

Designing an Infographic

Lesson Overview

This lesson is designed as a series of learning events to be followed sequentially during the instructional unit. The Parts 1-4 of the workbook correlate with the clusters as described in the design document.

On each page there is a sample of the page in the student work book as well as notes to the instructor in blue italic, including lesson details, delivery suggestions, verbal instructions and alternative instruction ideas.

This guide contains:

Infographic practice pages

Part 1- Identify Infographics used in media

This segment of the instructional unit is designed to familiarize the student with the term infographic- what an info graphic is and what it does. It will be instructor guided as major themes and topics are introduced. There will be time for self guided discovery with key media and examples, a short video describing the importance of visual communication, as well as brainstorming, and critiquing of various infographics.

Part 2- Select topic and gather data

Here the students must have access to the media lab and computer stations to perform internet searches to enable them to finalize their topic choice, summarize their stories, determine hierarchy of data, establish emphasis, gather relevant data and imagery to support the main point of the infographic.

Part 3- Plan and design a rough draft for the infographic

This segment is designed to get students to the drawing board. Here they begin to convert their topic into the graphics that will communicate the idea visually. They will use colored pencils and paper to create their rough sketch, organize elements, choose colors, fonts, draw icons.

Part 4- Execute digital layout

This segment is designed to have students employ their technical skills to transform their sketches into digital infographics. There are many subordinate steps in this cluster that may require some one on one time with each student at their computer station as there may be various levels of technical aptitude. Time allowing an exhibit and group critique will follow.

Appendix A contains all assessment materials

The assessment materials are not included in the Student Workbooks. They will be copied and distributed as needed or alternatively delivered in an online format.

This Instructors Guide correlates directly with the Student Workbook. Because there are additional instructions in the Guide there are more pages. As you work through the lesson note the Student Workbook table of contents below.

Refer to page numbers aloud to the class as each section is referenced throughout the lesson.

Note all pink page numbers and “fractioned” page numbers, such as 1.5 and 17 are not in Student Workbook)

This lesson is designed with flexibility in mind. Depending on the learner analysis, this lesson may be adapted to include more or less instructor presence. It also may be adapted to accommodate various time schedules in that the finished designs may kept simple or made more complex.

Designing an Infographic

Contents

	<i>page</i>
Introduction	2
Infographic Practice	3
Part 1 - Identify Infographics used in media	6
Part 2- Select topic and gather data	11
Rubric.....	12
Infographic Worksheet	13
Part 3- Plan and design a rough draft	13
Part 4- Execute digital layout	14
Digital Layout Checksheet	15

Give students time to read over this introduction: the goal, strategy, and “why infographics paragraphs.

Elicit discussion. Ask what they already know about infographics. Explain how infographics can be useful in media, science, education, and other fields as well as in all of their academic course work.

Designing an Infographic

The Goal

Learn to create an infographic that communicates a concept in a clear visual format.

The Strategy

To accomplish the goal, we will do a variety of projects that will help you:

- Learn more about what infographics are used for and how you can use them too
- Examine existing infographics to review various styles, topics, colors, overall effectiveness
- Select your own topic (article or paper) that can be summarized in a visual format
- Design and sketch out an effective layout that represents your topic
- Turn your design into a digital format using Adobe InDesign

Why Infographics?

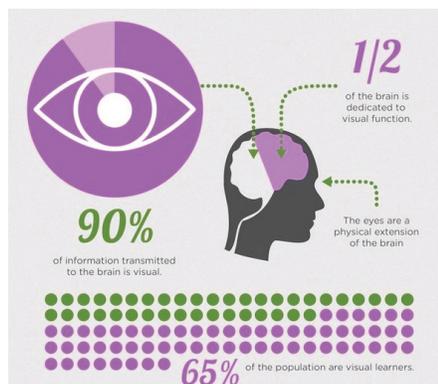
Learning to create an infographic will improve your visual communication skills. Understanding how to create graphics that illustrate and communicate ideas is a skill you can use for all sorts of things. No matter what you want to communicate, you can create an infographic to help get your story across quickly and effectively.

Infographics sometimes have icons, images, charts, maps, or diagrams that help the viewer understand the content. As you work through this lesson, you will find that unique combinations of words and imagery are often more powerful than words or imagery alone.

We interact with some form of infographics on a daily basis, from simple to complex, infographics are in the signs that help us navigate our physical world to the images and icons on websites that help us navigate our intellectual worlds.

This workbook will guide you through the steps to design your own infographic.

Did you know?



The practice pages act as a warm up session to remind students of the skills needed in the lesson. Announce that a timer will be set to ring every 10 minutes. Instruct students to read the instructions and ask questions. Remind them to include 1) the major point, 2) the secondary point, and 3) 1 instance of supporting data. Using a new infographic (not previously shown) provide an example and demonstrate what is expected on the board so they understand how much detail is needed. Explain that these will be short notation not full sentence or paragraph format. Again reference what they did in the prerequisite assessment test. Encourage the students by reminding them that they have the skills to do this.

Alternatively, students may work in groups for this segment.

Infographic Practice 1

Read the article below, then write a major point, a secondary point and a supporting data or statistic and another point of interest. The points you choose to highlight are key points that could be used in an infographic. Then draw a at least 2 (or more) images that could be used to tell the story. In the box, sketch out a few images and words that could help you tell the story. This does not have to look like an infographic, it is intended as practice only.

For the last several years scientists have fretted over the future of bees, and although research has shed much light on the crisis, those in the bee business—from hive keepers to commercial farmers—say the insects remain in deep trouble as their colonies continue to struggle.

The current crisis arose during the fall of 2006 as beekeepers around the country reported massive losses—more than a third of hives on average and up to 90 percent in some cases. Bees were flying away and simply not coming back; keepers would find boxes empty of adult bees except for a live queen. No bee corpses remained to tell the tale. The losses were unprecedented and fast.

Now it's five years later, and though colony collapse disorder (CCD)—the name given to the mysterious killer condition—has dwindled in the manner of cyclical diseases, bees are still battling for their lives and their colonies are weaker than ever. The latest data, from the 2012-2013 winter, indicate an average loss of 45.1 percent of hives across all U.S. beekeepers, up 78.2 percent from the previous winter, and a total loss of 31.1 percent of commercial hives, on par with the last six years. (Most keepers now consider a 15 percent loss “acceptable.”)

Why keep worrying over the fate of a bunch of pesky stinging insects? Bees in their crucial role as pollinators are paramount. Western nations rely heavily on managed honeybees—the “moveable force” of bees that ride in trucks from farm to farm—to keep commercial agriculture productive. About a third of our foods (some 100 key crops) rely on these insects, including apples, nuts, all the favorite summer fruits (like blueberries and strawberries), alfalfa (which cows eat), and guar bean (used in all kinds of products). In total, bees contribute more than \$15 billion to U.S. crop production, hardly small potatoes.

No, we wouldn't starve without their services—much of the world lives without managed pollinators. But we'd lose an awful lot of good, healthy food, from cherries and broccoli to onions and almonds. Or we'd pay exorbitant costs for farmers to use some other, less efficient pollination technique to supplement the work that healthy natural pollinators could do. Plus, bee health can tell us a lot about environmental health, and thus about our own well-being.

<http://news.nationalgeographic.com/news/2013/13/130510-honeybee-bee-science-european-union-pesticides-colony-collapse-epa-science/>

Major point _____

Secondary point _____

Supporting data or statistic _____

Another interesting point _____

Reset timer to 10 minutes. Let students know this is warm up and will not be part of the final grade.

Infographic Practice 2

Read the article below, then write a major point, a secondary point and a supporting data or statistic and another point of interest. The points you choose to highlight are key points that could be used in an infographic. Then draw a at least 2 (or more) images that could be used to tell the story. In the box, sketch out a few images and words that could help you tell the story. This does not have to look like an infographic, it is intended as practice only.

