**Arizona Standards Alignment**

| **Content Area** | **Standard Code** | **Description** |
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| **English Language Arts** | **ELA.6.RI.1** | **Cite textual evidence to support analysis of informational texts.** |
|  | **ELA.6.SL.4** | **Present claims and findings clearly.** |
|  | **ELA.6.W.2** | **Write informative/explanatory texts.** |
| **Mathematics** | **MA.6.SP.4** | **Display numerical data in plots on a number line, including dot plots and histograms.** |
| **Science** | **SC.6.LS1.8** | **Gather, analyze, and communicate information about organisms.** |
|  | **SC.6.ETS1.1** | **Define criteria and constraints of a design problem.** |
| **Visual Arts** | **VA:Cr2.1.6a** | **Experiment with visual elements to communicate meaning.** |
| **Technology** | **ISTE 4.c** | **Collect data or identify relevant data sets to answer questions.** |
|  | **ISTE 6.a** | **Select appropriate platforms and tools to visualize data.** |

**Lesson 2: Quantitative Data Collection and Visualization**

**Objective**

Students collect quantitative data and represent it visually using tally charts and simple graphs.

**Materials**

* Tally charts
* Colored pencils/markers
* Journals

**Step-by-Step Instructions**

1. **Introduction (I Do):**
   * Explain how to create a tally chart and why counting data is important.
   * Model data collection using a simple prompt (e.g., count types of classroom objects).
   * Demonstrate creating a bar graph or icon chart from the tally.
2. **Guided Practice (We Do):**
   * Collect data as a class on a shared prompt (e.g., favorite fruit). Record tallies together.
   * Create a visual representation on the board.
3. **Independent Practice (You Do):**
   * Students select a personal prompt (e.g., number of steps taken in 5 minutes, colors of cars seen outside).
   * Collect data, record in tally chart, and create a visual representation in journals.

**Differentiation**

* Use templates with pre-drawn tally charts and graph axes for students needing support.
* Allow ELL students to collect data orally with partners.
* Challenge advanced students to collect data on two variables or over multiple times.
* Incorporate movement-based data collection for kinesthetic learners.

**Reflection Prompt**

* *What did your data tell you? Were there any surprises? How did visualizing the data help you understand it better?*

**Assessments**

* **Formative:**
  + Monitor accuracy and completeness of tally charts during guided practice.
  + Check student engagement in class data collection and visualization process.
* **Summative:**
  + Assess individual tally charts and graphical data representations in journals for accuracy, clarity, and appropriate use of visual elements.