COM310-902
Instructor: Hana Park

Chapter 8

Creating Graphics

Overview

The functions of graphics

Understanding the process of creating graphics

Using color effectively

Choosing the appropriate kind of graphic

Creating effective graphics for multicultural readers

Graphics have five primary roles:

Capturing the reader's attention and stimulating interest.

Facilitating the communication of complex information.

Assisting authors in clarifying and emphasizing certain information.

Aiding nonnative English speakers in understanding the conveyed information.

Allowing authors to reach diverse audiences, accommodating differing interests, comprehension levels, and reading habits.

Graphics can provide five unique advantages over text:

1. They are essential in illustrating **logical and numerical relationships**.
2. They can more effectively convey **spatial information**.
3. They can more clearly detail the steps in a process.
4. They can **save space** with a document.
5. They can reduce costs of documents intended for an international readers.

An **impactful graphic** exhibits five qualities:

- It fulfills a defined purpose.
- It is simple and uncluttered.
- It delivers a manageable amount of information.
- It aligns with the readers' formatting expectations.
- It is clearly labeled.

The **graphic creation process** encompasses four stages:

1. Planning
2. Producing
3. Revising
4. Citing sources

When **planning your graphics**, consider the following:

- The target **audience**
- The intended **purpose** of both the graphic and the document
- The **type of information** you aim to communicate
- The **conditions** under which the document will be read
- **Time** constraints
- **Budgetary** considerations
- Available **equipment**
- Your level of **expertise**

Here are six recommendations to ensure **honest data representation in graphics**:

1. Cite your source and obtain the necessary permissions.
2. Include all relevant data.
3. Begin your graphic axes at zero, or clearly mark them if otherwise.
4. Do not use tables to obscure data points that would be more apparent in a graph.
5. Represent items accurately.
6. Avoid misrepresenting an item's significance with color or shading.

When **producing graphics**, you can choose one of four methods:

1. Utilize existing graphics
2. Modify pre-existing graphics
3. Create new graphics digitally
4. Commission someone else to create the graphics

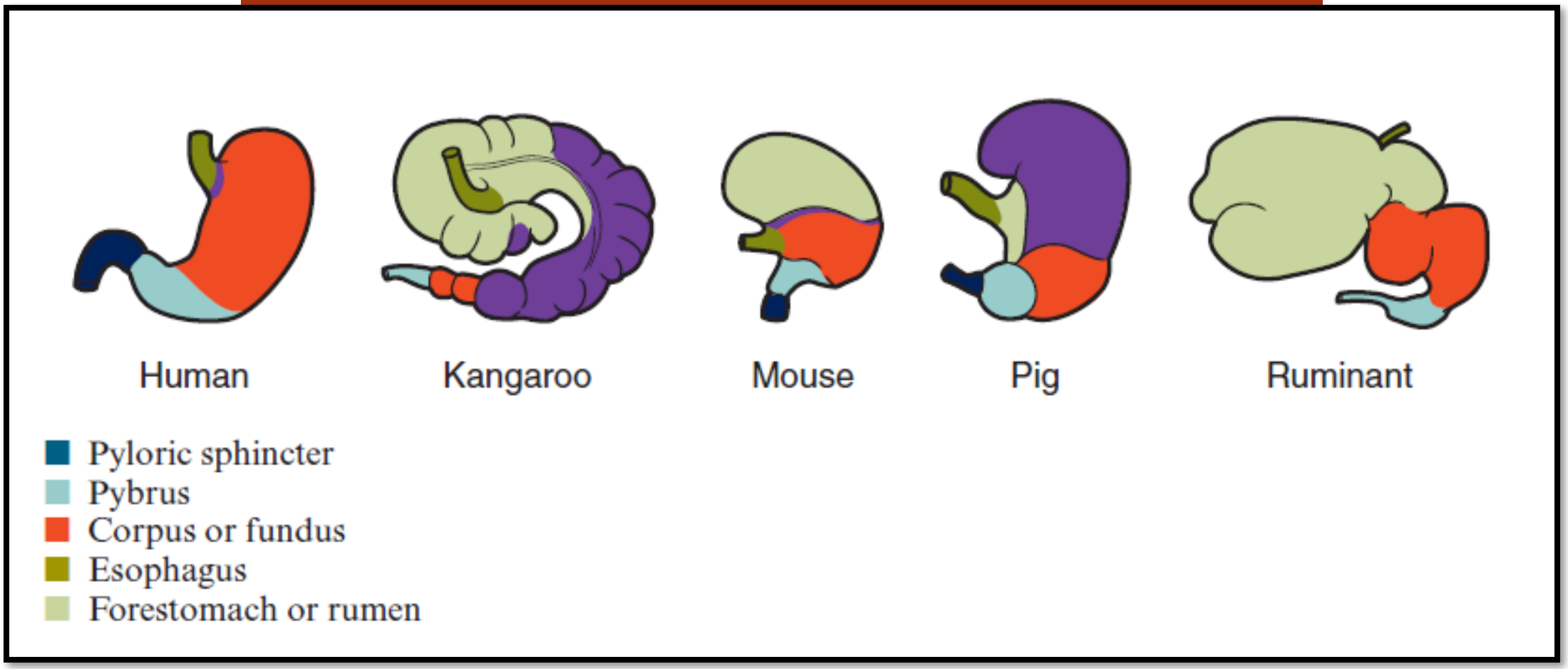
For effective **integration of graphics and text**, follow these five guidelines:

