Data Visualization Tools and Resources

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OFFICE ON SMOKING AND HEALTH

OSH S&E Coffee Break • July 11, 2017

The findings and conclusions in this presentation are those of the author and do not necessarily represent those of the Centers for Disease Control and Prevention.

Disclaimer

This presentation includes examples of widely used data visualization tools and resources. These are listed for the convenience of the user and do not constitute endorsement by the Centers for Disease Control and Prevention.

The purpose of data visualization is to communicate.

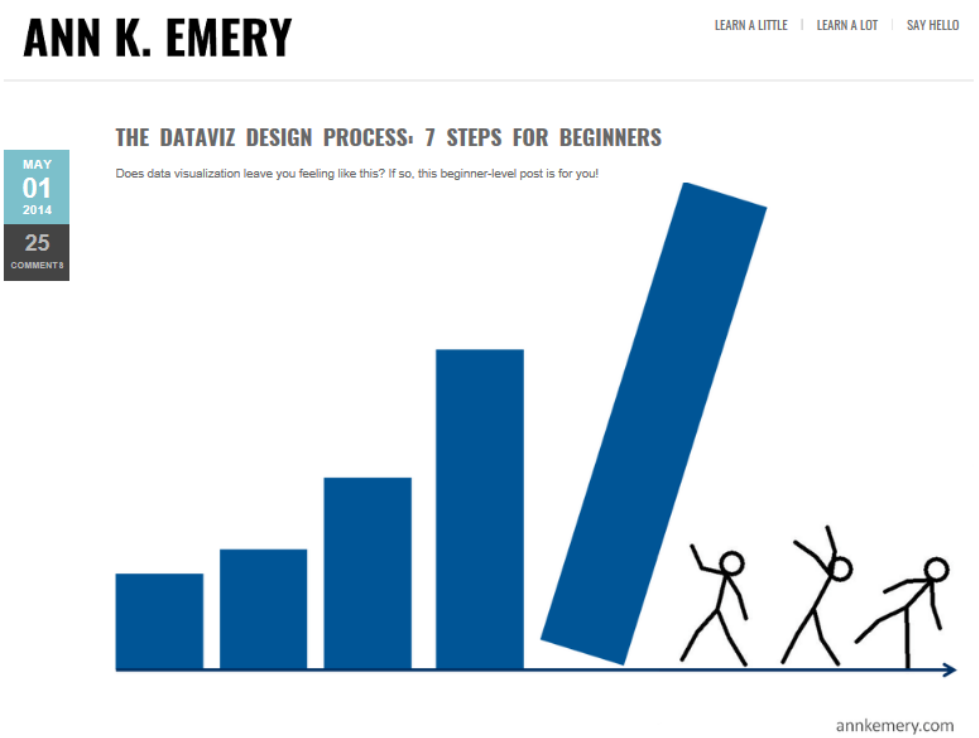
Design Process

1. Who is your audience?
2. Which chart is best for your data and key message?
3. How will you share your data?

Ann K. Emery

The DataViz Design Process

http://annkemery.com/dataviz-design-process/



ANN K. EMERY

LEARN A LITTLE | LEARN A LOT | SAY HELLO

MAY 01 2014

25 COMMENTS

THE DATAVIZ DESIGN PROCESS: 7 STEPS FOR BEGINNERS

Does data visualization leave you feeling like this? If so, this beginner-level post is for you!

annkemery.com

Data visualization requires two skillsets: **technical skills** to create visualizations in a software program and **critical thinking skills** to match your visualization to your audience's information needs, numeracy level, and comfort with data visualization.

If you're interested in learning more about technical skills, check out my Excel for Evaluation chart tutorials and my Dataviz Challenges.

If you're interested in learning more about critical thinking skills, read on! This post outlines a 7-step Dataviz Design Process. My goal is to give you a behind-the-scenes look into the design process so that you feel armed and ready to begin editing your own charts.

Step 1: Select a single message to highlight in your chart

This is, admittedly, the least linear of all the thinking steps in the design process. Rather than relying on computer software or your programming skills, this step involves the most valuable computer of all—*your brain*. Here are several questions for you to consider: Who is my audience? Which chart is right for my data? How much precision is necessary?

Who is your audience?

Your audience should be your primary consideration. A chart designed for a group of foundation program officers will not be appropriate for a group of high school principals, and vice versa.

