Data-Driven Communications

Unit 3: Data Visualization Principles and Processes

Course Overview

► Unit 1: Defining the Business Objective and Sourcing Data

► Unit 2: Data Analysis

► **Unit 3: Data Visualization Principles and Processes**

► Unit 4: Visualization Tools and Techniques

► Unit 5: Evaluating Data Visualizations

► Unit 6: Storytelling with Data

Unit 3 Learning Outcomes

► select appropriate visualizations to explore data findings

► encode and annotate data visualizations

► evaluate visualization techniques

Why are Learning Outcomes Important?

► Every learning outcome ties back to course materials and content.

► Assessments are tied to each learning outcome.

► Test preparation

Unit 3 Topics

▶ Data Visualizations

▶ Principles of Data Visualization

▶ Data Visualization Examples

Unit 3 Vocabulary

- data visualizations
- exploratory graphics
- presentation graphics

Data Visualization

► Data Visualization

   ► Graphic representations that communicate data analyses results

   ► Make complex data more accessible, understandable, and usable

► Data Visualization of Big Data

   ► Identify hidden patterns

   ► Increase flexibility

   ► Compare various units

   ► Enable real-time human interaction

Principles of Data Visualization

► must be data-driven (show the data)

► must be clear and accurate

► must be free from distractions

► must be easy for the eye to interpret and compare data

► must be integrated with the statistical and verbal descriptions of a data set

► avoid distorting what the data has to say

► Two types of graphics

   ► Exploratory graphics

   ► Presentation graphics

1. Examples of Data Visualizations

► Comparison charts

Region	Chips	Cookies	Crackers	Pretzels
Central	$1,536.90	$2,311.49	$296.65	$378.33
East	$2,296.28	$3,022.00	$1,964.87	$310.17
North	$438.51	$1,391.43	$167.52	$99.12
West	$1,476.84	$1,670.86	$73.29	$554.40

Bar Chart

Line Chart
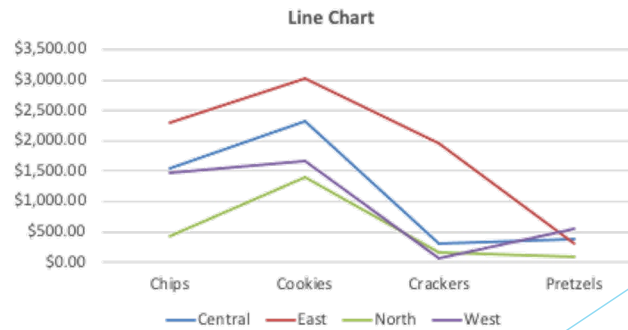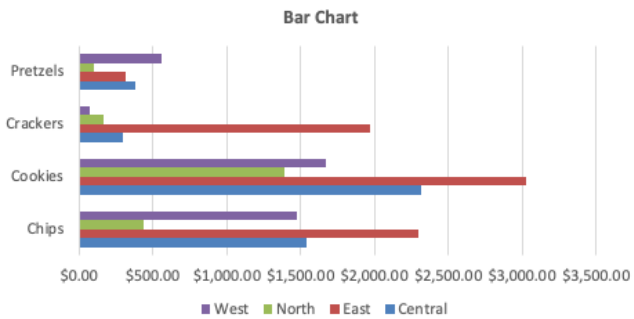
2. Examples of Data Visualizations

► Distribution charts

Box and Whisker Chart

Bar or Histogram Chart
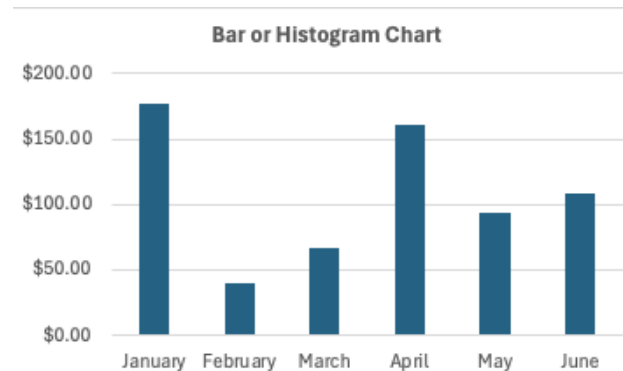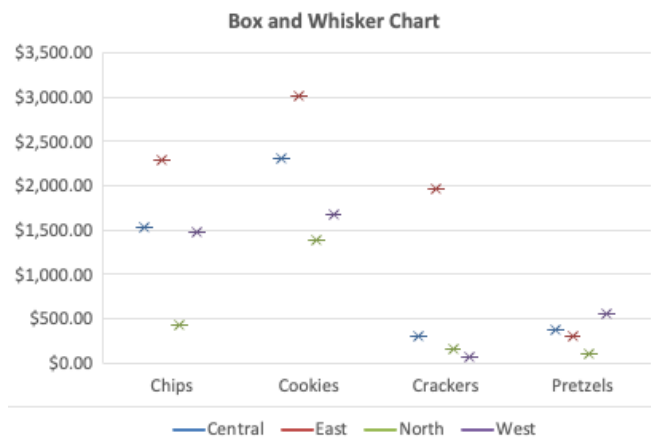
3. Examples of Data Visualizations

▶ Relationship charts
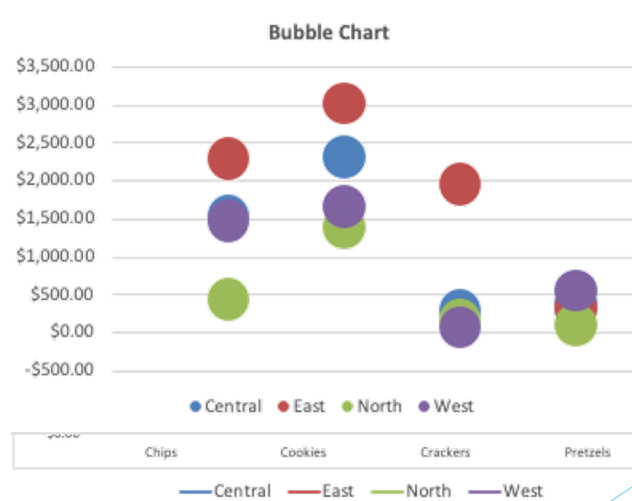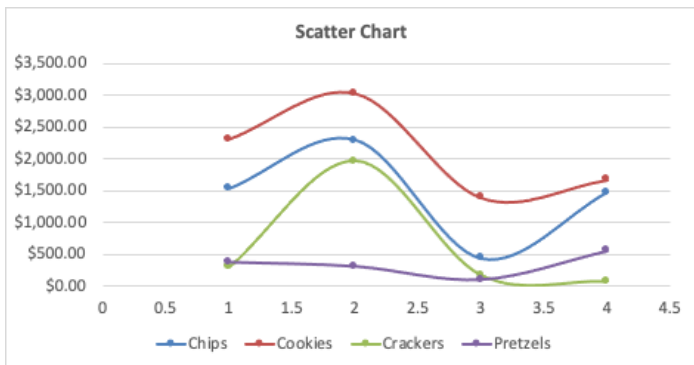
Conclusion

Unit 3 Learning Outcomes:

► select appropriate visualizations to explore data findings

► encode and annotate data visualizations

► evaluate visualization techniques

What's next?

Unit 4: Visualization Tools and Techniques