topics they might want to explore in their contest essays.</li> </ul> |
| <b>Slide 8</b>                              | <b>Scholarship:</b> <ul style="list-style-type: none"> <li>- Have students type in <a href="http://principal.everfi.com">principal.everfi.com</a> into their own browsers to view essay directions and prompt.</li> </ul>                                                                                     |
| <b>Slide 9</b>                              | <b>Essay Writing Tips:</b> <ul style="list-style-type: none"> <li>- Project these tips as students work through their writing; feel free to assign “proofread buddies” in pairs to help students gain confidence in their essays.</li> </ul>                                                                  |
| <b>Slide 10</b>                             | <b>Data Project Introduction:</b> <ul style="list-style-type: none"> <li>- Have students view the four key elements of data analysis and introduce the topic.</li> </ul>                                                                                                                                      |
| <b>Slide 11</b>                             | <b>Pre-Discussion:</b> <ul style="list-style-type: none"> <li>- Introduce the data story discussion topic by proposing the discussion questions listed.</li> </ul>                                                                                                                                            |
| <b>Slide 12</b>                             | <b>Data Questions:</b> <ul style="list-style-type: none"> <li>- Display the data (attached) and have students respond to the following discussion questions. Feel free to pose an open, “What do you notice? What do you wonder?” to the group.</li> </ul>                                                    |

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| <b>Slide 13 – 14</b> | <b>Data Collections:</b> <ul style="list-style-type: none"> <li>- Have students notice and list what we <b>do know based on this data</b>, vs what we do <b>not</b> know.</li> </ul>                                                                                                                              |
| <b>Slide 15</b>      | <b>Data Analysis:</b> <ul style="list-style-type: none"> <li>- Have students separate into groups and work on their own computers, or paper, to sort through the data and examine outliers.</li> </ul>                                                                                                            |
| <b>Slide 16</b>      | <b>Data Visualization:</b> <ul style="list-style-type: none"> <li>- Discuss the following questions in individual groups to decide the best way to visualize and tell the story of the data provided.</li> </ul>                                                                                                  |
| <b>Slide 17</b>      | <b>PROJECT RUBRIC</b> <ul style="list-style-type: none"> <li>- Project the rubric each group will be graded on and allow students work time. Feel free to plug in a third section based on the needs of your class (participation, completion of course, completion of scholarship application, etc.).</li> </ul> |