There is enough water stored in the East Antarctic ice sheet to raise sea levels by 164 feet (50 meters).

Core samples, tide gauge readings, and, most recently, satellite measurements tell us that over the past century, Sea Level has risen by 4 to 8 inches. However, the annual rate of rise over the past 20 years has been 0.13 inches a year, roughly twice the average speed of the preceding 80 years.

Over the past century, the burning of fossil fuels and other human and natural activities has released enormous amounts of heat-trapping gases into the atmosphere. These emissions have caused the Earth's surface temperature to rise, and the oceans absorb about 80 percent of this additional heat.

The rise in sea levels is linked to three primary factors, all induced by this ongoing global climate change:

Thermal expansion: When water heats up, it expands. About half of the past century's rise in sea level is attributable to warmer oceans simply occupying more space.

Melting of glaciers and polar ice caps: Large ice formations, like glaciers and the polar ice caps, naturally melt back a bit each summer. But in the winter, snows, made primarily from evaporated seawater, are generally sufficient to balance out the melting. Recently persistently higher temperatures caused by climate change have led to greater-than-average summer melting as well as diminished snowfall due to later winters and earlier springs. This imbalance results in a significant net gain in runoff versus evaporation for the ocean, causing sea levels to rise.

Ice loss from Greenland and West Antarctica: As with glaciers and the ice caps, increased heat is causing the massive ice sheets that cover Greenland and Antarctica to melt at an accelerated pace. Scientists also believe meltwater from above and seawater from below is seeping beneath Greenland's and West Antarctica's ice sheets, effectively lubricating ice streams and causing them to move more quickly into the sea. Moreover, higher sea temperatures are causing the massive ice shelves that extend out from Antarctica to melt from below, weaken, and break off.

<http://ocean.nationalgeographic.com/ocean/critical-issues-sea-level-rise/>

Major point _____

Secondary point _____

Supporting data or statistic _____

Another interesting point _____

Reset timer to 10 minutes. Ask how everyone is doing, move around room to check student progress.

Infographic Practice 3

Read the article below, then write a major point, a secondary point and a supporting data or statistic and another point of interest. The points you choose to highlight are key points that could be used in an infographic. Then draw a at least 2 (or more) images that could be used to tell the story. In the box, sketch out a few images and words that could help you tell the story. This does not have to look like an infographic, it is intended as practice only.

Lively and speedy critters, chipmunks are small members of the squirrel family. Their pudgy cheeks, large, glossy eyes, stripes, and bushy tails have made them a favorite among animators, and landed them a series of starring roles in Hollywood.

Of the 25 species of chipmunks, all but one, Asia's *Tamias sibiricus*, is found in North America. Ranging from Canada to Mexico, they are generally seen scampering through the undergrowth of a variety of environments from alpine forests to shrubby deserts. Some dig burrows to live in, complete with tunnels and chambers, while others make their homes in nests, bushes, or logs.

Depending on species, chipmunks can be gray to reddish-brown in color with contrasting dark and light stripes on the sides of their face and across their back and tail. They range in size from the least chipmunk, which, at 7.2 to 8.5 inches (18.5 to 21.6 centimeters) and 1.1 to 1.8 ounces (32 to 50 grams), is the smallest chipmunk, to the Eastern chipmunk, which grows up to 11 inches (28 centimeters) and weighs as much as 4.4 ounces (125 grams).

Chipmunks generally gather food on the ground in areas with underbrush, rocks, and logs, where they can hide from predators like hawks, foxes, coyotes, weasels, and snakes. They feed on insects, nuts, berries, seeds, fruit, and grain which they stuff into their generous cheek pouches and carry to their burrow or nest to store. Chipmunks hibernate, but instead of storing fat, they periodically dip into their cache of nuts and seeds throughout the winter.

Their shrill, repeated, birdlike chirp is usually made upon sensing a threat but is also thought to be used as a mating call by females. Chipmunks are solitary creatures and normally ignore one another except during the spring, when mating takes place. After a 30-day gestation, a litter of two to eight is born. The young stay with their parents for two months before they begin to gather their own provisions for the winter ahead.

For the most part, chipmunks, although susceptible to forest fragmentation, are not currently threatened. However, the Palmer's chipmunk (*Tamias palmeri*) is considered a vulnerable species.

<http://animals.nationalgeographic.com/animals/mammals/chipmunk/>

Major point _____

Secondary point _____

Supporting data or statistic _____

Another interesting point _____

Begin with a game of Pictionary. Instructor begins while students guess. Ask one or two students to draw theme from the basket. Discuss how important visual information is in our daily lives. Show 2 or 3 samples of infographics on the board. Elicit questions and responses to the examples. Prompt student to begin googling and searching infographics online, also encourage browsing of the materials provided in the classroom.

Part 1 - Identify Infographics Used In Media

In this portion of the lesson, we will look at samples, discuss various kinds of infographics and become more aware of the visual data around us.

First, to appreciate how we use visual data in our daily lives, let's play a quick game of **Pictionary....**



Now, let's think about the game of Pictionary.

What visual information helps you make a good guess as to what the person is trying to convey?

Does the person doing the drawing have to draw well or is it more about the choices of things to draw?

Become aware of the infographics around us

Take 15 minutes to review the materials in the classroom also, do a google image search of USA Today snapshots. Here you will find thousands of infographic examples from simple to complex.

- Infographic books that have hundreds of examples in them.
- Magazines that use infographics to convey information Time, USA Today, National Geographic etc...
- Notice the rotating slide show of USA Today snapshots (google search/images)

Throughout this lesson take some time to go back and review these materials.



Verbal instruction to students: When you look at the infographics on the next 2 pages, what do you learn from them? In the space provided, write a few words for each sample- to summarize what is being conveyed. Ask them to prepare to discuss in class.

When every one is done, hold up each infographic and have students read aloud what they wrote. Discuss which infographics were easiest to understand and summarize and which were more difficult. Assess their understanding by their willingness to participate. Collect summaries and assess understanding based on how well they completed each segment.

Alternatively, students may work in groups for this segment.

Identify Infographics used in media

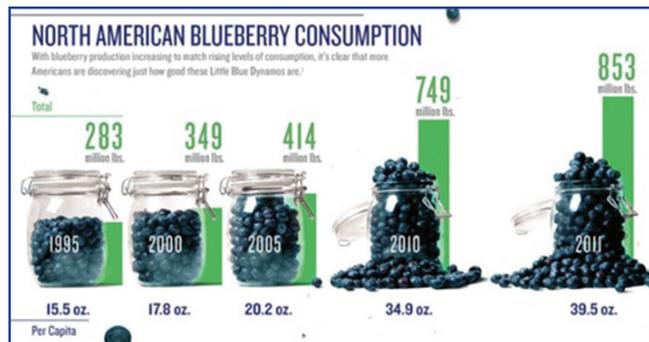
Summarize and Identify Infographics

When you look at the infographics on the next 2 pages, what do you learn from them? In the space provided, write a few words for each sample- to summarize what is being conveyed. Prepare to discuss in class.



site sources
 Notice the format of the citation. draw on previous lessons to create proper citations of web graphics and collected data.

"RI Boating Accident Lawyer - D'Oliveira & Associates." DOliveira Associates PC. N.p., n.d. Web. 30 Nov. 2014.



"Blueberry Nutrition - U.S. Highbush Blueberry Council." U.S. Highbush Blueberry Council. N.p., n.d. Web. 30 Nov. 2014.

Observe and assist as needed.