1. Place the graphic suitably within the text.
2. Introduce the graphic in the accompanying text.
3. Provide an explanation for the graphic within the text.
4. Ensure the graphic is easily visible.
5. Ensure the graphic is accessible to all users.

When using **color**, follow these tips for maximize effectiveness:

- Avoid excessive use of color.
- Use color to highlight specific items.
- Use color to establish patterns.
- Use contrast effectively.
- Leverage any pre-existing symbolic meanings of colors.
- Be aware that color usage can potentially make text less readable.

Use color to establish patterns



Use color to create effective contrast

The text is hard to read because of insufficient contrast.

Effective contrast makes the text easier to read.

Choosing the right graphic is contingent on the information being illustrated:

- Numerical information
- Logical relationships
- Process descriptions and instructions
- Visual and spatial characteristics

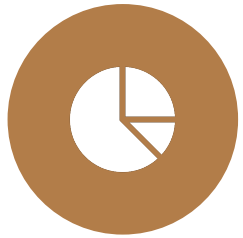
Numerical data can be effectively illustrated using five types of graphics:

Tables

Bar graphs

Infographics

Line graphs



Pie charts

Table

Natural Gas Plant Stocks

(Thousand Barrels)

Area: U.S. **Period:** Monthly

Download Series History | Definitions, Sources & Notes

Show Data By: Product / Area	Graph / Clear	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	View History
Natural Gas Liquids		5,047	4,828	4,550	4,787	5,625	5,419	1993-2013
Pentanes Plus		492	383	462	553	675	787	1993-2013
Liquefied Petroleum Gases		4,555	4,445	4,088	4,234	4,950	4,632	1993-2013
Ethane		672	837	871	812	1,212	822	1993-2013
Propane		1,998	1,944	1,655	1,702	2,126	2,098	1993-2013
Normal Butane		1,207	907	864	830	757	936	1993-2013
Isobutane		678	757	698	890	855	776	1993-2013

- = No Data Reported; -- = Not Applicable; **NA** = Not Available; **W** = Withheld to avoid disclosure of individual company data.

