

# Introduction to Design and Photoshop

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# About the Instructor

- Front End Engineer, Commerce Data Service
- Skills include graphic design, user experience design, branding, prototyping and wireframing, front end development, responsive design
- Education: James Madison University, General Assembly



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# About Commerce Data Academy

- A data education initiative of the Commerce Data Service (CDS)
- Launched by CDS to offer data science, data engineering, and web development training to employees of the US Department of Commerce
- Course schedule and materials (e.g. slides, code, papers) produced for the Commerce Data Academy on Github
- Questions? Feel free to write us at Data Academy ([dataacademy@doc.gov](mailto:dataacademy@doc.gov))



# Goals

Together, we will discuss:

- the importance of design
- good and bad design
- basic design concepts such as visual hierarchy, typography, contrast, alignment, proximity, and repetition
- mobile, web, and user experience design
- the design process



# Goals

By the end of class, you will learn how to:

- make better design decisions
- design for the user
- edit images
- optimize images for web viewing / save for web
- create an infographic!

**... all within Photoshop!**



# Class Guidelines

- Feel free to ask questions whenever you come up with them
- Slides ARE be posted on Github and can be viewed at any time



# Prerequisites

- Download the 30-day free trial of Photoshop onto your computer
- [goo.gl/JsJhwY](http://goo.gl/JsJhwY)
- Download files from pre-class email onto your desktop

If you haven't done this yet, do it now. Any questions?



**What are you  
interested in?**



**Why is  
design  
important?**





Source: <http://www.kkstudio.gr/#the-uncomfortable>



**“Good design is actually a lot harder to notice than poor design, in part because good designs fit our needs so well that the design is invisible.”**