Chart Types

Stephanie Evergreen

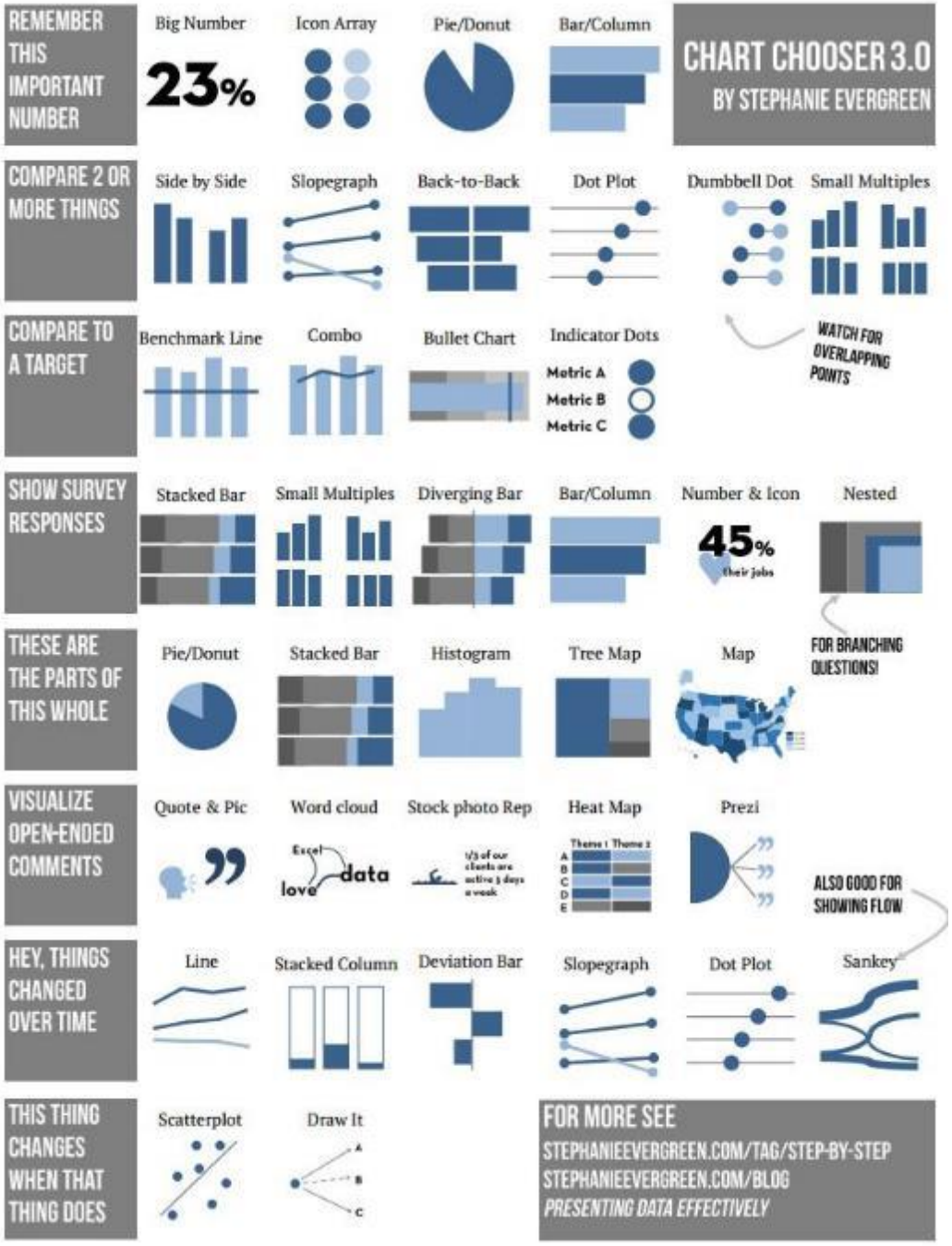
Chart Chooser 3.0

http://stephanieevergreen.com/

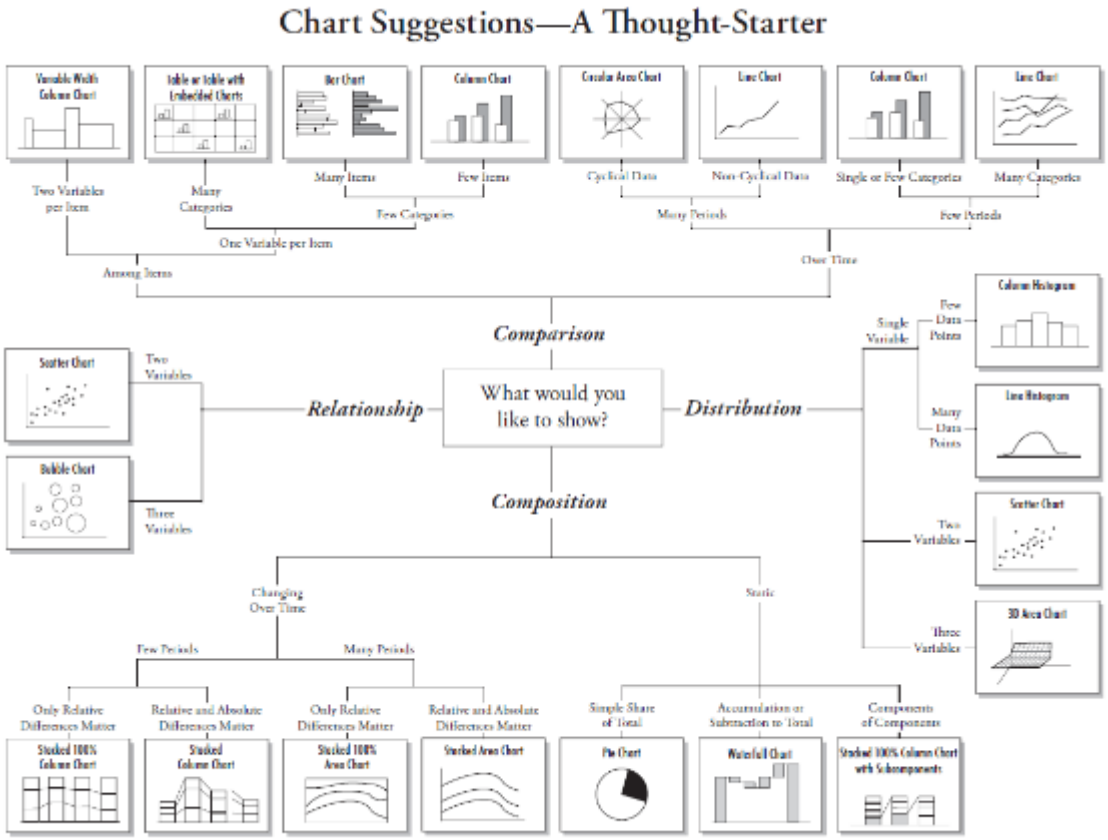
Other: Stephen Few

Graph Selection Matrix