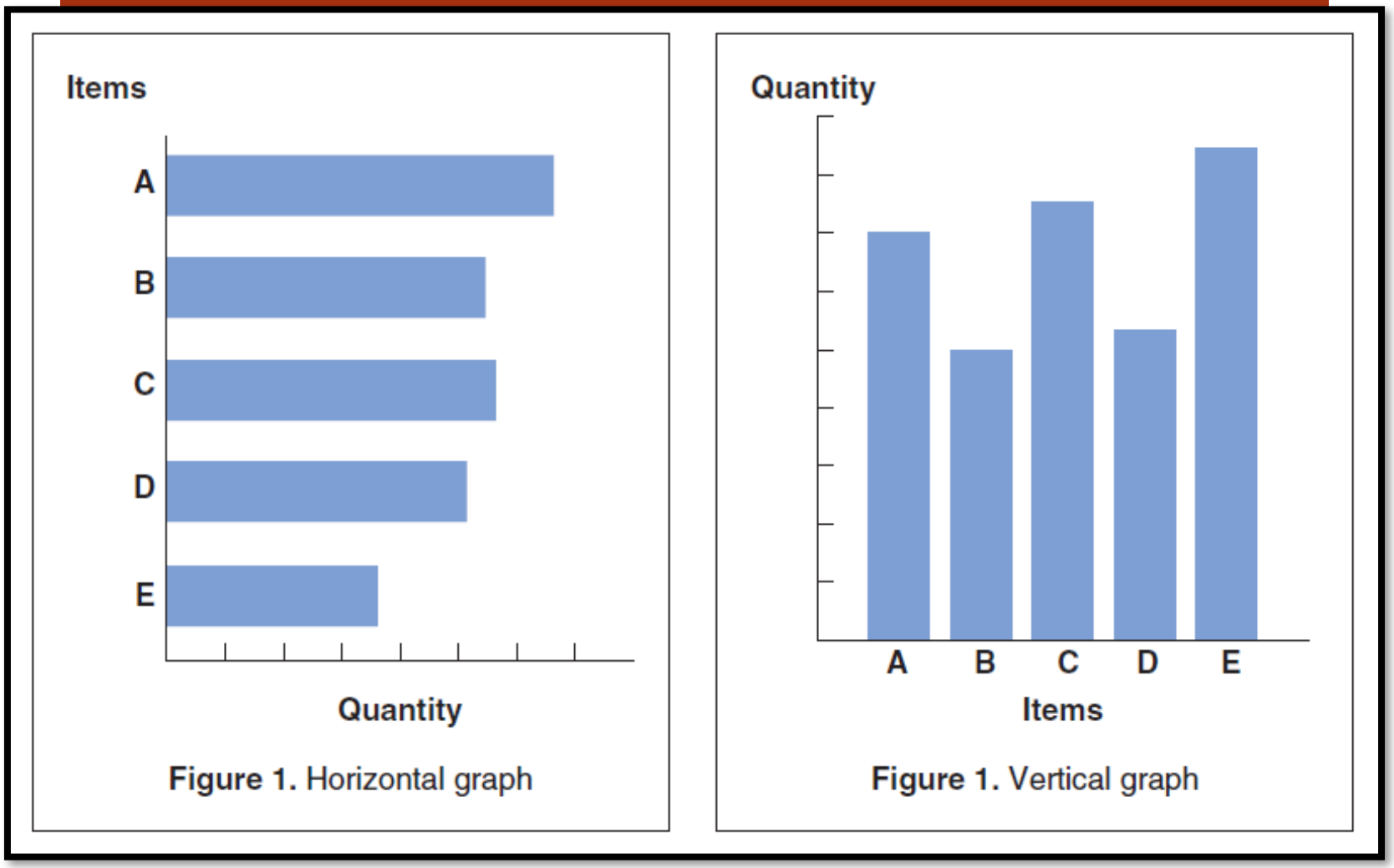
Notes: See Definitions, Sources, and Notes link above for more information on this table.

Release Date: 6/27/2013
Next Release Date: Last Week of July 2013

Follow these nine guidelines for creating a functional **table**:

1. Specify the units of measurement.
2. Use the stub (the left-hand column) to list items for comparison.
3. Arrange data in a clear and logical manner in columns.
4. Perform any necessary calculation.
5. Use dot leaders to fill any “blank” spots in columns where data isn’t applicable.
6. Keep the table’s width to a minimum necessary size.
7. Limit the use of horizontal or vertical lines (rules).
8. Include footnotes if required for clarification.
9. Credit the source of your information if you didn’t generate it yourself.

Horizontal / Vertical Bar Graphs



Follow these six guidelines for creating impactful **bar graphs**:

1. Maintain fair proportions.
2. Start the quantity scale at zero if possible.
3. Use tick marks along the axis to denote quantities.
4. Arrange bars in a logical order.
5. Place the title below the figure.
6. Indicate the source of your information if it isn't self-generated.