– Donald A. Norman, *The Design of Everyday Things*



# Basic Principles of Design

## Contrast

- Allows you to emphasize or highlight key elements

## Repetition

- Ties together individual elements

## Alignment

- Allows you to create order and organization

## Proximity

- Creates a relationship between elements



Contrast  
Repetition  
Alignment  
Proximity  
+  
Color

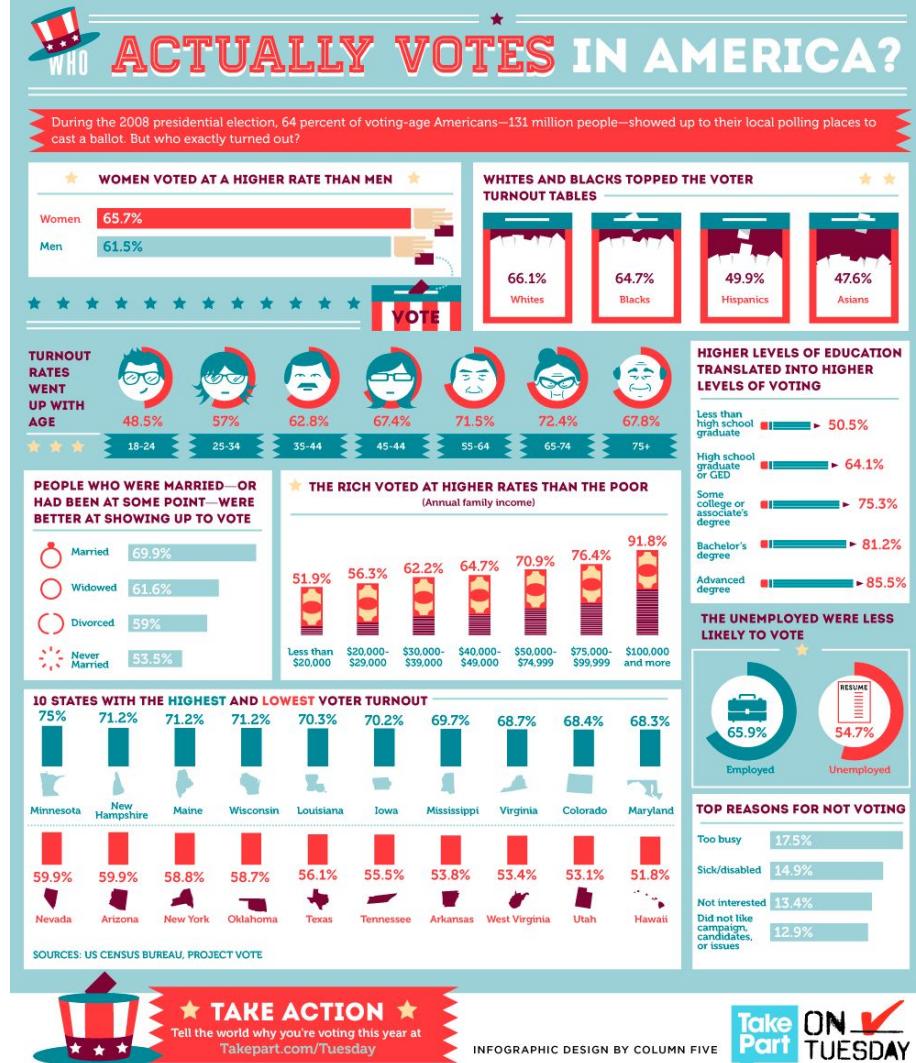


# Contrast

# Repetition

# Alignment

# Proximity



Source: <http://ivn.us/2012/07/18/what-would-get-you-to-vote-incentives-for-voting/voting-infographic/>

# Typography

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Serif

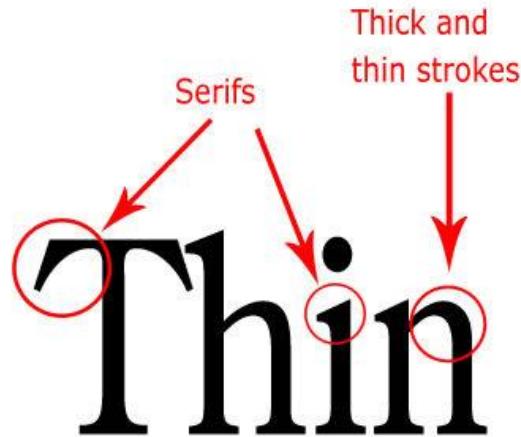
Sans Serif

Script

DECORATIVE



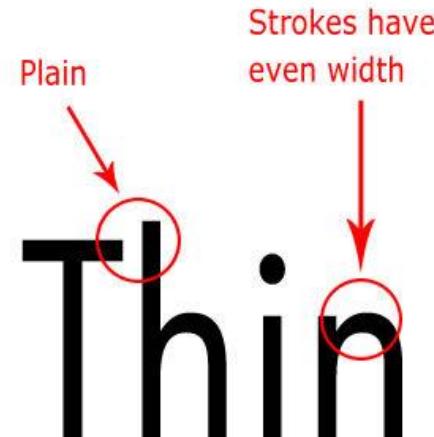
## Serif Font



Century Old Style

Times New Roman  
Cambria  
Georgia

## Sans Serif Font



Futura Book

Arial  
Trebuchet MS  
Verdana



# Identify these fonts

---

1. *Hello world*
2. Hello world
3. Hello world
4. Hello world



# Identify these fonts

Answers

---

1. *Hello world*      Script
2. Hello world      Serif
3. Hello world      Sans Serif
4. Hello world      Decorative



# On decorative fonts...

Comic Sans

Curlz MT

Papyrus

# On decorative fonts...DON'T USE THEM!

Comic Sans

Curlz MT

Papyrus

Contrast  
Repetition  
Alignment  
Proximity  
+  
Typography

*“Happiness*  
can be **FOUND**,  
*even in the*  
**DARKEST** of times,  
*if one only —*  
**REMEMBERS**  
to turn on the  
*light”*  
- Albus Dumbledore

