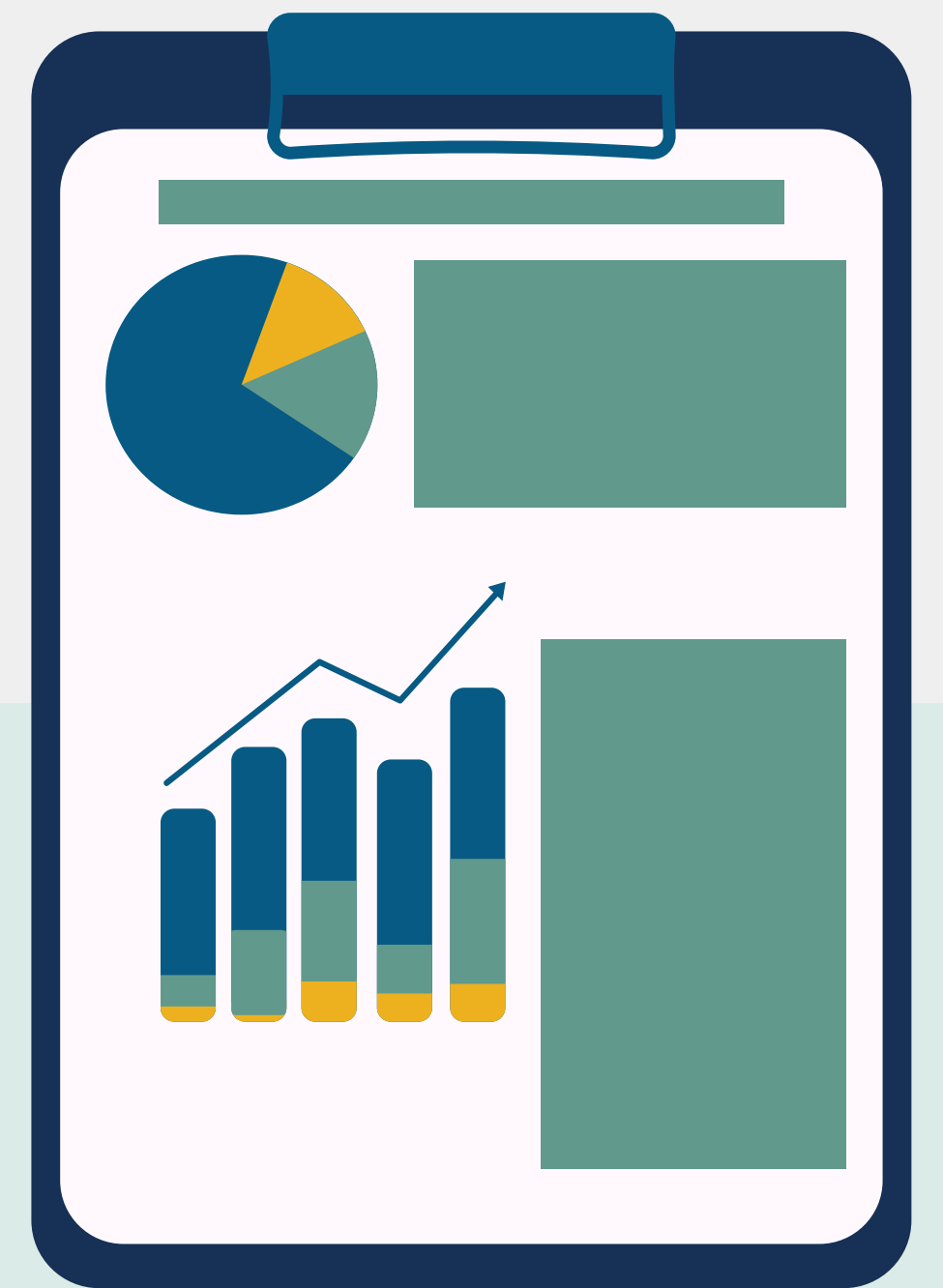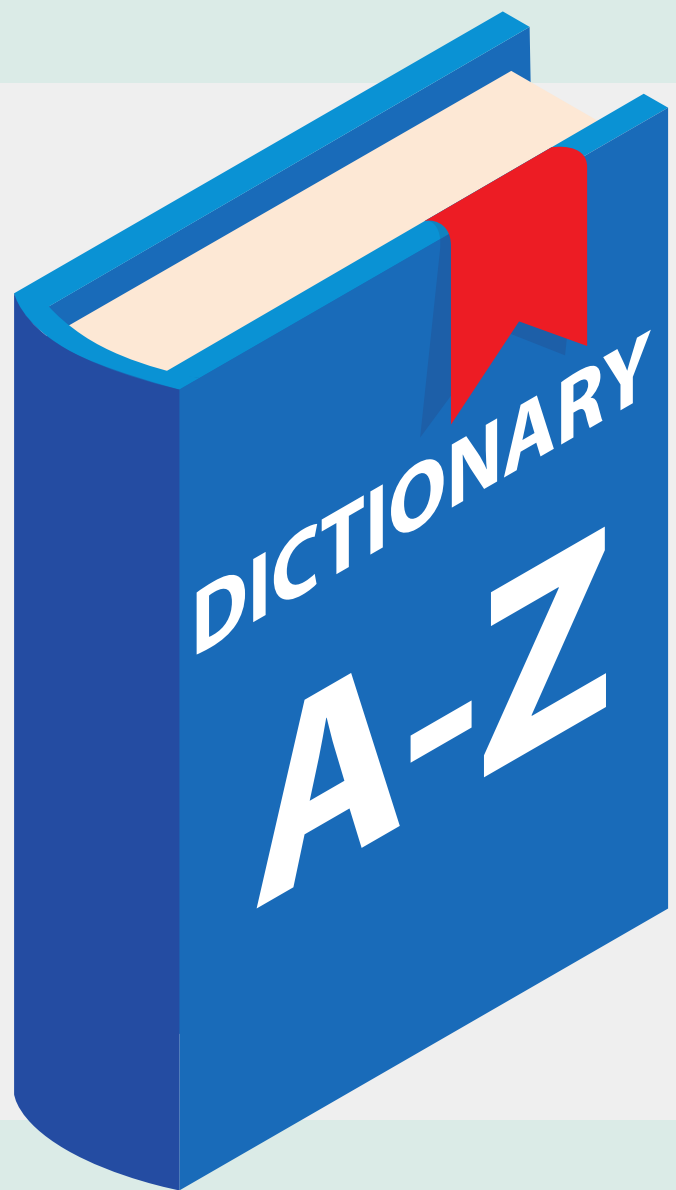# Data Literacy Training *Job Aid*