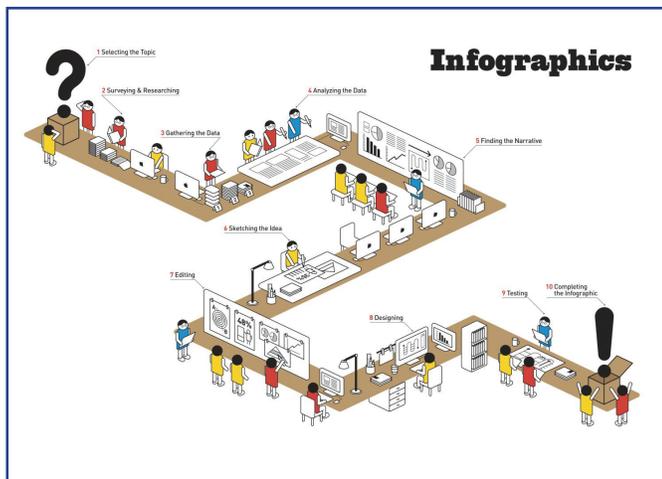
Identify Infographics used in media

Summarize and Identify Infographics

When you look at the infographics below, what do you learn from them? In the space provided, write a few words for each sample- to summarize what is being conveyed.

Prepare to discuss in class.

"Start Creating, Sharing & Exploring Great Visuals Today!"
The History of Pie! Polly's Pies, n.d. Web. 30 Nov. 2014.

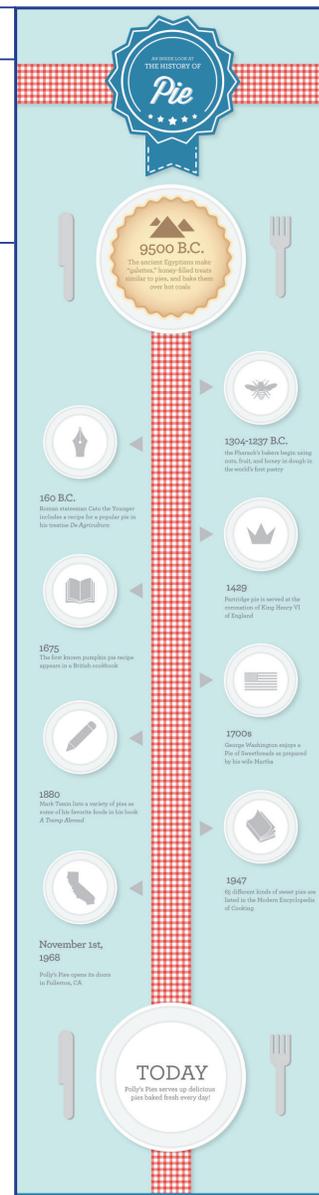


Ryu, A.J. "Start Creating, Sharing & Exploring Great Visuals Today!"
Infographics Process. N.p., n.d.
Web. 30 Nov. 2014.

As you continue your research, you will discover, there are all sorts of infographics. For this lesson we will focus on four very popular formats.

- T) Timeline
- I) Informational
- S) Statistical
- P) Process

Take a guess to determine which kind of infographic each sample represents. Go back to each infographic and write the corresponding letter inside the box next to the infographic.



Now that students are aware of how infographics can make complex ideas easier to understand, have students brainstorm other ways they could use infographics in some of their other classes.

Show video “A Picture is Worth a Thousand Words” <http://vimeo.com/25328216>. Discuss.

Explain the bonus points offer: for each idea they bring in for applying their infographic skills in other classes. Ask them to share ideas with the class.

Identify Infographics used in media

Brainstorm discussion

We have reviewed several samples that show how infographics can make complex ideas easier to understand, Now it is time to brainstorm ways you might use infographics an infographic to communicate something. Take some time to browse the samples in the classroom, the magazines (especially US today) Describe an infographic that you might create that would communicate to:

your family? _____

your school? _____

science fair attendees? _____

other? _____

Wow, watch this!

Watch this video describing the process of creating infographic. While this may differ slightly from our lesson, it is a nice overview of the process.

Take some brief notes so you are prepared to discuss in class.



“A Picture is Worth a Thousand Words” by Kathy Schrock <http://vimeo.com/25328216>

Cross Curriculum Bonus!

Over the course of this semester you can earn 3 bonus points for each idea you bring in where you have applied your infographic skills in other classes. To earn the points, the ideas should be based on real case scenarios and must be presented with a rough draft sketch and shared with the class.

Have students take a moment to read the text only summary of the Video “Why Illustrations are Important” Then have students watch the video <http://vimeo.com/96222642> by Vicky Earle. Ask which was easier to understand- the text summary or the video. Ask which is more memorable.

Part 2 - Select Topic and Gather Data

In this segment of the lesson we will be doing the planning tasks of selecting a topic and gathering data. To do so we will use the media lab, internet searches and materials provided in the classroom to help us find suitable topics. We'll discuss using the worksheet to collect data and the importance of sourcing the data we collect Lets begin with a short exercise and video to help us understand more in depth why visual information can be so useful in communicating ideas.

Read the text below.

Why Illustrations are Important

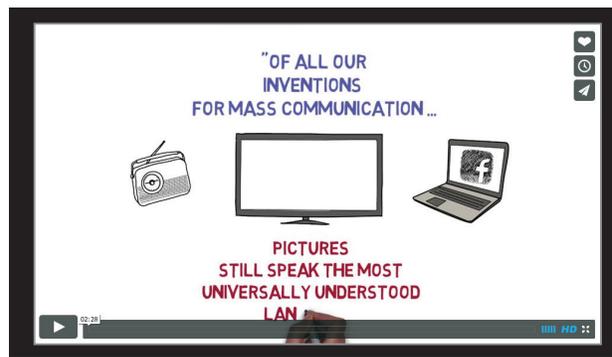
“Of all our inventions for mass communication...pictures still speak the most universally understood language.” *Walt Disney*

How we see and learn can be understood with learning styles. 5% of us learn with experientially, 30% verbally, and 65% visually. 90% of all the information that comes into the brain is visual. Learning improves 400% when visuals are used in classrooms. Illustrations can highlight key concepts and things not easily seen such as the parathyroid glands and the cellular structure of plants.

Our eyes can register 36,000 images and hour, and images are processed 60,000 times faster than text. In a world of stock photos, hand drawings offer unique and interesting perspectives, and are key to many media productions.

Now watch the video.

“Why Illustrations are Important” by Vicky Earle. <http://vimeo.com/96222642>



Discuss: Which has more impact, which is more memorable- the text article or the video?

Inform students that in this segment of the lesson we will be doing the planning tasks of selecting a topic and gathering data. To do so we will use the media lab, internet searches and materials provided in the classroom to help us find suitable topics. Discuss the importance of sourcing the data collect to lend credibility to the final infographic. Let them know a worksheet will be provided to help them collect the data, as well a rubric highlighting the criteria that will be used in the grading of the final project.

Remind students- they should choose a topic that they 1) are interested in or passionate about, 2) can easily collect information about 3) already know something about OR something they want to learn about. It can even be something that correlates with an assignment in another class.

Student Rubrics are on page 11 of their workbooks

Selecting a Topic

Select Topic and Gather Data

Choosing a topic for an infographic is similar to choosing a theme to write about in English class, a subject to research for Science Fair or a book to read for leisure. Thanks to the internet we can find plenty of significant (and insignificant) information on nearly any topic. Here are some general criteria to consider as you select the topic for your infographic. Remember, sometimes simple is better.

You might choose a topic you

- 1) are interested in or passionate about
- 2) can easily collect information about
- 3) already know something about
- 4) something you want to learn about
- 5) can use with an assignment in another class

Try to select a topic that is not too complex, but has enough detail to include:

- 1) 1 major point
- 2) 1 secondary point
- 3) at least 1 instance of supporting data*
- 4) at least 1 eye-catching image*

Infographic Rubric

Directions: Use this rubric as a guide to help you understand what elements are required for successful completion of this lesson. Do you have what it takes to be an Infographic Designer? see pg 11.5

*Full size Rubric on next page for
Instructor reference.* ←

Infographic Topic Ideas You might consider starting with a statement or question, read the ideas below for inspiration, you may use one of these if you want.