# Visual Hierarchy

**Strong visual hierarchies** guide visual & logical progression by showing what is important.



**Weak visual hierarchies** provide little or no guidance about what is important.

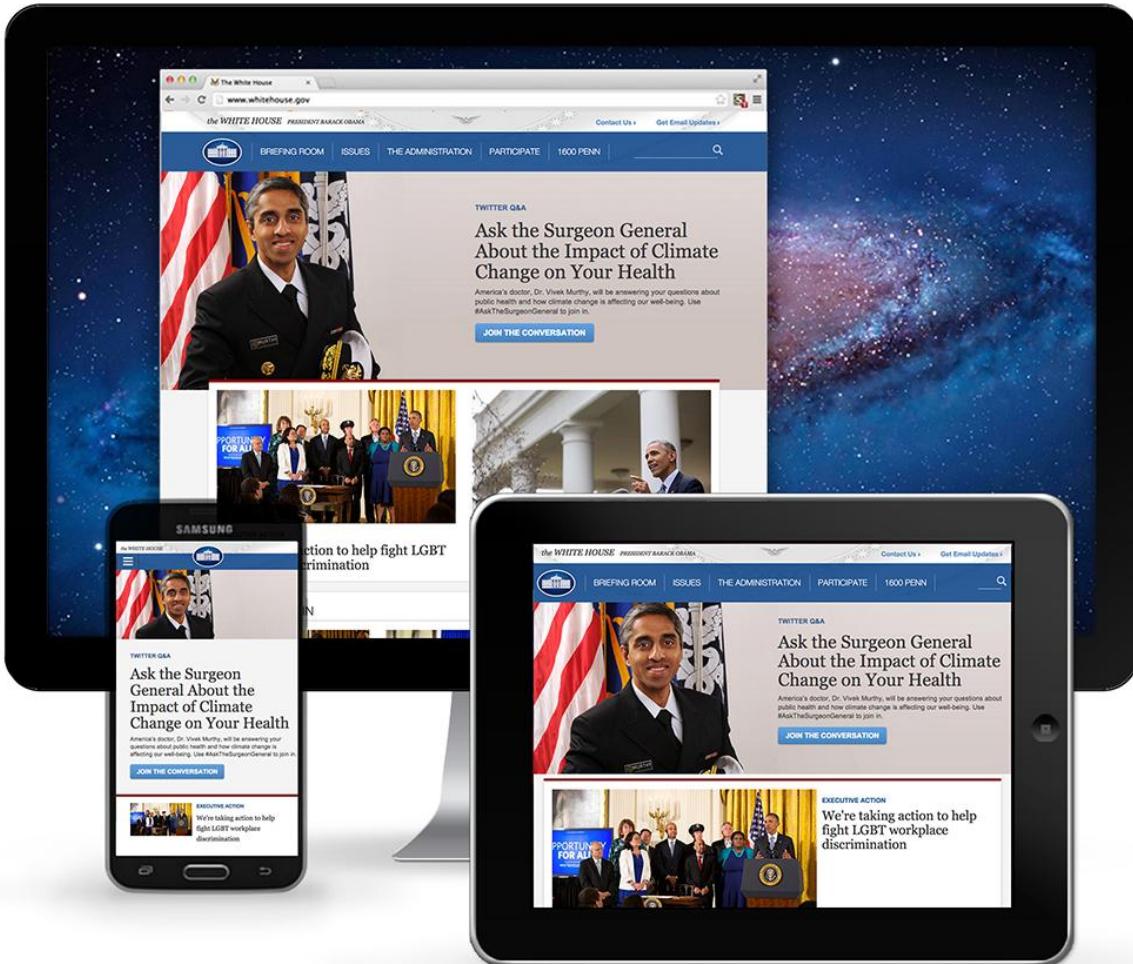
Source: <http://52weeksofux.com/post/443828775/visual-hierarchy>



What is wrong with this example?



# Web, Mobile, and Responsive Design



Source: <https://www.whitehouse.gov/blog/2015/04/09/whitehouse-egov-evolving-you-mind>



# Accessibility

The inclusive practice of removing barriers that prevent interaction with, or access to websites, by people with disabilities. When sites are correctly designed, developed and edited, all users have equal access to information and functionality.



# **USER EXPERIENCE DESIGN (UXD)**

Is the process of enhancing user satisfaction by improving the usability, accessibility, and pleasure provided in the interaction between the user and a product.