http://www.perceptualedge.com/library.php#Other

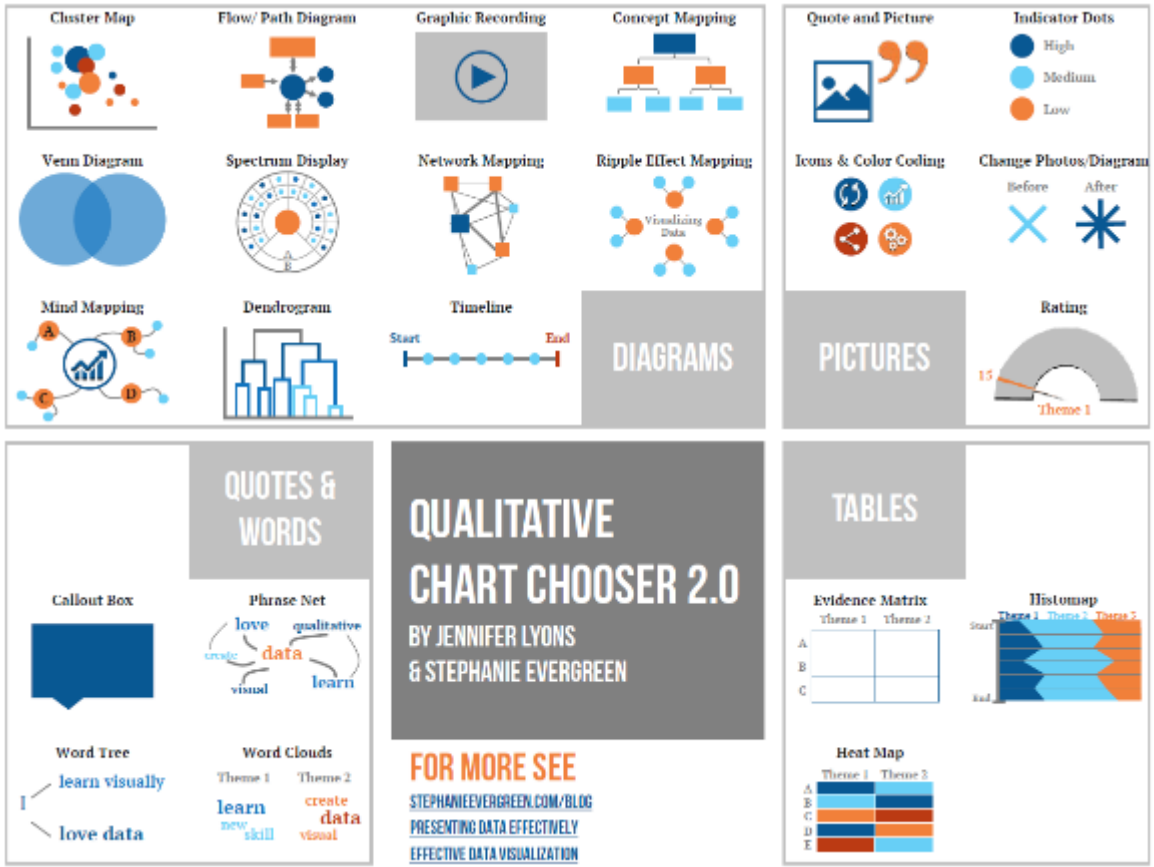


Abela Folly
Chart Suggestions - A Thought Starter



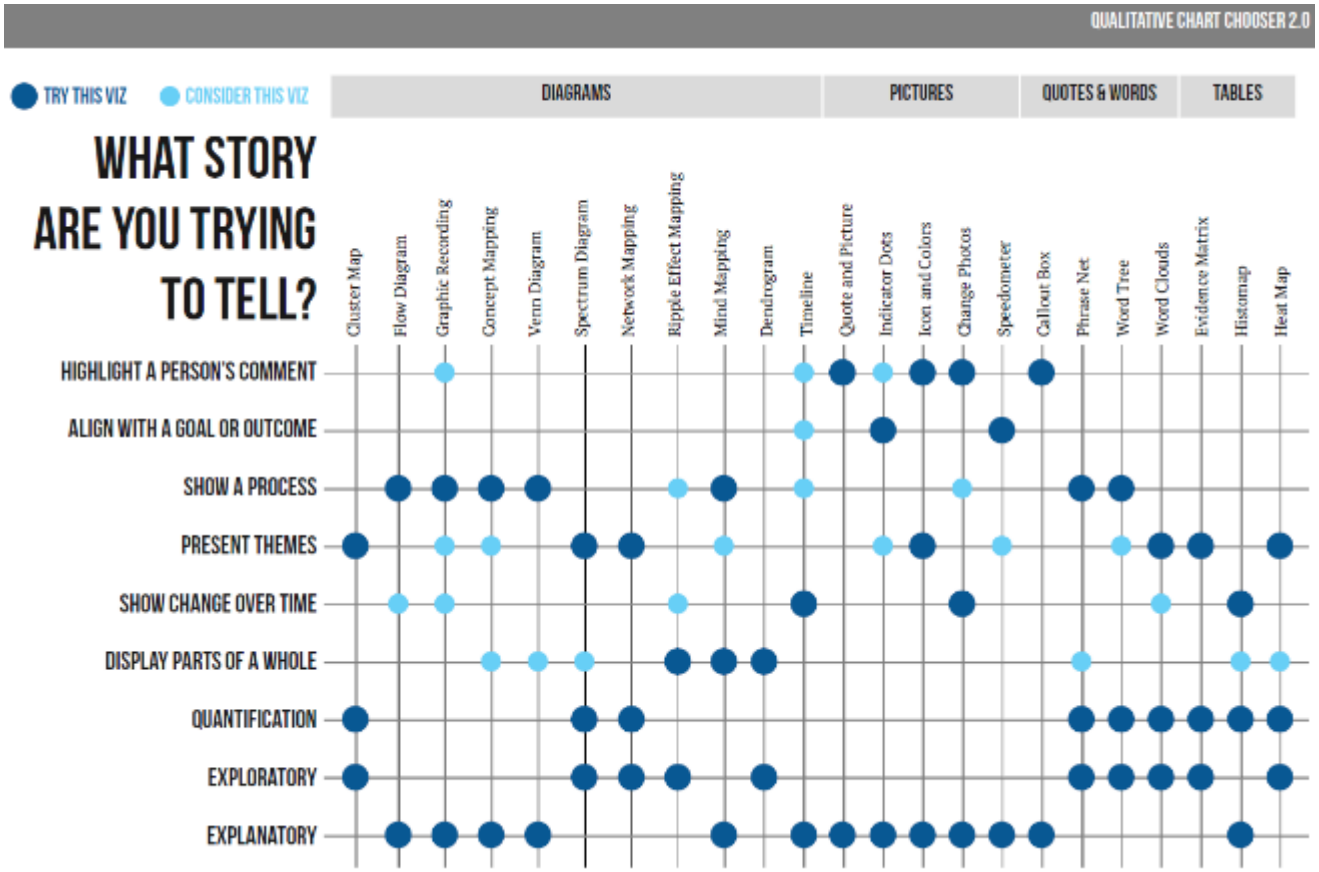
http://extremepresentation.typepad.com/blog/2006/09/choosing_a_good.html