- Animal facts
- Personal food consumption
- Daily time use
- Biography
- How to make something
- Where do we spend our money?
- What makes us healthy?
- Breakdown of nutrients in a meal
- Compare favorite vegetables
- Favorite school sports
- Where does energy come from?
- How does a boat sail?

Display full size rubric on whiteboard and discuss with class. Call for questions regarding what is expected.

NOTE: Student Rubric is on page 11 of their workbooks.

<i>Level of Mastery</i>	<i>Time Magazine will be asking for me!</i>	<i>I am getting a handle on this infographic thing!</i>	<i>Back to the drawing board, I need to try this again!</i>
Overall look and design	Complimentary color choices, clean and dynamic layout, proportional balanced layout, matches or improves upon sketch, uses a hand drawn image (25 points)	Reasonable color choices, basic layout, maintains most elements of sketch, no hand drawn images (10-20 points)	Incomplete color application, undeveloped layout, does not match sketch, no images at all. (0-5 points)
Communicates the idea or topic clearly	When compared to the summary, the layout communicates all aspects. (25 points)	When compared to the summary, the layout communicates some aspects, but not all. (10-20 points)	When compared to the summary, the layout does not get the idea across. It lacks information. (0-5 points)
Technical: correct finish size, 2 fonts, 2 colors, large and small elements reflect planned emphasis, images and data have sources listed	Meets and or exceeds all technical requirements. (25 points)	Meets some of the technical requirements. (10-20 points)	Few or none of the technical requirements are met. (0-10 points)
InDesign Document and process is complete: correctly named, layers in tact, scanned at correct resolution and file type	All aspects of the InDesign process are completed as instructed. (25 points)	Some aspects of the InDesign process are completed as instructed. (10-20 points)	Few or none of the InDesign process instructions are evident. (0-10 points)

Ask students to complete the worksheets. Provide 30 minutes to work out image ideas and topic hierarchy. Accelerated students may begin drawing/ planning the images that will be used. Prompt them to fill out the worksheet. Verbally note progress.

Visit each student individually to assess how they are doing as they narrow down choices, select topics, and collect data . Some students may need extra guidance in this step. Suggest supporting data or internet searches as needed.

Observe the students and watch for the worksheets to be filled out. Congratulate them on their progress.

Infographic Worksheet	Select Topic and Gather Data
Use this worksheet to collect everything you need to create the infographic. It is very similar to the practice sheets. Use the internet and or media center resources to find your topic and data. Remember to source all your data, including images. If you wish to use an image from the internet, note it's source and sketch it out in the box.	
My topic is _____	
Major point _____	Image/s I'm considering (draw in the box below)

source _____	
Secondary point _____	

source _____	
Supporting data or statistic _____	

source _____	
Another interesting point _____	

source _____	
Optional additional info _____	

source/s _____	source/s _____

Explain that we will arrange all the elements and by the end of this segment we will each have a rough draft of our infographic. Show them a sketch of an infographic. Explain that this is the product we will be making today. Ask if there are any questions.

Before they begin the worksheet on page 13. Present a slide show of icons. Ask students to call out what each icon stands for. Discuss how icons are essentially mini infographics- they communicate meaning with visual data. Talk about the use of color in icons and signs. Yellow and Black for warning, Green for park signage, Red for stop... etc. Briefly discuss fonts. How some are loud, some are quiet and how they convey style and meaning. Pass out the paper and colored pencils that will be used to make their infographic sketch. Ask them to transform the data they have collected into an infographic design. Discuss hierarchy of information, proportion, and intended audience.

Part 3 - Plan and Design a Rough Draft

Now for the fun part! The research is done and it's time to put it all together. Think about your audience, choose a style, colors, fonts, and general layout for the infographic. The goal is a rough draft sketch of your infographic. If you have any questions, be sure to ask.

My audience is (Describe your audience, age, gender, group characteristics etc. It could be everyone.)



2 colors that suit my topic are

and

Remember to apply what you know about the color wheel and complimentary colors.



2 fonts that will work my infographic are (Circle only 2, one headline font and one body font below.)
Is your topic casual or serious? Consider the feeling or mood a font conveys. Apply what you know about fonts.

HEADLINE FONTS

ROSEWOOD
STENCIL

Times Bold
Noteworthy

Cooper
Helvetica Bold

BODY FONTS

Helvetica Regular Times Regular Arial Avant Garde

Alternatively, you may choose your own fonts _____

... and now for the transformation!

Use the next sheet in the workbook to bring it all together. Use this sheet and the infographic worksheet (pg 11) to create your rough draft. Mock up the fonts for now, you will add them later when you convert your sketch to digital format. Sketch the infographic out using colored pencils in the 2 colors you've chosen. Remember: hierarchy of information, proportion, intended audience, and space at the bottom for credits in small print.

Feel free to use additional paper for planning.
Ask questions if you need more information.
Review the Rubric on (pg 10) before you begin.



remember to **site sources** for all
borrowed images and data

Relate the students' ability to draw and communicate using visuals with their prior knowledge and ability to draw. Remind them that they have been drawing since they first learned to hold a crayon. Note the skills they have learned in art class and discuss how we will be merging artistic skills with data and information. Connect the meaning of the root words INFO and GRAPHIC.

Ask students to look at their data and 1) determine their main statement or compelling headline. 2) find something within their data to illustrate with icon, or simple drawing. 3) find 2-4 key supporting points to illustrate or write. 4) establish a concluding statement if applicable. Ask students to arrange the images and text in an eye-catching way using only 2 colors if possible. If more tones are needed for charts etc. they may use tints of the 2 colors and black. Remind them to select colors with significant contrast since text will need to be dark enough to be legible. Ask where they think the sources should be included.

Remind students although there are no wrong answers- the time and thought that is given to the design will be evident in the final product. Their aim should be to communicate their idea visually.

Offer consistent assistance as they work through the design phase.

Ensure equitable assessment by referencing and reading aloud the infographic rubric as they work on their designs. Ask students use the rubric a check sheet to aim for the highest points in each category. Observe the rubric being used by the students.

Create your "final" rough draft on this page

(Blank Page 14 in student workbook)

Explain the process of transforming their sketch into a finished digital infographic- steps 1-8 on page 15 of the workbook.

*Present the TEDtalk *The Beauty of Data Visualization* by David McCandless. Ask students to discuss what it takes to be a designer. Explore their thinking and encourage them to abandon stereotypes of being good at art vs. being an observant creative thinker. Creative thinking is different than being artistically inclined. Both skills are worth expanding. Show a slide show of exemplary student infographics from previous classes. Also show the before sketches next to the finished infographics as a segway to today's lesson.*

Part 4 - Execute the Digital Layout

In this segment of the lesson you will turn your sketch into a finished digital infographic rendered in Adobe InDesign. This will involve:

- 1) scanning and placing the sketch for reference
- 2) creating a new document (page)
- 3) establishing layers in the document
- 4) using drawing tools to render a graphic/icon/ drawing
- 5) typing the headers and selecting fonts
- 6) setting up colors in the color palette
- 7) arranging elements on the page
- 8) saving and printing the final document

On the following page you will find a Digital Layout Check Sheet to help guide you through the steps in the process.

These steps will require you to call on skills you have learned in previous lessons. Please ask questions if you need assistance. Use what you know about the proper naming of files, how and where to save files, and formats used for scanning graphics.

What does it take to be a designer anyway?

Ponder this: Do you have to be a fantastic artist and have the ability to draw realistically to be a designer? We've all heard people say- "I can't draw a stick figure!" Right? Do those that don't like to draw have to steer clear of design careers? What other stereotypes can you think of that keep people from pursuing their dreams?