<https://www.youtube.com/watch?v=CJnfAXIBRTE>



# How does user experience design work?

- User-centered design **process**
  - takes the user's needs into account during every step of the product lifecycle
- Ask lots of questions
  - who, what, when, where, why, and HOW



**“UX addresses how a user feels when using a system. while usability is about the user-friendliness and efficiency of the interface.”**

– Jacob Gube, Smashing Magazine



# What is wrong with this website?

Skip to main content

Link to this page

Add to Widget

Add to e-mail

Share on Twitter

Your Savings Summary

What's New

Discussion Boards

Amazon Associates

Settings

amazon.com

We have [recommendations](#) for you. (Not Jacob?)

Jacob's Amazon.com | Today's Deals | Gifts & Wish Lists | Gift Cards

Sell on Amazon - 30 days FREE\*

Your Account | Help

Shop All Departments

Search  Clothing & Accessories

Books

Advanced

All Departments

Automotive

Baby

Beauty

Books

Cell Phones & Service

Clothing & Accessories

Electronics

Downloadable

Grocery & Gourmet Food

Health & Personal Care

Home, Garden & Pets

Industrial & Scientific

Jewelry

Kindle Store

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**Life of Pi** Yann Martel

Page 1 of 5

[More Great First Listens](#)

New and Notable Fiction

Page 1 of 5



# Improved experience:

The Amazon homepage features a prominent "kindle" section with three devices displayed: Kindle (\$79.99), Kindle Paperwhite (\$119.99), and Kindle Voyage (\$199.99). Above the devices, a banner for the "spring event" is visible, along with account and cart links.

All ▾

Departments ▾ Your Amazon.com Today's Deals Gift Cards Sell Help

Hello, Sign in Your Account ▾ Try Prime ▾ Lists ▾ Cart

spring event

kindle

The best devices for reading, period.

kindle \$79.99

kindle paperwhite \$119.99

kindle voyage \$199.99

Welcome

Sign in for the best experience

Sign in securely

Popular departments

Kindle

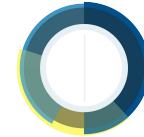
Amazon Video

The dress shop

Deal of the Day

Gillette

SAVE ON GILLETTE'S MOST



# BREAK

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# Commonly Used Adobe Programs for Design



# Adobe InDesign



- Text heavy materials
- Resumes
- Interactive PDF's
- Brochures



# Adobe Illustrator



- Illustrations
- Custom art
- Converting hand-drawn art to a vector graphic



# Adobe Photoshop



- Photo editing
- Photo manipulations
- Graphic creation (posters, web banners, etc)



