The Bio/Diversity Project

Data Science Outreach Curriculum Fall 2025
Lesson 1: Data in our Daily Lives

Grade Level: 8th
Time: 50 minutes

AZ Science Standards:

- *8.U1:* Scientists explain phenomena using evidence obtained from observations and or scientific investigations. Evidence may lead to developing models and or theories to make sense of phenomena. As new evidence is discovered, models and theories can be revised.
- *8.U2:* The knowledge produced by science is used in engineering and technologies to solve problems and/or create products.

Student Facing Learning Objectives:

- I can interpret examples of data in their own lives.
- I can explain how data helps them make decisions in their everyday life.

Guiding Questions:

- What is data, and why do we collect it?
- How does data help us make decisions in our daily lives?
- How do I already use data daily?

Vocabulary:

- Data
- Visualization

Materials:

- L1_Gallery Walk Posters
- L1_Bingo Worksheet
- L1 Slides_Energy
- Piece of paper for exit ticket (optional - they can “Turn & Talk” for the exit ticket)

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🌵 Lesson 1: Data in our Daily Lives?🌼

Mini-Lesson (15-20 minutes)

Section Objective: Introduce the teachers, the concept of data, and how to read a graph.

Introduction to class and introduction to data:

1. Teachers briefly introduce themselves to students and let them know they'll be visiting their classrooms every Friday to explore science together and specifically data science.
2. Tell students that each lesson will begin with a "Scientist of the Week", a person who has made significant contributions to science and who we can all learn from.
3. Introduce this week's "Scientist of the Week". Afterwards, be sure to ask an engaging question about the scientist so that students better comprehend the scientist's work/impact or find a way to connect the scientist's work to their own lives.
4. Tell students you will now start to explore what data is through the following question:
    a. (*Project the taqueria photos*) "Which taqueria has the better tacos? How do you know?"
    b. Students will likely say that the taqueria with the bigger line has the better tacos. Congratulate the students because they just used data to make an informed decision!
    c. Anticipate that students might play contrarian and bring up points like, "But what if one photo was taken during lunch time and the other was taken early before anybody is awake". Welcome these ideas and tell students these are extremely valid points. When we're evaluating data, we must keep things like this in mind in order to have the whole picture.
5. This conversation leads to our definition of data. Really emphasize that we use data all the time, often without even realizing it.

Learning Objectives: explain to students that learning objectives are like goals/targets of what we want to learn together each lesson. Perhaps choose students to read these targets aloud.

1. I can explore examples of data in my own life.
2. I can explain how data helps me make decisions in my everyday life.

Introduce yourself through data:

1. Tell students they will have a chance to learn more about you by exploring some data.
2. Before discussing what the data shows, briefly explain to students the importance of identifying a graph title, x-axis, and y-axis. This helps orient us or understand what we're looking at.
3. For each graph you feature about yourself, think of one inference question students can

infer about you from the data you've shared.
    a. Ex: A graph showing the number of years you've played each sport could suggest for students which sport is your favorite or which sport you're the most skilled in.
4. Explain the vocab word "visualization" and how graphs are just ways to better "see" the data. Kind of like how pictures in books help us "see" the story.
5. For the second graph about yourself, explain what is a pie chart and the importance of paying attention to labels within a pie chart.
6. Repeat the same question/inference process.

Look ahead:

1. Review the "Looking Ahead" slide. Tell students we'll be learning how to collect, understand, and make smart decisions using data. Tell students there's no reason to get intimidated because they're actually quite skilled in interpreting data all the time.

Work Time (15 minutes)

Section Objective: Students identify and interpret common examples of data in their daily lives.

Introduce the "Data All Around Us" Bingo Activity:

1. The L1_Gallery Walk Posters will be hung up around the classroom (8 in total). Each poster has a data set. Students will have 10 minutes to visit at least two posters and complete the corresponding questions on their L1_Bingo Worksheet. The goal is to get three in a row to achieve Bingo!
2. Do the free space together as a class (see slides).
3. Consider having students pair up and work together for this activity should that dynamic fit your class.

Wrap-Up (10 minutes)

Section Objective: Students demonstrate their understanding of the previous activity and share with peers/teacher how they use data in their daily lives.

Debrief Bingo Activity:

1. Depending on time, have 3-5 students share out:
    a. Which data set did you do?

b. What does the data show?
c. How does that data help you make a decision?

(Make sure each student that shares out is sharing about a different data set so that you're not reviewing the same responses).

Exit Ticket:

1. Depending on time, students will respond to the following questions on paper OR turn to a friend and finish the following sentences:
    a. *One way I already use data in my life is…*
    b. *One way I see my family or friends using data in their lives is…*
    c. *One way I might use data in the future is…*