Watch this TEDTalk video

"The Beauty of Data Visualization" by David McCandless.
http://www.ted.com/talks/david_mccandless_the_beauty_of_data_visualization#t-1481



Discuss: Is good design more about being an observant person, a creative thinker, or an artist? How is being a creative thinker different than being artistically inclined?

Additional Notes for Part 4 - Executing the Digital Layout

Evoke previous lessons where students have used this same group of skills. Remind the students that this lesson brings together many skills they already have. Ask students pointed questions about proper naming of files, how and where to save files, and formats used for scanning graphics. Ask “if then questions” i.e., “If you want to move an element, (then) what tool do you use?”, “If you want to define a color, (then) what palette do you need?”, “If you need to define your page size, (then) where do you do that?” enlarge the Digital Layout Check sheet on the board for all to see. (next page- Page 16 of the student workbooks)

Alternatively create and play a video of the demo with instructor voice over created by using a prerecorded screen capture program such as Jing or Camtasia Studio.

To accommodate various levels of skill, offer opportunities for independent work or guided assistance. Demonstrate skills when necessary.

Show more samples on the board include classic infographics they are very familiar with such as the periodic table and the food pyramid. Remind them that these famous infographics began as a idea and then a sketch and that maybe one day they too will design a world famous infographic. Demonstrate the steps that will be needed to complete the infographic.

Assign students to their numbered computer stations. Ask half the class to begin scanning while the other half sets up the documents and names their folders. Depending on the learners and the context, it may work well to pair students into mentoring situations (a more advanced student with a less advanced students to encourage “sharing what we know.”

Make sure all students have the basics completed (the file set up, correct dimensions, named, saved, palettes, tools, etc.) Refer to notes/tips at each station. Encourage creative freedom, off-center layouts, dramatic scaling, to enhance the design. Reiterate drawing tool fundamentals and use of tints for more color range. Demonstrate skills when necessary.

Once basics are accomplished, allow plenty of time to develop the designs. Students will be working at different speeds depending on their technical aptitude.

Walk around to each station to ask how the process is going. Provide immediate assistance and answers where needed. If repetitive questions arise, address the entire class. This helps students know they are not alone in their hesitation with certain tasks.

Note attitude skills which are more apparent here as students work confidently toward the goal or begin struggle with the technology. The rubric will be used to asses the final product.

Digital Layout Check Sheet

The goal is to make a polished, digital version from your infographic sketch.

Go to your assigned computer station and confirm your access to the following tools.

A computer, a mouse, Adobe InDesign, connection to a flatbed scanner, connection to a color printer

Create finished design by following these steps.

You do not have to do them in this exact order, but check them off as you complete them.

- Place sketch on scanner and save as color jpeg at 150 dpi.
If a hand drawn image will be used in final, it should be scanned at 300 dpi.
- Open a new InDesign document (dimensions 12 x 18 with 2 inch margins),
and save document as "firstname_lastname_infog1"
- Open your document, create 2 layers. Name the top layer 1 "infographic"
and bottom layer 2 "scan"
- Place the jpeg scan onto bottom layer, size it to fit the page, then lock layer.
- Render images with drawing tools or place selected images into the layout. Scale as necessary.
- Type header, key points, supporting data
- Type and place credits in 8pt Helvetica (regardless of the 2 fonts you have chosen) along the bottom
with commas to separate credits. You do not need to specify what credit goes to what data or image
for this lesson.
- Select your 2 colors and place them in swatches
- Colorize the text and elements as you like using the 2 colors. If both of your colors are light you may
use black for small text.
- Remove all other unused colors from the swatch palette
- Select and incorporate only 2 fonts into your design
- Arrange elements, to match or improve upon the original sketch. You may add linear elements,
boxes, shapes, reverse text etc.
- Turn off the visibility of the "scan" layer as you need to check your progress and to finalize the
arrangement. Layer should be turned off to submit work.
- Review the Rubric on page 10 and revise you design if necessary.
- Print your final infographic design in color and hang on the gallery wall at the front of the class.

Success is yours! You have completed the lesson!

Finishing Up

Reflect on the learning through discussion and critique of the final infographics. Post all finished work on the “gallery” wall and encourage students to mingle and share successes and struggles.

Remind students to use their new visual communication skills in other classes to enhance presentations and foster communications. Encourage the students to practice, practice, and practice the skills to develop mastery and improve visual literacy.

Post-instructional Assessments

Students will demonstrate their mastery of the skills with their presentation of the final infographic. This infographic is the product of their learning and will be assessed and evaluated with the aid of a rubric. The rubric is final assessment instrument used by the instructor. The process of creating the infographic is of equal importance to the final work as it teaches a process for creating future infographics. Their mastery of the process will be assessed with the post-instructional assessment and by observation as they work. Data from the post-test will help the instructor design additional units of instruction for specific subordinate skills if needed.

The Digital Layout Check Sheet can act as an assessment tool, as well as the checksheet on the following page.

All Assessment tools are found at the back of this manual.

Follow Through

Teachers and instructors outside of this classroom should be made aware of this instructional unit in an effort to expand the learning across curriculum. Rewarding the new skills and calling upon them in performance contexts outside the learning context is key to transferring the knowledge.

Repetition of similar tasks within new lessons will promote mastery of the skills and future projects will also build upon these skills.

Periodically throughout the year, students will be awarded extra points to bring samples from other classes to share how they have applied their visual communication skills in other academic classes or extracurricular activities.

Optional Lesson Reflection

Now that you have finished the *Designing an Infographic* lesson, please take a moment to review and critique the lesson itself. Your input is valuable as it will help the instructor make improvements for future lessons.

What changes could help this lesson be more successful?

Is there anything you would add to the lesson?

Is there anything you might remove from the lesson?

Was the language easy to follow?

Were the activities relative to your life?

Do you have any additional suggestions or comments?

Assessment Tools

Appendix A

Prerequisite Assessment

Directions to Instructor:

This Prerequisite Assessment is given as 3 separate Quizzes to identify the student's ability to:

- Identify major points and summarize information
- Sketch ideas with pencil and paper
- Perform basic layout using Adobe InDesign software

Make yourself available for the full term of the 3-part assessment to answer any questions that may arise.

Verbal Directions to Students:

This quiz will refresh your memory of skills you have previously learned and allow you to practice the skills required to build your own infographic. This is a 3-part Infographic Preparation Quiz. Simply follow along as instructed. Full written instructions are stated at the top of each page, should you need them. Your instruction will let you know how much time may be spent on each section. Before starting each part, place your name and today's date at the top of the page. Parts 1 and 2 will be completed at your desks with paper and pencil. Part 3 will be completed at your assigned computer work station. Please raise your hand to ask questions if you do not understand any part of this quiz.

Infographic Preparation Quiz - Part One - The instructor provides the worksheet, and a pencil. Read aloud the instructions at the top of the page. Ask if there are any questions. Give the students 20 minutes to complete the task. This instruction could be converted to a digital quiz if that is more suitable to the teaching environment.

Identify major points and summarize information

This worksheet has 3 text articles on the left side with area to write the major point, the secondary point and a supporting data or statistic in the space provided on the right.

Infographic Preparation Quiz - Part Two -The instructor provides the worksheet, and a pencil. Read aloud the instructions at the top of the page. Ask if there are any questions. Give the students 20 minutes to complete the task. This portion of the quiz requires hand rendering and should be demonstrated by the teacher.

Sketch ideas with pencil and paper

This worksheet has 3 concepts and space to render a simple drawing that represents the idea. Students are asked to not use words if possible, although in some cases a few words may be needed to communicate the concept. Students are asked to use their best judgment, but limit the use of words to 4 for each concept. They are asked to label the drawings to correspond to the concept.