Jennifer Lyons and Stephanie Evergreen **Qualitative Chart Chooser 2.0**



http://stephanieevergreen.com/qualitative-chart-chooser/

Jennifer Lyons and Stephanie Evergreen
Qualitative Chart Chooser 2.0



http://stephanieevergreen.com/qualitative-chart-chooser/

Charts & Dashboards

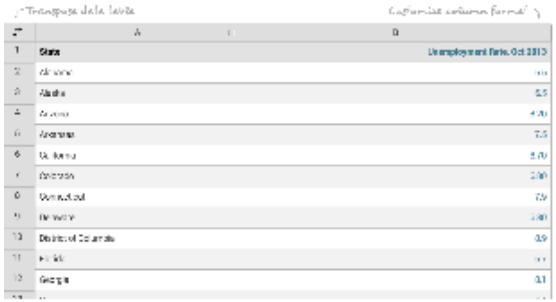
Datawrapper

Create amazing charts yourself in minutes with Datawrapper.

1.

Copy & Paste your data.

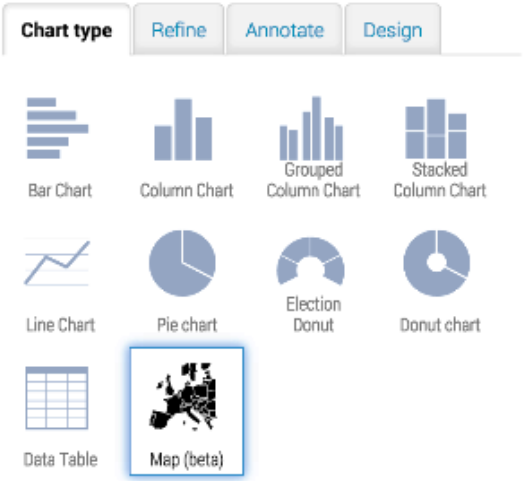
You can feed Datawrapper with any data from Excel, CSVs, PDFs or the web.



2.

Select your visualization.

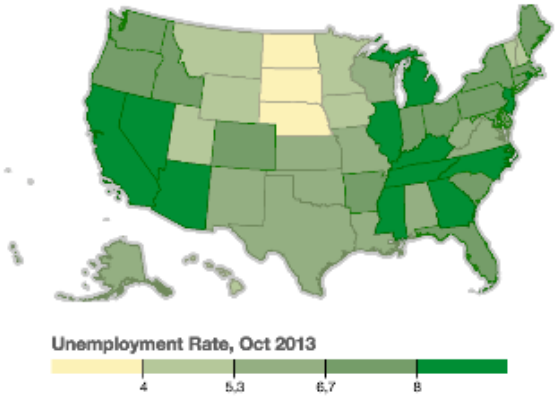
Choose from stunning graph and maps templates to give your story an extra punch.



3.

Watch your engagement rise!

Datawrapper graphs can be embedded into any website or CMS with ready-to-use embed codes.



https://www.datawrapper.de

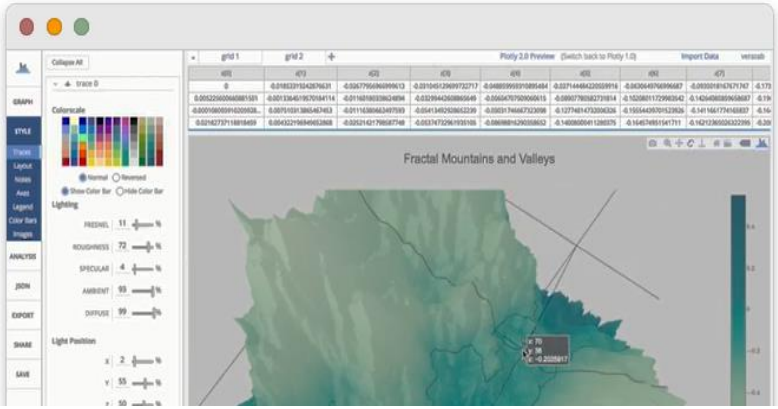
Plot.ly

Pricing Industries Products + CREATE SIGN IN SIGN UP UPGRADE

Create charts

Easily create stunning and informative graphics using our sophisticated, open source, visualization library and our online chart creation tool.

