4565: Computing Foundations for a Digital Age
Unit 4

Day 8 Lesson Plan: "Data in the Wild" Mini Project

Objective

Students will collect, clean, and analyze real-world data to answer a question or solve a problem.

Word Bytes

- **Dataset** – A collection of related data, like responses from a class survey.
- **Data Collection** – The process of gathering information to use or analyze.
- **Data Analysis** – Looking closely at data to find patterns or make decisions.

Materials

- Student devices (optional but recommended)
- Planning template or project sheet
- Access to Google Sheets, paper charts, or other tools for organizing data
- Optional: peer feedback sheet

Activities

Launch: Real-World Data Challenge

- Pose the challenge:
- "You've worked with sample data—now it's your turn to create your own dataset to explore a real-world question."
- Offer sample student-generated questions:
  - What's the most popular snack in our class?
  - Which hallway has the strongest Wi-Fi signal?
  - How much sleep do middle schoolers really get?
  - Which lunch line is the fastest?

Mini-Lesson: From Question to Plan

- Guide students in planning their project:
  - ☐ What question do you want to explore?
  - ☐ What data do you need to collect?
  - ☐ How will you collect and organize it (survey, observation, measurement)?
  - ☐ What tools will you use to clean and analyze it?

Work Time: Data Detective Project

- Students begin their mini projects:
  - ☐ Design a method of collection
  - ☐ Gather data
  - ☐ Organize it into a table or spreadsheet
  - ☐ Begin cleaning and making sense of it

Check-in Discussion

Pause midway and ask:

- "What's one unexpected thing you've noticed already?"
- "Are there any problems with the data that you need to clean?"

Wrap-Up Reflection

- Have students jot down one insight or challenge from today.
- Prompt: "What's one thing you still need to figure out before tomorrow's project presentations?"

Word Bytes Dictionary Update

Students add today's Word Bytes with their own examples.

Suggested:

- Dataset – A list of snack preferences from the class.
- Data Collection – Tallying which hallway had the strongest signal.
- Data Analysis – Looking at which snack got the most votes.