Mastering the Language of Data Visualization and Identifying Misleading Charts

What is Data Literacy?

Data literacy is the ability to read, understand, create, and **meaningfully communicate** data within context
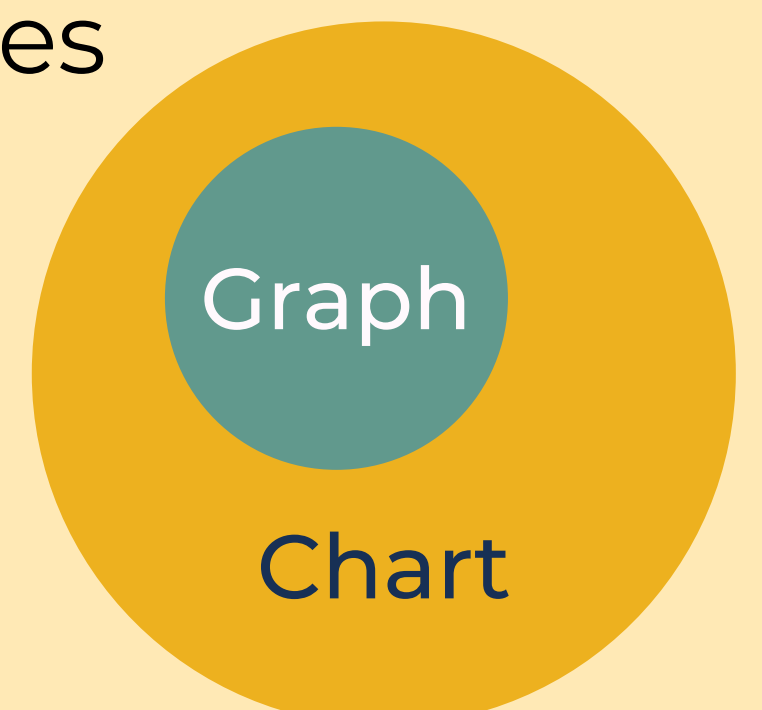
When learning about data literacy, it's important to understand the difference between a chart and a graph

Graphs:
- Show relationship between 2 or more variables
- Display quantitative data
- Shows trends, patterns, and distributions

Charts:
- Display qualitative and quantitative data
- Good for showing composition or comparison

Graph

Chart

All graphs are charts, but not all charts are graphs

Why is Data Literacy Important?