Take a look at the chart types that our APIs support and view our community feed.



https://plot.ly/

R

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R Project

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Help With R

Getting Help

The R Project for Statistical Computing

Getting Started

R is a free software environment for statistical computing and graphics. It compiles and runs on a wide variety of UNIX platforms, Windows and MacOS. To **download R**, please choose your preferred CRAN mirror.

If you have questions about R like how to download and install the software, or what the license terms are, please read our answers to frequently asked questions before you send an email.

News

- **The R Journal Volume 9/1** is available.
- **R version 3.4.1 (Single Candle)** has been released on Friday 2017-06-30.
- **R version 3.3.3 (Another Canoe)** has been released on Monday 2017-03-06.
- **The R Journal Volume 8/2** is available.
- **useR! 2017** (July 4 - 7 in Brussels) has opened registration and more at http://user2017.brussels/
- Tomas Kalibera has joined the R core team.
- The R Foundation welcomes five new ordinary members: Jennifer Bryan, Dianne Cook, Julie Josse, Tomas Kalibera, and Balasubramanian Narasimhan.
- **The R Journal Volume 8/1** is available.
- The **useR! 2017** conference will take place in Brussels, July 4 - 7, 2017.
- **R version 3.2.5 (Very, Very Secure Dishes)** has been released on 2016-04-14. This is a rebadging of the quick-fix release 3.2.4-revised.

https://www.r-project.org/

Tableau

https://www.tableau.com/

Power BI

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Business intelligence like never before

Go from data to insights in minutes.
Any data, any way, anywhere. And all in one view.

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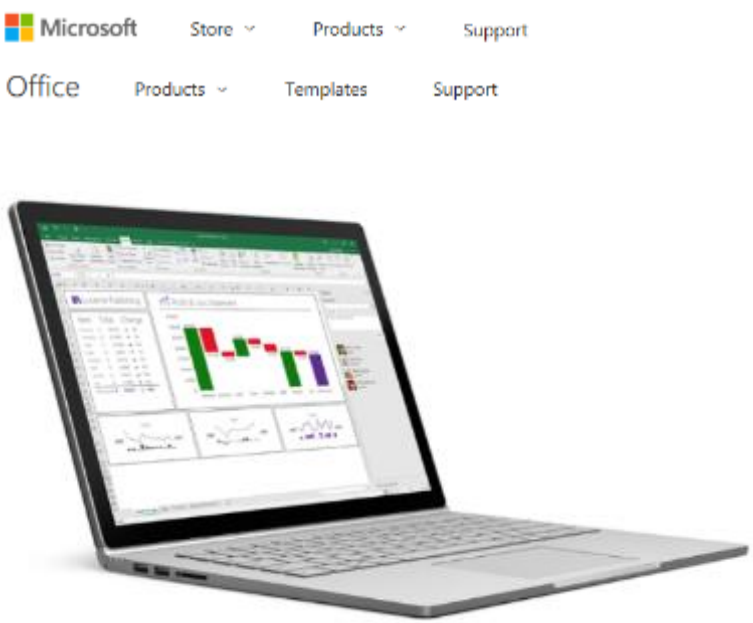
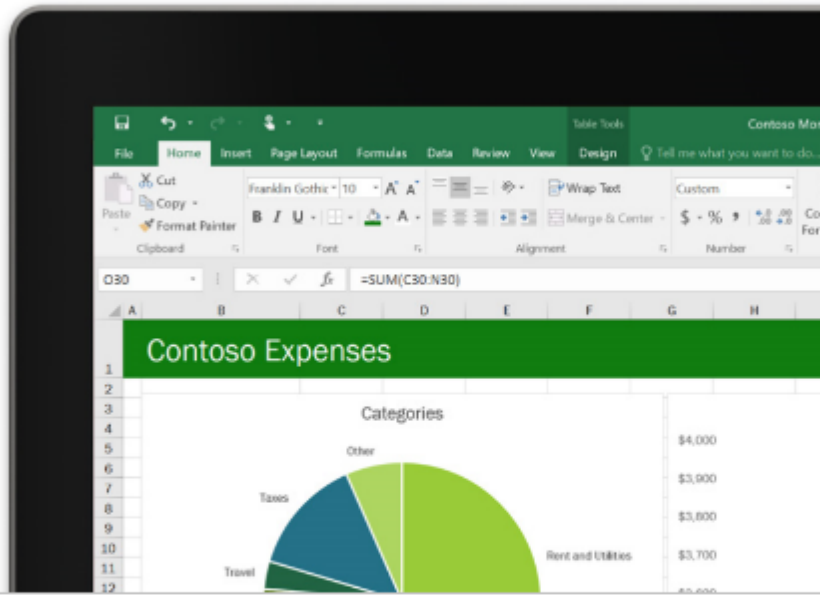
https://powerbi.microsoft.com/en-us/

Microsoft Office





Excel mobile app

View, edit, or create spreadsheets from anywhere. Get up and running quickly with familiar navigation and formulas, while maintaining the same formatting across all your devices. With the Excel mobile app, your Office moves with you.

Enter your phone number or email and we'll send a download link.

