

## Information Design Supplemental Information

This assignment is to help students get used to writing with numbers and data. You can present these tools as options for creating visualization; however, the objective is to ask students to write and design with data, rather than learn to use the tools themselves.

### Potential tools:

<https://www.canva.com>

<https://piktochart.com>

<https://www.easel.ly>

Excel with minor modifications makes excellent charts and graphs that can easily be copied and pasted into documents. Google charts does the same.

Adobe Photoshop or Illustrator (available for students through Adobe Creative Cloud) also have graphics features.

### Data sources

These data sources can be provided to students to help them find data sets. You also can use these resources as exemplars, if you want to ask students to find their own data. The key to working with data is that students need to find a manageable sample that makes a specific point or a couple of points (if they want to compare things or show data over time).

[Google Dataset Search](#)

<http://www.pewinternet.org/datasets/>

<https://www.data.gov>

<https://www.healthdata.gov>

<https://nces.ed.gov>

Educational data

<https://www.springboard.com/blog/free-public-data-sets-data-science-project/>

Number of sites from a range of disciplines where you can access data sets

### **Information Design Exercises from Spring 2019 Orientation.**

These can all be adapted for in class activities.

#### **Exercise 1**

“Introduction to Data Visualizations”

Objective: To familiarize students with gathering and working with numerical data. To emphasize the importance of choosing the right type of visualization for the data.

Note: This exercise requires that student have read the Design chapter section on data visualizations, and also requires that instructors bring crayons or similar, so students can draw visualization.

Instructions:

In teams of two, students collect a set of quantitative data. For example:

- How long does it take to get to take elevator vs. climbing the stairs based on multiple tries and floors of origin?
- What's the squirrel to tree ratio?

- How much time do ducks spend foraging vs. just wandering around?

Encourage student to get more types of data than just “how many” of a thing.

Teams return to the class and draw they're data visualization. Encourage them to look at the book chapter as they select as they type of visualization.

When students present their visualization, they should explain:

What does the data visualization show?

Why did you pick that visualization format?

As each group presents, emphasize discussion of format choices, and discuss design issues like color choice and organization with the class.

## **Exercise 2**

“Storyboarding to Connect Visuals to an Argument”

Objective: To summarize numerical data to support a specific point/purpose for a specific audience

Instructions:

Students should have their datasets for the project selected. Working with their datasets, ask them to visually plan how they will integrate visuals into the argument of the deliverable to create a “story.”

- Students describe each visual they are planning
- Students create a storyboard that connects planned visuals to a story or point of the deliverable
- Select some students to share their storyboards with the class (based on what you saw while walking around during the activity).

In discussion, on organizing the visuals move the argument in the deliverable toward the point its making.

### **Exercise 3**

“Tutorial for Visualization Creation Applications”

Objective: To practice using visualization creation applications. Students teach each other and to gain a familiarity with four different applications enabling students to the option to choose one that works for them.

Instructions:

Break students into four small teams and assign each group an application to use (e.g., Canva, Piktochart, Word, Excel, Google Draw, etc. In groups, ask students to look at the following functions:

- Registering (or getting access)/cost/making a profile
- Selecting a format/template
- Making the visualizations
- Exporting/saving the visualization for use in other documents

Students will present their findings to the class in groups. They can interact with the application on the class computer (projected). Each group will teach the class how to use the application they worked on.

### **Exercise 4**

“Visual Exemplar Analysis Activity”

Objective: To develop critical thinking about visualizations and familiarize students with using the terminology that applies to them

Instructions: In small groups, ask students to find a data visualization to analyze. Once they've found one, students share the URLs for the visualization with the instructor, so they can be displayed on the projector when they discuss their analysis. Ask students to analyze the visual in terms of

- Type of visual
- Appropriateness of the type for the data
- Purpose and Audience

- Color use
- Design

Students then present their analyses to the class, identifying the strengths and weaknesses of each visual.

### **Exercise 5**

“Using Visuals in Document Design”

Objective: To focus on designing effective documents that integrate visuals

Instructions: Prior to class, find four or five sample documents (one page, preferably, like the deliverable) that integrate visuals. Ask students, in small groups, to analyze one of the documents, focusing on design of the overall page. Ask them to comment on the use of

- Headers, footers, titles
- Headings and bulleted lists
- Labeling of visuals
- Placement and size of visuals
- References to visuals in the text
- Use of color

Ask students to present analyses with documents projected. In discussion, focus on using all these elements in effective overall document design for a specific purpose and audience.