Infographic Preparation Quiz - Part Three -The instructor provides the sample, and a computer station which includes: a computer, a mouse, and InDesign software. Read aloud the instructions at the top of the page. Ask if there are any questions. Give the students 30 minutes to complete the task. This portion of the quiz requires basic layout skills in Adobe InDesign. Some students may need more time to complete the task, depending on their skill level. When finished ask students to save the document as lastnameFirstname3.indd and save it to the class folder on the desktop.

Perform basic layout using Adobe InDesign software

This part of the assessment requires students to use InDesign to create a one-page document that looks like the layout provided. Students will use the tools they are familiar with to choose the colors, fonts, and simple shapes necessary to look similar to this sample. When finished they are asked to print the document, then save the document as lastname-Firstname3.indd and place it inside the class folder on the desktop. They are reminded to save at the beginning middle and end of your work session. Students are instructed to staple their printout to the sample sheet before submitting.

Identify major points and summarize information

For each article below write the major point, the secondary point and a supporting data or statistic in the space provided.

There are eight planets in the Solar System, and each one is very different. Some planets, like Jupiter and Saturn are very large. Others, like Mercury and Mars are smaller. Jupiter has moons that are larger than Mercury. The planets also have different atmospheres. Uranus, Jupiter and Saturn have atmospheres of hydrogen and helium. The atmosphere on Venus is made up of carbon dioxide. Earth has a nitrogen and oxygen atmosphere. Neptune's atmosphere is mostly hydrogen. The planets also have different temperatures. Uranus is the coldest and Venus is the hottest.

Major point _____

Secondary point _____

Supporting data or statistic _____

The Constitution of the U.S. has been amended several times to allow more citizens the right to vote. The 15th Amendment, ratified in 1870, extended voting rights to former slaves. The 19th Amendment, ratified in 1920, gave women the right to vote. In 1971, the 26th Amendment granted voting rights to those 18 years and older, changing the requirement that voters must be 21 years old.

Major point _____

Secondary point _____

Supporting data or statistic _____

Three major movements in the history of art are Medieval, Renaissance and Modern. The Medieval period, which encompasses the time from around 600 AD into the 14th century, is predominately religious in nature. Objects are not portrayed realistically, but as simple flat images. During the Renaissance period, beginning in the late 14th century and continuing into the 16th century, artists developed a more realistic style. Renaissance artists also discovered the use of perspective, which brought a three dimensional feeling to two dimensional artwork. Prominent artists of this time were Leonardo da Vinci and Jan van Eyck. Modern art, which encompasses the Impressionist and Cubist movements, began in the late 19th century and through the 20th century. Rather than focusing on realism, artists explored the use of light, movement and color. Modern artists include Pablo Picasso, Claude Monet and Vincent van Gogh.

Major point _____

Secondary point _____

Supporting data or statistic _____

Sketch ideas with pencil and paper

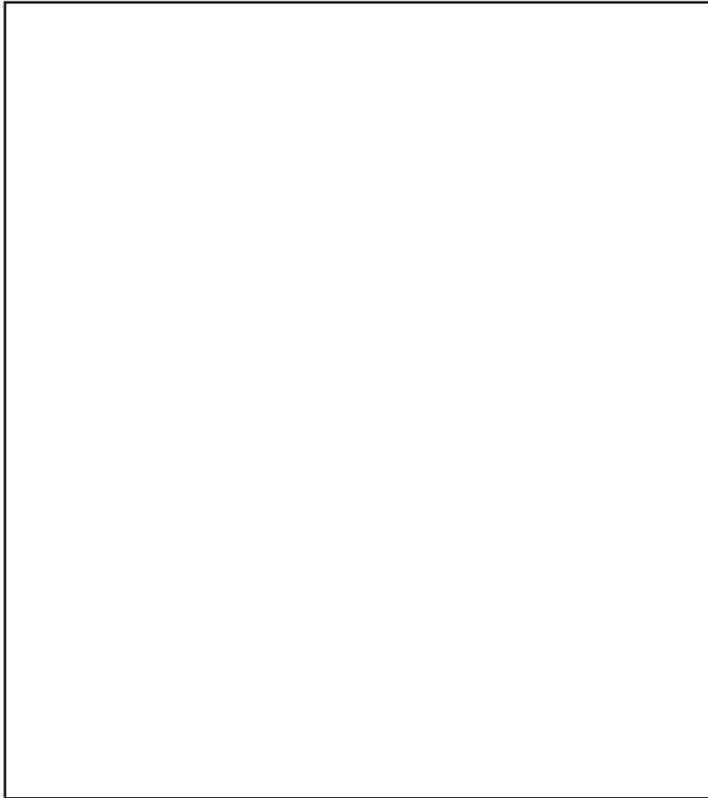
For each concept below draw a simple drawing that represents the idea in the box provided. When possible, do not use words. In some cases a few words may be needed to communicate the concept use your best judgment, but limit the use of words to 4-6. Use any of the boxes for any of the concepts. Label them correspondingly.

Concept 1: Unt aut aut acipsae cus eatur

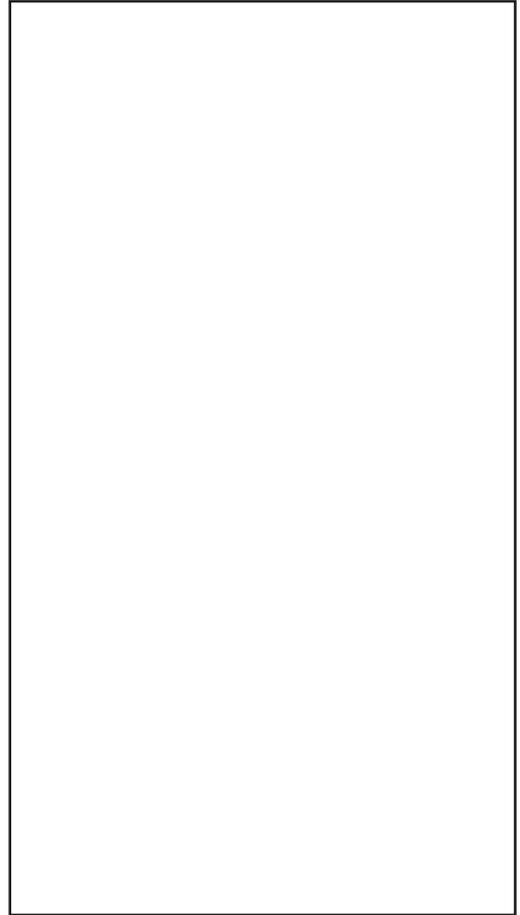
Concept 2: Unt aut aut acipsae cus eatur