# **Photoshop: Let's begin!**



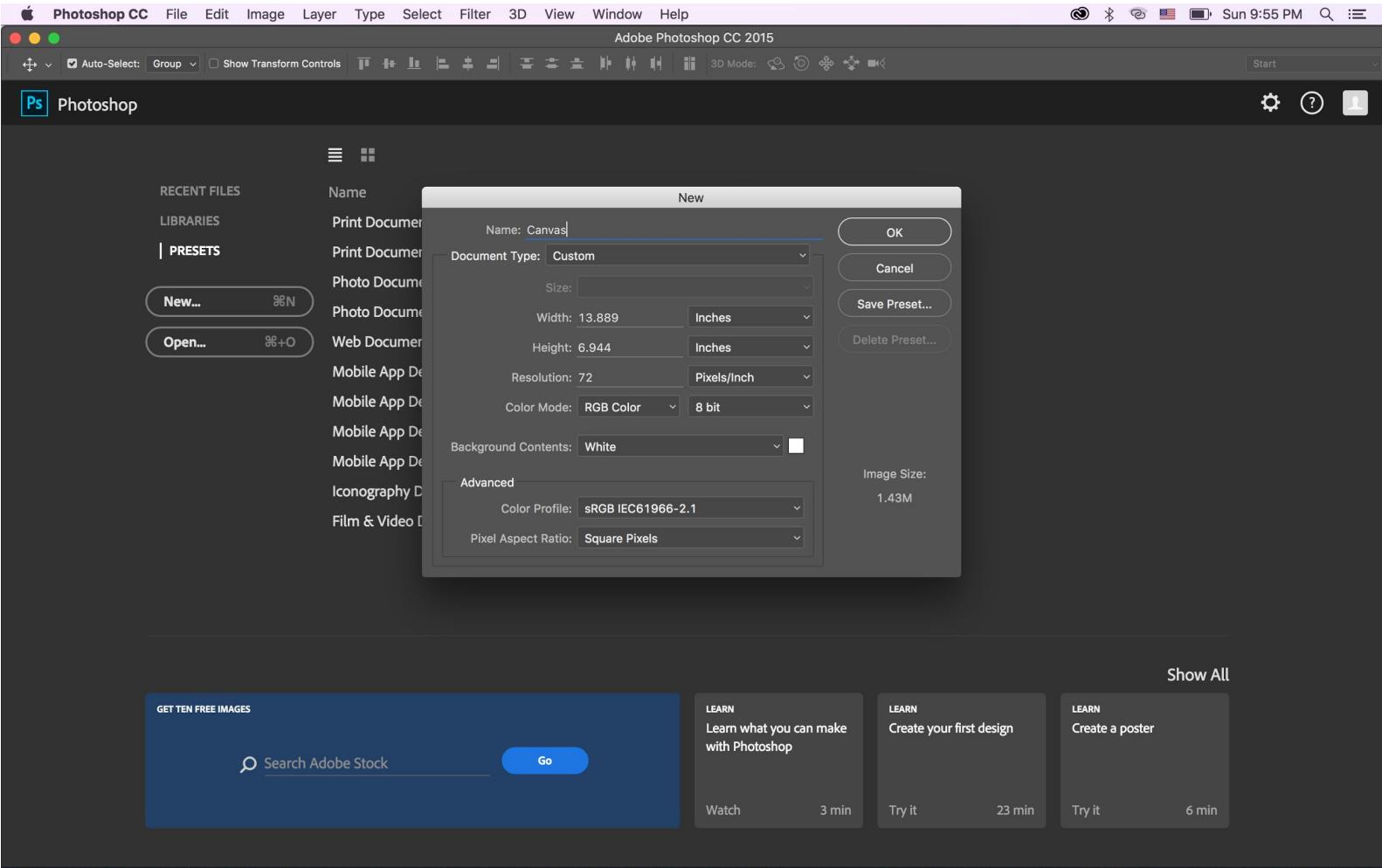
# What will we be designing? An Infographic!