- Informed Decision Making
- Critical Thinking
- Professional Development
- Understanding the World
- Detecting Misinformation
- Effective Communication

The Elements of a Chart

Title

Expenses by Month (Q1)

Legend

y-axis

Data Area

x-axis

*Add a source for your data when necessary

Common Types of Charts

Line Chart

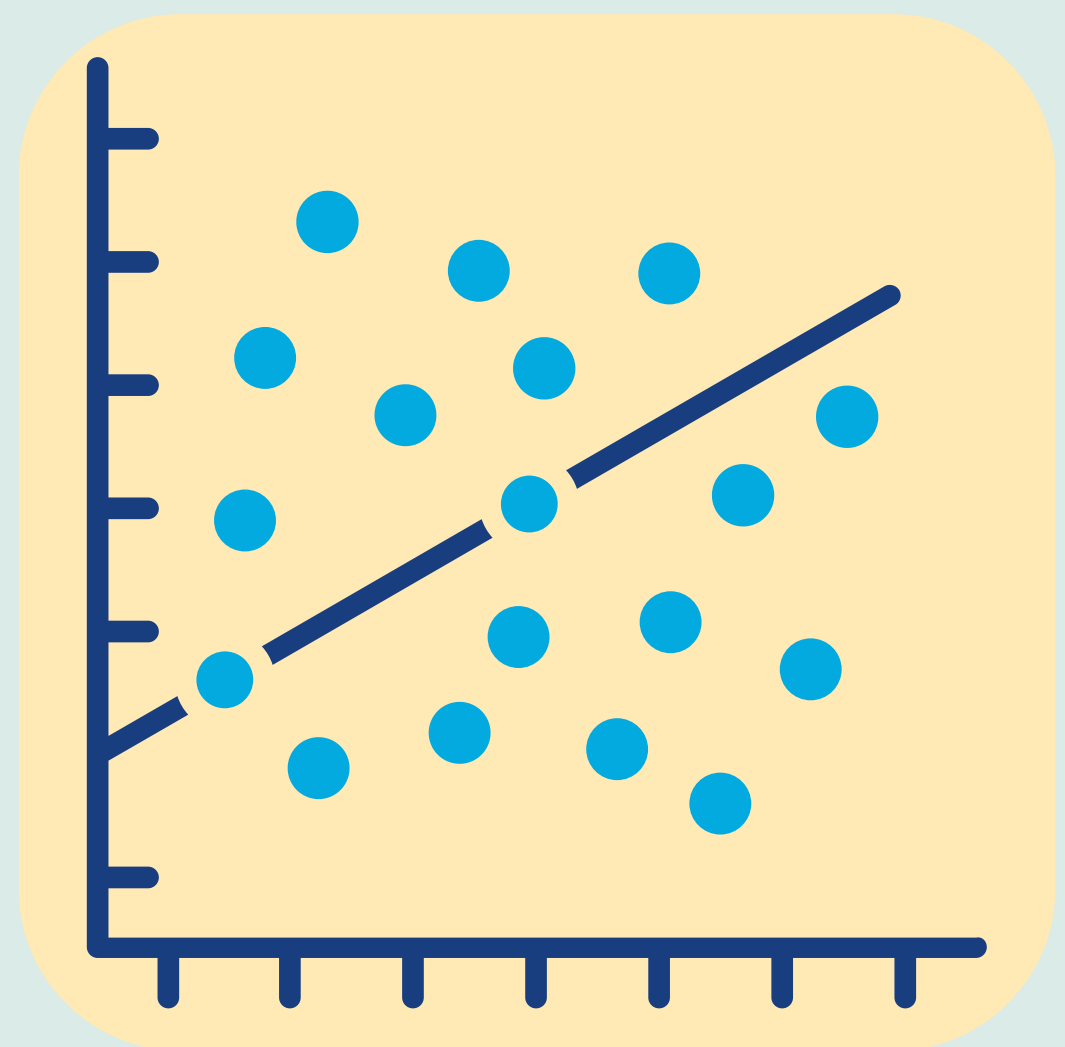Good for showing trends over time

Bar Chart

Great for comparing categories

Pie Chart

Useful for showing parts of a whole-slices always add to 100%

Scatter Plot

Good for showing relationships between two variables

Before Making a Chart, it's Important to conduct

Data Preparation

The quality of your chart is only as good as the data it's based on

Data Cleaning

1

Fix errors and inconsistencies like typos, missing values, & duplicate values

Data Organization

2

Structure data logically (typically in rows and columns)

Data Transformation

3

If data isn't in the right form for your chart, you may need to group or standardize the data

Data Verification

4

Double check your prepared dataset for accuracy

Good data preparation makes your charts more accurate and meaningful

When Creating Charts...

- Choose the right chart type
- Ensure data accuracy and integrity
- Ensure proper scaling of axes
- Understand your *audience*!

A good chart is *simple* and *easy* to understand

Use effective storytelling

Don't add unnecessary elements

Use color effectively

Include a clear and descriptive title

Make it accessible and use clear language

Be consistent in design when presenting multiple charts