Concept 3: Unt aut aut acipsae cus eatur

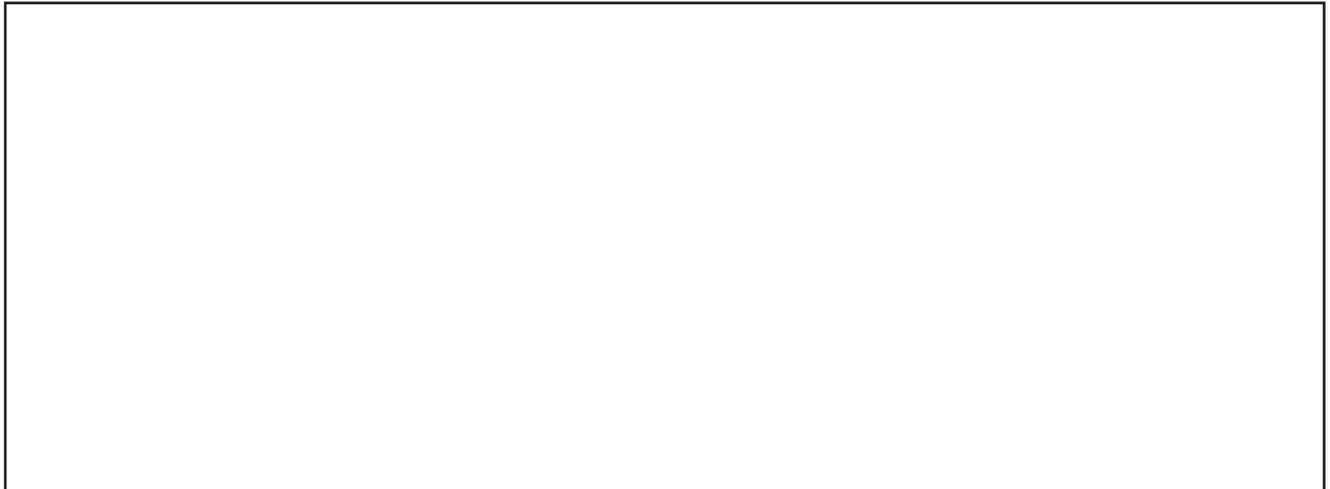
Concept ____



Concept ____



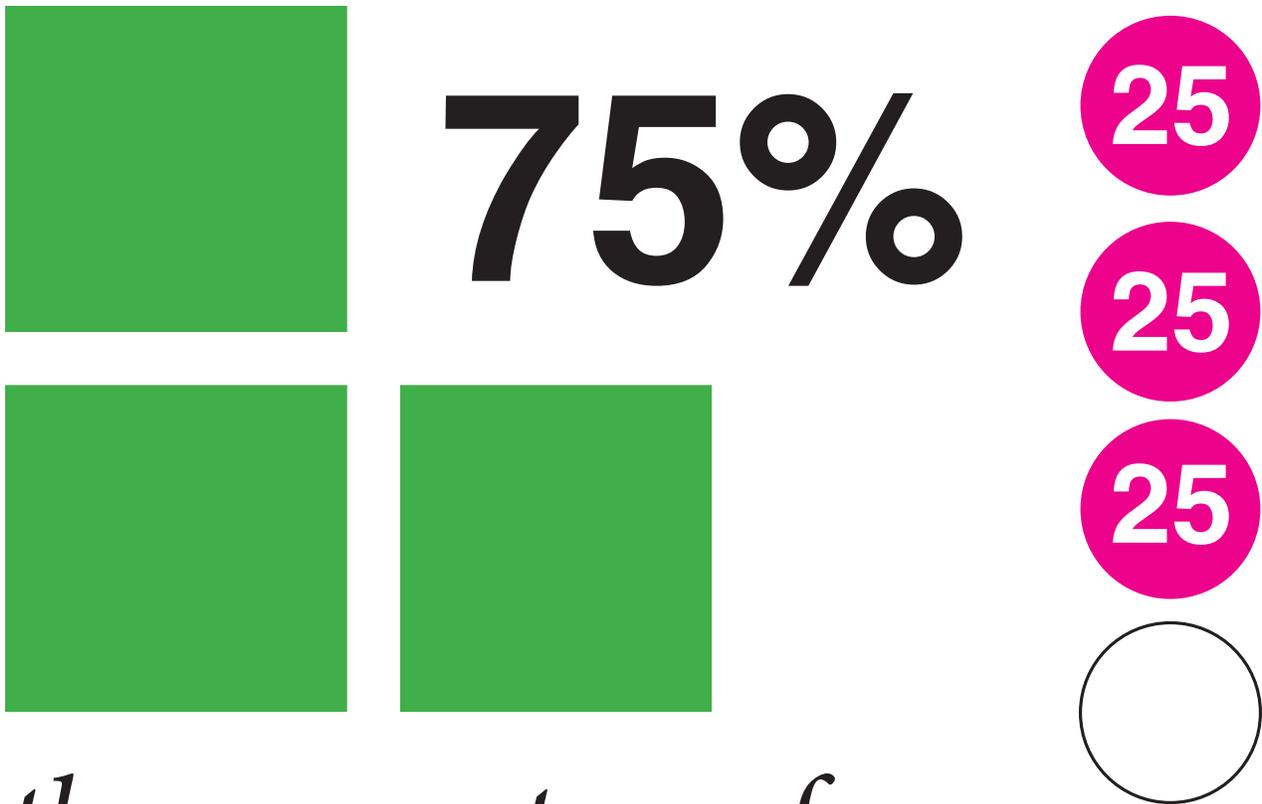
Concept ____



Perform basic layout using Adobe InDesign software

Using InDesign to create a one-page document that looks like the layout below. Use the appropriate tools, colors, and fonts, necessary to look similar to this sample. When you are finished print then save the document as lastnameFirstname3.indd and save it to the class folder on the desktop. Remember to save at the beginning middle and end of your work session. Staple your printout to this sheet before submitting.

Seventy Five Percent



three quarters of a ...

whole

Grading the Prerequisite Assessment:

The 3 part Infographic Preparation Quiz will be graded as follows:

Part One: Identify major points and summarize information

Check if present. Answers may vary slightly as short answer format, but should be clear statements reflecting topic at left.

- Article one has a clear statement of major point
- Article one has a clear statement of secondary point
- Article one has a clear statement of supporting data or statistic

- Article two has a clear statement of major point
- Article two has a clear statement of secondary point
- Article two has a clear statement of supporting data or statistic

- Article three has a clear statement of major point
- Article three has a clear statement of secondary point
- Article three has a clear statement of supporting data or statistic
- Name and date are at top

Part Two: Sketch Ideas with paper and pencil

Check if present. Drawing should be simple and represent the corresponding concept, using no words or fewer than 6.

- Concept one is represented with some drawing present
- Concept one has 6 words or less

- Concept two is represented with some drawing present
- Concept two has 6 words or less

- Concept three is represented with some drawing present
- Concept three has 6 words or less
- Name and date are at top

Part Three: Perform basic layout using Adobe InDesign Software

Check if true. Drawing should be simple and represent the corresponding concept, using 0-6 words.

- Colors match sample
- Shapes match sample
- San serif font is san serif
- Serif font is serif
- Fonts are scaled to match sample
- Shapes are scaled to match sample
- White font is layered correctly (on top of the pink circle)
- Evidence of correct use of copy and paste/ repeat shapes are identical
- Horizontal rules are present and equal in length
- Line weight of horizontal rules match sample
- Student sample is submitted stapled below the sample sheet
- Name and date are at top

Pre-instructional Assessment

Directions to Instructor:

This Pre-Instructional Assessment incorporates several types of assessment tools designed to discover if students are already able to design effective infographics. This assessment is to be used as a checklist to be completed through careful observation and collection and review of the assignments by the instructor. This information will help the instructor decide if this is the right time for this lesson to be delivered to this group of students. If the students complete this assessment with ease, it may be decided that the students do not need this lesson.

Students will need each need a pencil and a copy of the assessment. A portion of the assessment will require an assigned computer work station. Instructor must make themselves available for the full term of this assessment to answer any questions that may arise.

Objective 1. Identify infographics used in media - Given magazines, samples, and featured websites, students will identify and categorize infographics used in media communications.

- ___ Students will find at least 1 infographic that represents each of 4 provided categories
- ___ Students will write a one-sentence primary theme for each of 4 infographics
- ___ Students will select and write down which infographics best communicate an idea

Objective 2. Select a topic from which to build an infographic - Given a list of topics, students will either choose from the list of topics or generate their own topic for an infographic.

- ___ Students will skim read text-only topics to find a topic for their infographic
- ___ Students will select and write down a topic for creating an info graphic
- ___ Students will highlight at least 4 and no more than 6 key points to emphasize

Objective 3. Determine data that supports topic - Given access to appropriate research tools, media center materials, computer, internet connection and their chosen topic, students will locate data that can be used in the infographic. Students will have 40 minutes to collect the data.

- ___ Students will write a brief summary of the infographic, one sentence for each of the key highlighted points
- ___ Students will will perform an internet search to locate 2 statistics that support their topic. Alternatively they may use a traditional media center resource to research their topic.
- ___ Students will select one or two key image/s to support their topic. Alternatively they may draw their own image.