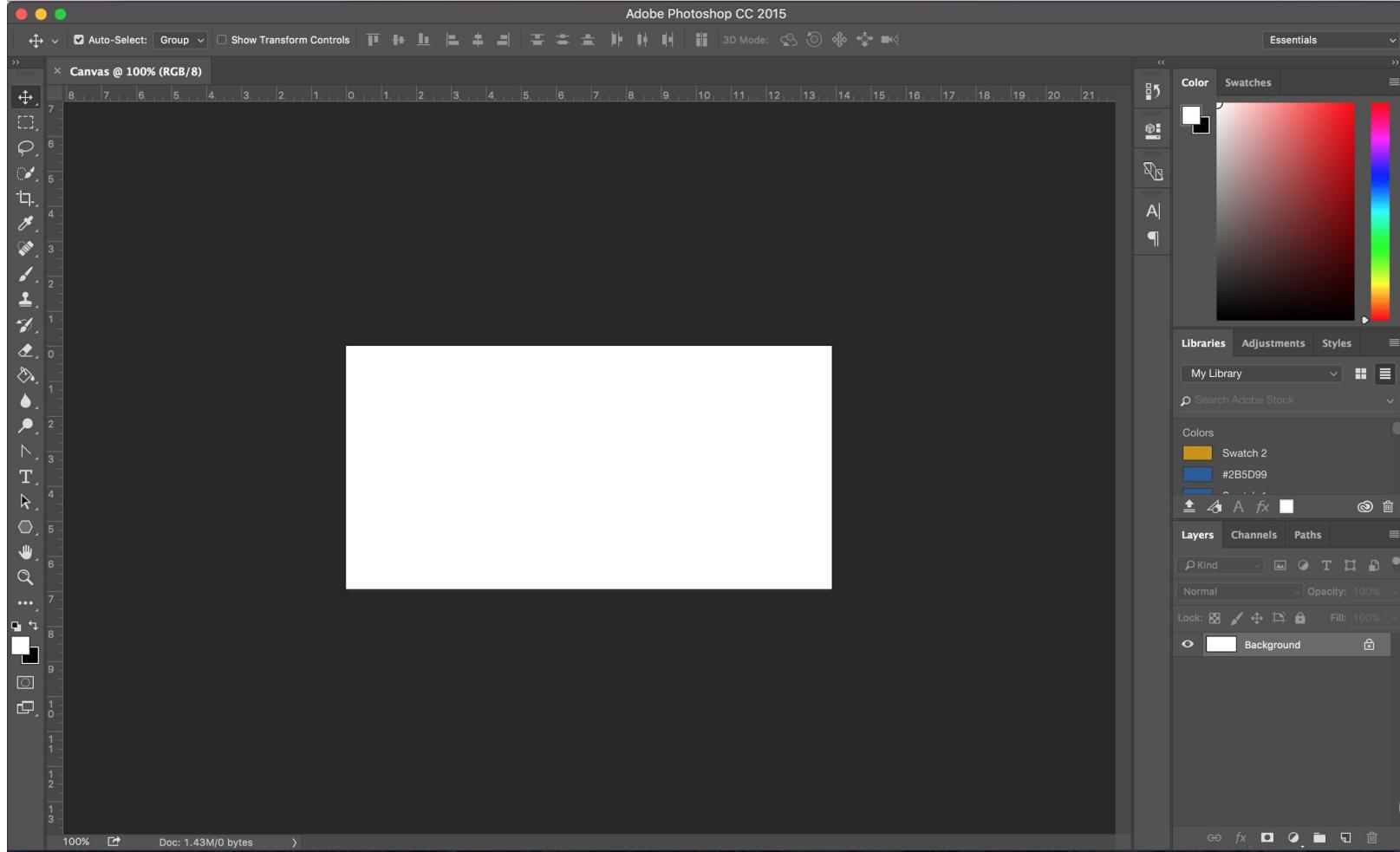
- Purpose
  - To communicate facts on the Department of Commerce OR the Earth
- Your infographic must contain:
  - at least 3 facts
  - 1 quote
  - at least 1 image OR at least 3 icons
- Instructions
  - Your task is to use your design knowledge to create a visually interesting infographic
  - You may use facts/quotes on Commerce OR the Earth, but not both of them in the same infographic

# Terminology

- **Canvas:** the place where you will work in Photoshop
- **Layers:** individual elements of your design (text, image, shape, etc)
- **Free Transform:** enlarging or minimizing an element of your design
  - CTRL + C for Windows
  - Command + C for Mac
- **Color Overlay:** putting a color over your element to change the color
- **Type:** a synonym for text, typography, words, etc.









# The Tools





## Move tool

- Allows you to move objects around your canvas
- You must select the layer you would like to move





## Crop tool

- Allows you to crop your image
- You can choose dimensions by which you would like to crop your canvas
- Note: This crop tool crops the whole canvas, not an individual layer
- Watch out for “delete cropped pixels”, always make sure it is unselected





## Type tool

- Allows you to insert text onto your canvas
- Type tool paired with the Character Window allows you to better edit the text on your canvas





## Shape tool

- Allows you to insert shapes
- Rectangle, rounded rectangle, oval, polygon, line, custom shape