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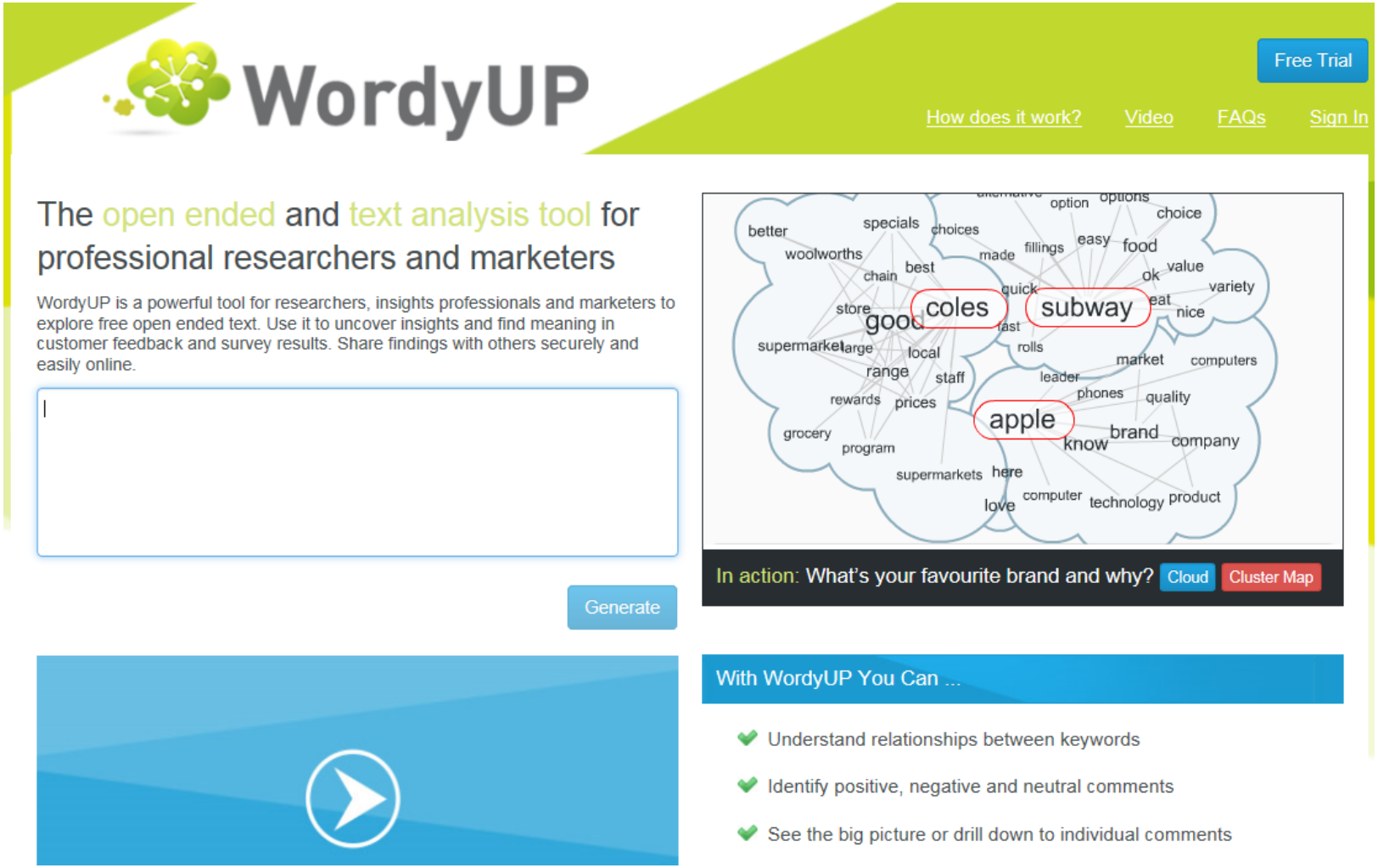
https://www.office.com/