Objective 4. Choose an overall look/style for the infographic - Given the samples available in the classroom, a color wheel, colored pencils and paper, and their chosen topic, students will decide on an overall look for their info graphic

- ___ Students will write down the intended audience for whom they are creating this info graphic
- ___ Students will choose 2 colors to use in the final info graphic
- ___ Students will select 2 fonts that express a style suitable for their audience (from a chart of 15)

Objective 5. Sketch infographic with colored pencils - Given their topic, blank paper, colored pencils and samples to refer to, students will sketch out a layout for their infographic, keeping in mind, final sketch should fill 10 x16 area of 12 x 18 sheet.

- _____ Students will draw 2 charts or images that visually describe their 2 of their 4-6 key points
- _____ Students will write down what 1 element will be emphasized above all others
- _____ Student will write compelling header/title, 2 key data points, and conclusion statement for infographic
- _____ Students will organize and finalize the elements for a visually effective layout
- _____ Students will arrange: 1 header, 4-6 key points, 2 charts, images, or drawings, and 1 concluding point

Objective 6. Create finished design using Adobe InDesign - Given a computer, a mouse, InDesign, access to a flatbed scanner, access to a color printer (here forward referred to as a station), and their finalized drawing, students will create finished design

- _____ Student will make a digital version of their info graphic sketch
- _____ Students will place sketch on scanner and save as color jpeg at 150 dpi.
If a drawn image will be used in final, it should be scanned at 300 dpi.
- _____ Student will open a new InDesign document (dimensions 12 x 18 with 2 inch margins), and save document as "firstname_lastname_infog1"
- _____ Student open their document, create 2 layers They will name top layer 1 "infographic" and bottom layer 2 "scan"
- _____ Student will place the jpeg scan onto bottom layer, then lock layer.
- _____ Student will render images with drawing tools or place selected images into layout
- _____ Student will type header, key points, and conclusion
- _____ Student will select their 2 colors and place them in swatches
- _____ Student will remove all other colors from the swatch palette
- _____ Student will select and incorporate only 2 fonts
- _____ Student will arrange elements, to match or improve upon sketch
- _____ Student will turn off the visibility of the "scan" layer to finalize arrangement
- _____ Student will print final infographic design in color

Post-instructional Assessments

Directions to Instructor:

This Post-Instructional Assessment incorporates several types of assessment tools designed to mirror the Pre-Instructional Assessment. This assessment is to be used as a checklist to be completed through careful observation and collection and review of the assignments by the instructor. The checklist will assess overall performance of the skills and tasks, whereas the rubric will be used to assess quality of work and depth of understanding. The rubric assigns points for specific levels of mastery and will be important tool for allotting the credit needed for successful completion of the lesson.

Students will need the materials as outlined in the objectives and a copy of the assessment. A portion of the assessment will require an assigned computer work station. Instructor must make themselves available for the full term of this assessment to answer any questions that may arise.

Objective 1. Identify infographics used in media - Given magazines, samples, and featured websites, students will identify and categorize infographics used in media communications.

- _____ Students will find at least 1 infographic that represents each of 4 provided categories
- _____ Students will write a one-sentence primary theme for each of 4 infographics
- _____ Students will select and write down which infographics best communicate an idea

Objective 2. Select a topic from which to build an infographic - Given a list of topics, students will either choose from the list of topics or generate their own topic for an infographic.

- _____ Students will skim read text-only topics to find a topic for their infographic
- _____ Students will select and write down a topic for creating an info graphic
- _____ Students will highlight at least 4 and no more than 6 key points to emphasize

Objective 3. Determine data that supports topic - Given access to appropriate research tools, media center materials, computer, internet connection and their chosen topic, students will locate data that can be used in the infographic. Students will have 40 minutes to collect the data.

- _____ Students will write a brief summary of the infographic, one sentence for each of the key highlighted points
- _____ Students will will perform an internet search to locate 2 statistics that support their topic. Alternatively they may use a traditional media center resource to research their topic.
- _____ Students will select one or two key image/s to support their topic. Alternatively they may draw their own image.

Objective 4. Choose an overall look/style for the infographic - Given the samples available in the classroom, a color wheel, colored pencils and paper, and their chosen topic, students will decide on an overall look for their info graphic

- _____ Students will write down the intended audience for whom they are creating this info graphic
- _____ Students will choose 2 colors to use in the final info graphic
- _____ Students will select 2 fonts that express a style suitable for their audience (from a chart of 15)

Objective 5. Sketch infographic with colored pencils - Given their topic, blank paper, colored pencils and samples to refer to, students will sketch out a layout for their infographic, keeping in mind, final sketch should fill 10 x16 area of 12 x 18 sheet.

- _____ Students will draw 2 charts or images that visually describe their 2 of their 4-6 key points
- _____ Students will write down what 1 element will be emphasized above all others
- _____ Student will write compelling header/title, 2 key data points, and conclusion statement for infographic
- _____ Students will organize and finalize the elements for a visually effective layout
- _____ Students will arrange: 1 header, 4-6 key points, 2 charts, images, or drawings, and 1 concluding point

Objective 6. Create finished design using Adobe InDesign - Given a computer, a mouse, InDesign, access to a flatbed scanner, access to a color printer (here forward referred to as a station), and their finalized drawing, students will create finished design

- _____ Student will make a digital version of their info graphic sketch
- _____ Students will place sketch on scanner and save as color jpeg at 150 dpi.
If a drawn image will be used in final, it should be scanned at 300 dpi.
- _____ Student will open a new InDesign document (dimensions 12 x 18 with 2 inch margins), and save document as “firstname_lastname_infog1”
- _____ Student open their document, create 2 layers They will name top layer 1 “infographic” and bottom layer 2 “scan”
- _____ Student will place the jpeg scan onto bottom layer, then lock layer.
- _____ Student will render images with drawing tools or place selected images into layout
- _____ Student will type header, key points, and conclusion
- _____ Student will select their 2 colors and place them in swatches
- _____ Student will remove all other colors from the swatch palette
- _____ Student will select and incorporate only 2 fonts
- _____ Student will arrange elements, to match or improve upon sketch
- _____ Student will turn off the visibility of the “scan” layer to finalize arrangement
- _____ Student will print final infographic design in color

- _____ Student will print final infographic design in color

Rubric

This rubric will be provided to the students early in the lesson to be used as a guide for what is required for successful completion of the terminal objective. This assessment instrument will also be used as a tool for grading and to measure the students' ultimate mastery of the skills. Scores range from 0-100 (points as noted).

Level of Mastery	Time Magazine will be asking for me!	I am getting a handle on this infographic thing!	Back to the drawing board, I need to try this again!
Overall look and design	Complimentary color choices, clean and dynamic layout, proportional balanced layout, matches or improves upon sketch, uses a hand drawn image (25 points)	Reasonable color choices, basic layout, maintains most elements of sketch, no hand drawn images (10-20 points)	Incomplete color application, undeveloped layout, does not match sketch, no images at all. (0-5 points)
Communicates the idea or topic clearly	When compared to the summary, the layout communicates all aspects. (25 points)	When compared to the summary, the layout communicates some aspects, but not all. (10-20 points)	When compared to the summary, the layout does not get the idea across. It lacks information. (0-5 points)
Technical: correct finish size, 2 fonts, 2 colors, large and small elements reflect planned emphasis, images and data have sources listed	Meets and or exceeds all technical requirements. (25 points)	Meets some of the technical requirements. (10-20 points)	Few or none of the technical requirements are met. (0-10 points)
InDesign Document and process is complete: correctly named, layers in tact, scanned at correct resolution and file type	All aspects of the InDesign process are completed as instructed. (25 points)	Some aspects of the InDesign process are completed as instructed. (10-20 points)	Few or none of the InDesign process instructions are evident. (0-10 points)