# Design is a Process!

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Research



Brainstorm



Design

Brainstorm ideas and look at other infographics

- Informational
- Educational
- Highlight numbers

Draw some ideas and lay out the information

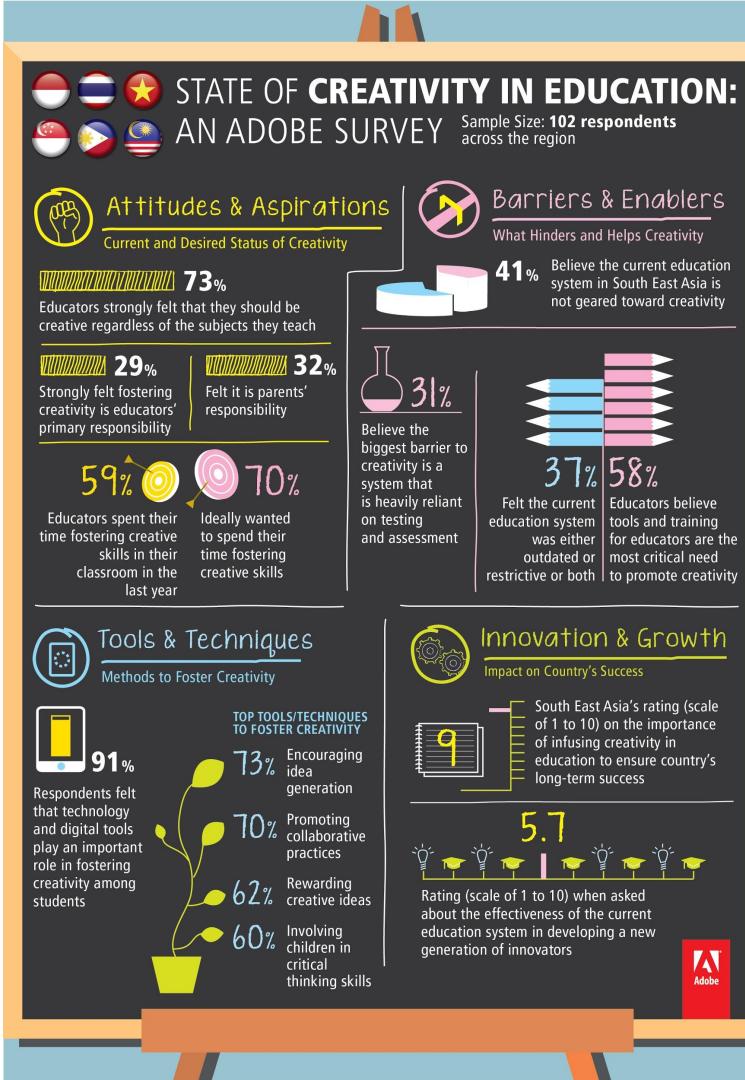
Translate your design into Photoshop!



# Infographic Examples

Good use of:

- Color
- Font choices
- Font sizes
- Highlighted numbers



Source: [https://bhpenglish.files.wordpress.com/2015/04/state\\_of\\_creativity\\_sea\\_infographic.jpg](https://bhpenglish.files.wordpress.com/2015/04/state_of_creativity_sea_infographic.jpg)

# Infographic Examples

Good use of:

- Color
- Font sizes
- Visual hierarchy

Source: <http://2.bp.blogspot.com/-mFJh1NNit38/VTago-J4YMI/AAAAAAAAv8/cj2cHpnRtPk/s1600/community%2Bpower%2Badvantage%2Binfographic.jpg>



# Icon Sets

- <http://www.flaticon.com/>
- <https://icons8.com/web-app/new-icons/all>



# Additional Resources

## Photoshop Tutorials

- <http://mashable.com/2010/08/12/12-beginner-tutorials-for-getting-started-with-photoshop/#kvTyxVEFUEqj>
- <http://www.creativebloq.com/graphic-design-tips/photoshop-tutorials-1232677>

## Design

- [https://www.ted.com/talks/don\\_norman\\_on\\_design\\_and\\_emotion?language=en](https://www.ted.com/talks/don_norman_on_design_and_emotion?language=en)
- <https://hackdesign.org/lessons>



# Additional Resources

## Web Design

- <https://www.smashingmagazine.com/2008/01/10-principles-of-effective-web-design/>
- <http://webfieldmanual.com/>

## Mobile Design

- <http://pttrns.com/> → curated list of mobile design patterns
- <https://www.smashingmagazine.com/guidelines-for-mobile-web-development/#a5>



# Additional Resources

## UX Design

- <https://www.youtube.com/watch?v=Ovj4hFxko7c>
- <https://www.smashingmagazine.com/2010/10/what-is-user-experience-design-overview-tools-and-resources/>
- <http://uxmyths.com/>
- <https://www.nngroup.com/articles/> → excellent resource for UX trends + findings

