**Arizona Standards Alignment**

| **Content Area** | **Standard Code** | **Description** |
| --- | --- | --- |
| **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 3: Designing a Visual Language for Data**

**Objective**

Students create a personalized system of symbols using color, shape, and size to represent data.

**Materials**

* Colored pencils, markers
* Sample data sets or personal data

**Step-by-Step Instructions**

1. **Introduction (I Do):**
	* Show examples of symbols representing data (e.g., different shapes/colors for categories).
	* Model creating a key with symbols and apply it to sample data.
2. **Guided Practice (We Do):**
	* Brainstorm as a class symbols that could represent data categories.
	* Test the symbol key by interpreting data together.
3. **Independent Practice (You Do):**
	* Students design their own symbol key to represent data attributes collected previously or provided.
	* Visualize data using their symbol system in journals.

**Differentiation**

* Provide pre-designed symbol sets for students who need support.
* Use bilingual labels and visuals for ELLs.
* Challenge advanced students to create multi-layered symbols combining shape, size, and color.
* Use manipulatives for kinesthetic learners.

**Reflection Prompt**

* *How did choosing your own symbols help you express your data? What do you think makes a good symbol?*

**Assessments**

* **Formative:**
	+ Provide feedback during brainstorming and peer sharing of symbols.
	+ Observe use of symbols in practice activities and support revisions.
* **Summative:**
	+ Evaluate students’ final symbol keys and corresponding data visualizations for creativity, clarity, and consistency.