Data Analytics for Kids User Guide
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Note: These materials were originally created by Haley Wixom for the summer program Innovate for Good at Appalachian State University. Although the materials were originally created for a summer camp, they can be easily adapted for a class or workshop.

Included Materials:
1. Data Analytics for Kids presentation
2. Intro Session Activity worksheet
3. Project Design - Paper Planes worksheet
4. Data Collection - Paper Planes worksheet
5. Tableau 101 for Kids
6. UFO_Sightings.xlxs

Structure:
The original program structure included 5 days of instruction with campers in rising 5th to rising 10th grades. Each day of the program focused on a different aspect of completing a data project:
1. Introduction to data science
2. Project design
3. Data collection (and cleaning)
4. Data analysis
5. Value creation (and presenting projects)

The days were divided into two parts - the first part of the day was used to introduce the day's topic and apply the new skills to paper airplanes, and the second part of the day was used to apply the same skills to a data project of their choice related to promoting social good.

Day 1 - Introduction:
<u>Data Analytics for Kids presentation (slides 1 - 7):</u> The presentation introduces the students to data analytics and provides an overview of designing and implementing a data project.
<u>Intro Session Activity worksheet:</u> Walks through the design of a data project. Provides students with a problem and asks them to solve that problem by collecting data and finding relationships. After the completion of this worksheet, I had students visualize their data by graphing the relationships they expected to see. Then they used this graph to present their results to the client.

Day 2 - Project design:
<u>Data Analytics for Kids presentation (8-13):</u> The presentation introduces the concept of project design and has the students look for public data sources online.

<u>Project Design - Paper Planes worksheet:</u> The students are guided through the process of brainstorming variables and choosing variables that they will test.

Day 3 - Data collection:
<u>Data Analytics for Kids presentation (14-16):</u> The presentation introduces the concept of data collection and data cleaning.
<u>Data Collection - Paper Planes worksheet:</u> A worksheet for students to collect their data. I had students figure out how to measure the data on their own. Some students used floor tiles, others used shoes, others used sticks, it's a fun way to encourage creativity and have a discussion about measurement. We measured the vertical and horizontal distance separately rather than measuring total distance and then used spreadsheet calculations to find the total distance later (Pythagorean theorem).

Day 4 - Data analysis:
<u>Data Analytics for Kids presentation (17-19):</u> The presentation introduces the concept of data analysis. The students then apply the topic to their paper plane data by comparing the total distance to the variables being tested. After analyzing the plane data, the kids cleaned and analyzed the public data related to their social good project in Tableau.
<u>Tableau 101 for Kids:</u> Using public UFO sighting data (included), the presentation walks students through basic Tableau functions.

Day 5 - Value creation:
<u>Data Analytics for Kids presentation (20-22):</u> The presentation introduces the concept of value creation. Students apply their skills by creating findings, solutions, and a presentation related to their social good project. They could also apply this to their paper plane data analysis, but I found that they preferred to invest all of their time in the social good project. They presented these findings, solutions, and presentations to their families and friends at the end of our final meeting.

Note: These materials can be restructured to fit your needs by focusing solely on the paper planes or social good project.

For more specific information regarding the presentation, check out the included speaker notes.