Pokémon* Data Analytics

Overview & Objectives

- **Role:** Student Analytics Team investigating Pokémon Trading Card Game (TCG) deck performance.
- **Guiding Question:** Which deck characteristics and card variables contribute most to match success?
- **Learning Objectives:** Identify measurable gameplay variables, collect and organize standardized match data, calculate basic descriptive statistics, and formulate an evidence-based deck recommendation.
- **Materials Needed:** Pokémon TCG cards/deck) and a printed shared team tracking sheet.
- Optional: Laptop/Chromebook with data analysis software (Google Sheets, Excel, CODAP)

Part 1: Team Roles & Variable Setup (10 Minutes)

Team Roles

- **Lead Analyst:** Oversees the guiding question, maintains pacing, and synthesizes overall strategic trends.
- **Data Recorder:** Logs all match variables accurately in real time during gameplay.
- **Quality Assurance Specialist:** Verifies data consistency, checks for entry errors, and ensures standard formatting.
- **Visualization & Strategy Presenter:** Summarizes analytical findings and leads the final strategy pitch.

Variable Definitions

Variable Name	What to Record
Match ID & Winner	Unique match identifier and winning deck label (e.g., Match 1, Deck A vs. Deck B, Winner: Deck A)
Primary Pokémon Type	Dominant energy/type of the active strategy (e.g., Fire, Water, Grass, Lightning)
Average HP of Active Pokémon	Mean numeric Hit Points of Pokémon brought into the active spot during the match

Variable Name	What to Record
Average Energy Cost per Attack	Mean number of Energy cards required to execute attacks
Trainer Cards Played	Total count of Item, Supporter, and Stadium cards played by the winning deck
Total Turns to Win	Total number of full turns completed until the victory condition was met

Part 2: Structured Gameplay & Data Collection (20 Minutes)

Match Instructions

1. Pair up decks and play 3–4 short, structured matches (or simulate and review recorded match logs).
2. During each match, the Data Recorder logs every predefined variable into the Data Collection Log below.
3. After each match, the Quality Assurance Specialist reviews the recorded row to ensure all numbers are accurate, complete, and formatted consistently.

Data Collection Log

Match #	Winning Deck Type	Avg. Active HP	Avg. Energy Cost	Trainer Cards Played	Total Turns	Key Observation
1						
2						
3						
4						

Part 3: Data Analysis & Strategy Recommendation (15 Minutes)

Analysis Steps

1. **Clean & Organize:** Check your collection table for missing values, inconsistent units, or entry errors. Ensure all numeric fields contain valid data.

2. **Spot Patterns:** Compare winning decks against losing decks. Which primary Pokémon type, energy cost structure, or Trainer card count appeared most frequently in winning setups?
3. **Correlation vs. Causation:** Identify one clear trend in your data (e.g., higher Trainer card usage corresponding to lower turn counts). Explain whether this relationship proves causation or simply demonstrates correlation.

Write a 3-sentence summary offering a concrete deck design recommendation for a future player. Your recommendation **must** cite at least two quantitative metrics from your collected dataset.

Exit Ticket / Final Reflection (5 Minutes)

- How did standardized data collection rules affect the reliability and consistency of your team's conclusions?
- Which gameplay variable proved most significant in predicting match success, and why?
- How do professional data analysts or game developers use similar quantitative methods to balance competitive games and improve user experience?

*This is an unofficial educational activity. It is not affiliated with, endorsed by, or sponsored by Nintendo, Creatures Inc., GAME FREAK inc., or The Pokémon Company. Pokémon and the Pokémon Trading Card Game are trademarks of their respective owners.