

4

Visualizations!

True art is alive and inspired by humanity"

- Leonid Afremov, Contemporary Artist

Introduction

This module serves as an introduction to creating simple visualizations through Google Sheets and Infogram.

Objectives

1. Students will be able to accurately represent data.
2. Students will be able to make basic visualizations on Google Sheets to analyze trends in data.
3. Students will learn how to interact with Infogram UI and create a "Simple" Infogram chart.

Agenda

1. Examining credible datasets activity
2. Choosing the Right Chart
3. Making basic data visualizations on Google Sheets
4. Understanding Infogram/How to create basic visualizations

Don't Know The Truth (15 minutes)

Purpose:

Students will understand what credible and accurately represented data sets look like.

Materials:

Computers

[Google slides](#) facilitator version (Good and Bad graphs)

[Google slides](#) student version

Directions:

1. Split students into groups of 3-4
2. Facilitators will display different data sets and students must sort the visualizations into groups by misleading or not misleading.
3. Have all groups share their rankings and the class makes a consensus on the data
4. Name the different ways that make a misleading graph.

Discussion:

1. How did you decide on how a data set was misleading?
2. What filter could you use to filter out these bad data sets?

Choosing the Right Chart (5 minutes)

Purpose:

Teach students when to use what type of graph given certain data.

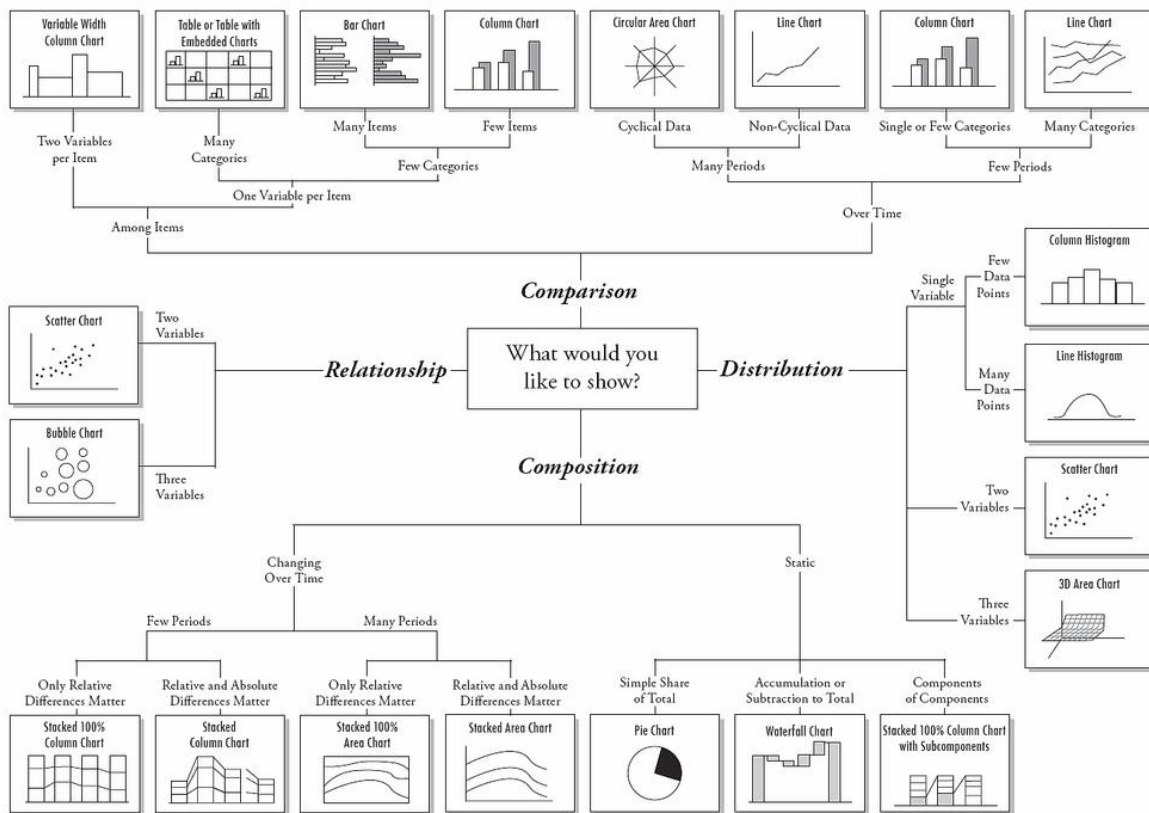
Materials:

Computers

Directions:

1. Show students this quick video on choosing the appropriate type of graph. ([video](#))
2. Present and/or send students the graphic below.

Chart Suggestions—A Thought-Starter



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Teaching Google Sheets Visualizations (10-15 minutes)

Purpose:

Teach students how to use Google Sheets to create graphs. Making simple graphs is a good way to quickly find and analyze trends in data.

Materials:

Computers

Happiness Dataset ([Link](#))

Directions:

1. **ASK STUDENTS IF THEY KNOW HOW TO DO GOOGLE SHEETS VISUALIZATIONS FIRST. If everyone in your class can already do them, this activity may not be necessary & you can spend more time on Infogram.**
2. Share screen with Google Sheets and walk students through creating a bar graph and line chart. Show students how to customize the graphs. (color, thickness, heading, etc)
3. Make a pie graph of regional indicators for this data set. (select column of regional indicators, copy and paste into separate sheet, select column, press insert then chart)
4. Make a bar graph of countries that start with the letter B vs healthy life expectancy. (filter first, then paste two rows into separate sheet, select both columns, press insert, then chart)

Teaching Infogram Visualizations (30-35 minutes)

Purpose:

Students will learn to create “Simple” charts on Infogram.

Materials:

Computers
Happiness Dataset ([Link](#))
infogram.com

Directions:

1. Show [example visualizations](#).
2. Project your computer. Have everyone make an Infogram account with their IMSA email.
3. Demonstrate how to use the spreadsheet function, traces, and choosing columns for traces. Here is a helpful video you can show. ([video](#)) Occasionally ask if people are following along or if they’re having difficulties.
4. Give the class the data set and tell them that they need to create a line, bar, and choropleth graph. Let them do the graph making. You can also have them try to recreate one of the example visualizations.
 - a. An example: Choropleth (choose world map graph, edit data, copy and paste country and corruption rate columns into country and value columns)
5. Make it a race! Make it a challenge for people to work quickly and effectively.

Sources

Misleading graph real life examples
<https://www.statisticshowto.datasciencecentral.com/misleading-graphs/>
5 Misleading Graph Examples <https://venngage.com/blog/misleading-graphs/>