WordyUp



https://www.wordyup.com/

Mapping

ArcGIS

https://www.arcgis.com/features/index.html

QGIS

http://www.qgis.org/en/site/

InstantAtlas

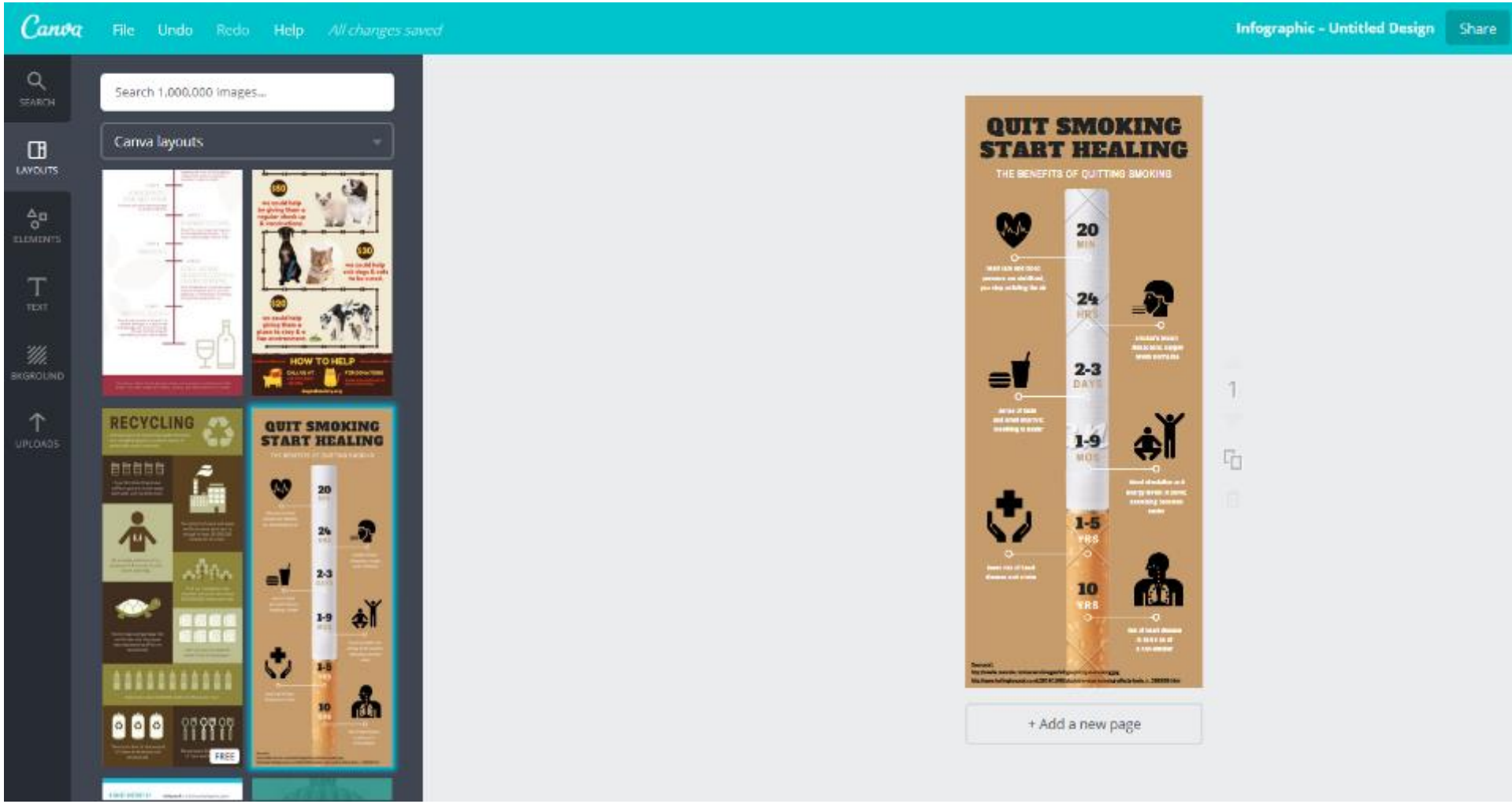
http://www.instantatlas.com/products.html

Tableau

https://www.tableau.com/

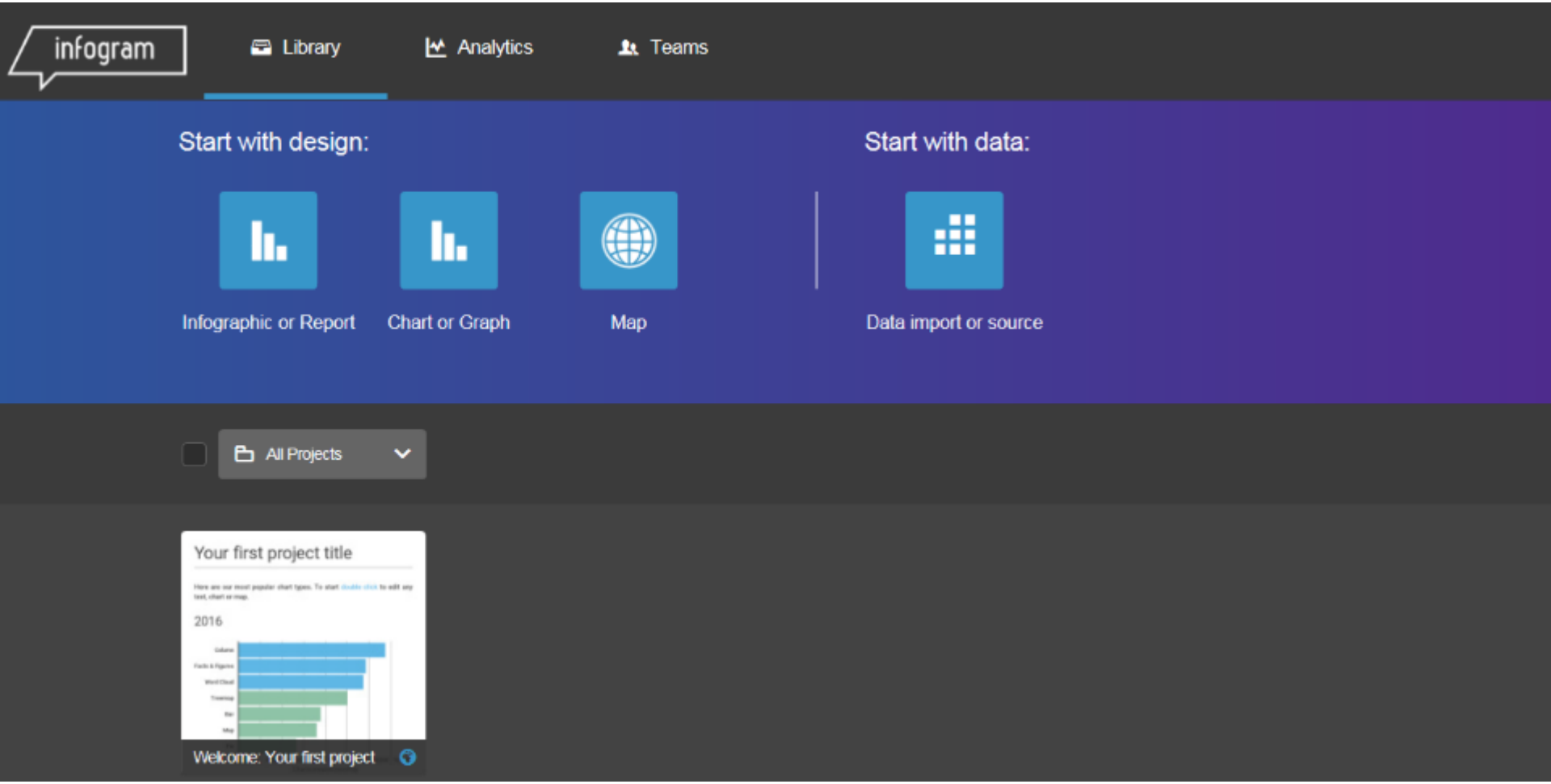
Infographics

Canva



https://www.canva.com/

Infogr.am

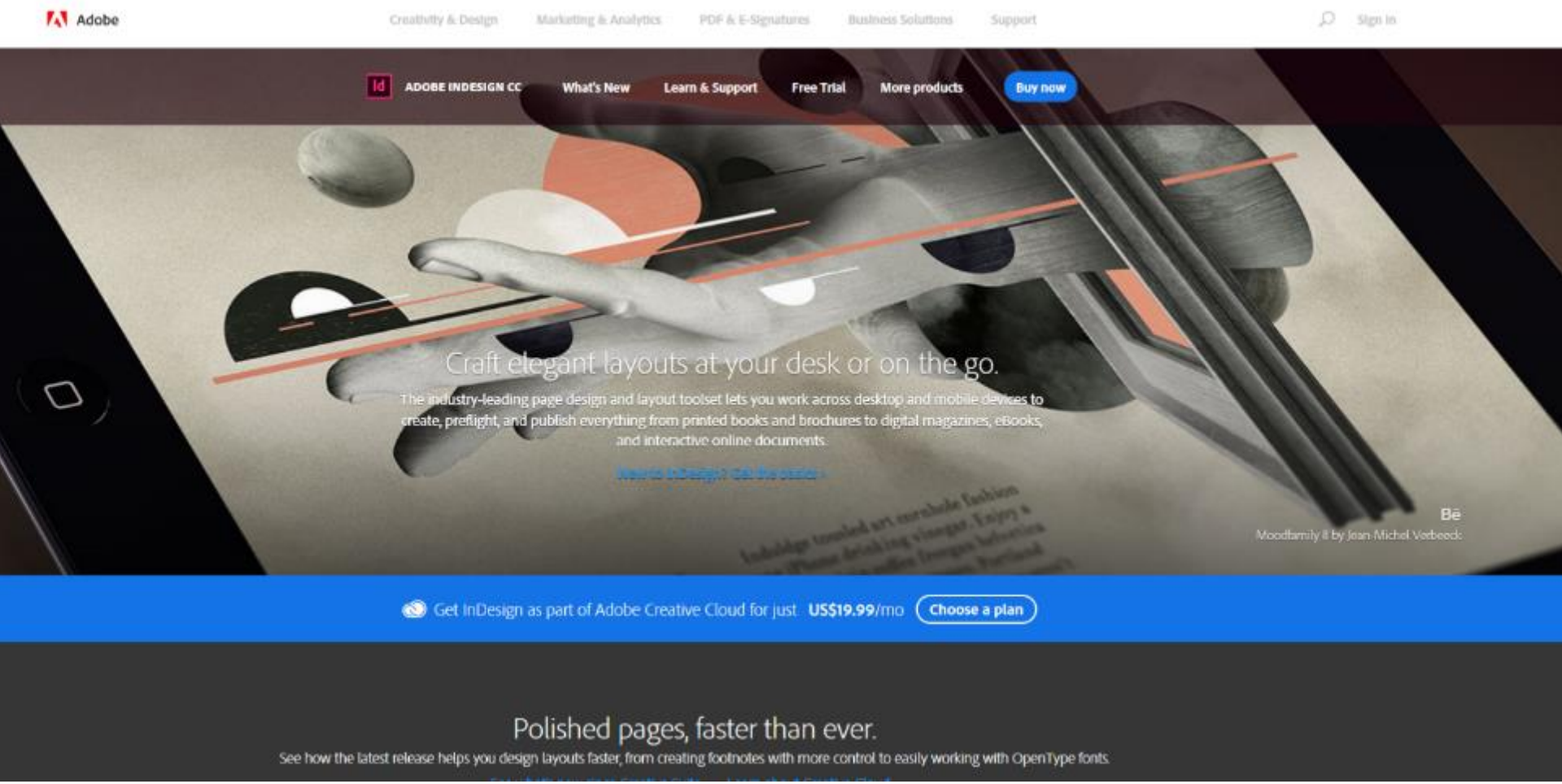


https://infogram.com/

Pictochart

https://piktochart.com/

Adobe



http://www.adobe.com/

Resources

Colors/Fonts

Colors

- Color Brewer
- Adobe Kuler
- Instant Eyedropper

Fonts

- Font Squirrel
- WhatTheFont

Colorblindness

- Vischeck
- Color Oracle
- Checkyourcolours

Books

Presenting Data Effectively – Stephanie Evergreen

Storytelling with Data – Cole Nussbaumer Knaflic

Effective Data Visualization – Stephanie Evergreen

Show me the Numbers: Designing table and graphs that enlighten – Stephen Few

Now You See It – Simple Visualization Techniques for Quantitative Analysis – Stephen few

The Visual Display of Quantitative Information – Edward Tufte

Websites

Ann Emery

http://annkemery.com/visualization/

Stephanie Evergreen

http://stephanieevergreen.com/

Stephen Few

https://www.perceptualedge.com/about.php

Cole Nussbaumer

http://www.storytellingwithdata.com/

Edward Tufte

https://www.edwardtufte.com/tufte/

OSH S&E Archive

Intentional Data Visualization – Jennifer Lyons
June 15, 2017

Data Visualization – Katherine Roswell
October 23, 2013

http://www.tacenters.emory.edu/resources/SEwebinars/

Questions?

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For more information, contact CDC
1-800-CDC-INFO (232-4636)
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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.