Effective Bar Graph

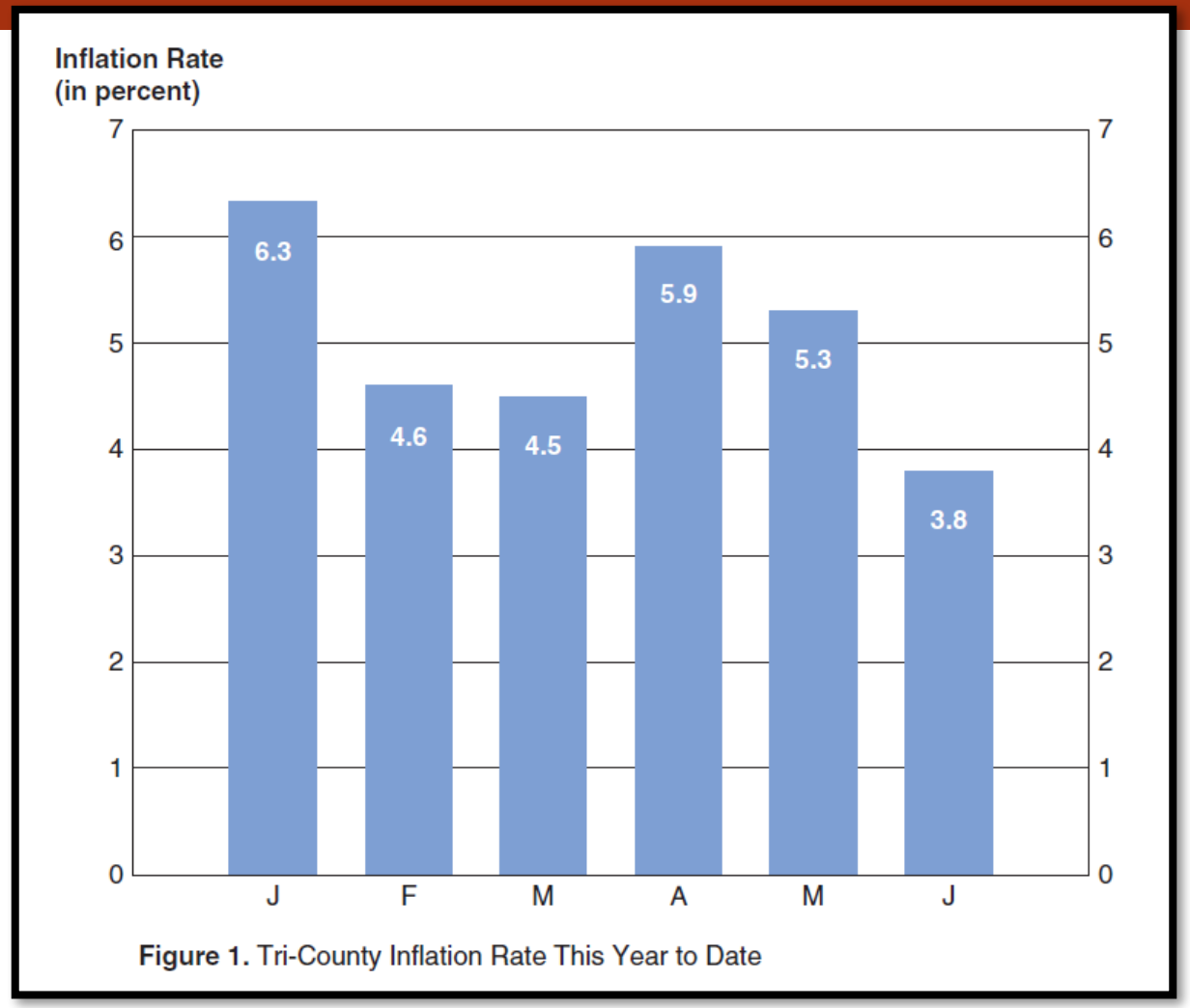


Figure 1. Tri-County Inflation Rate This Year to Date

Five variations to the basic **bar graph**:

Grouped bar graph

Subdivided bar graph

100-percent bar graph

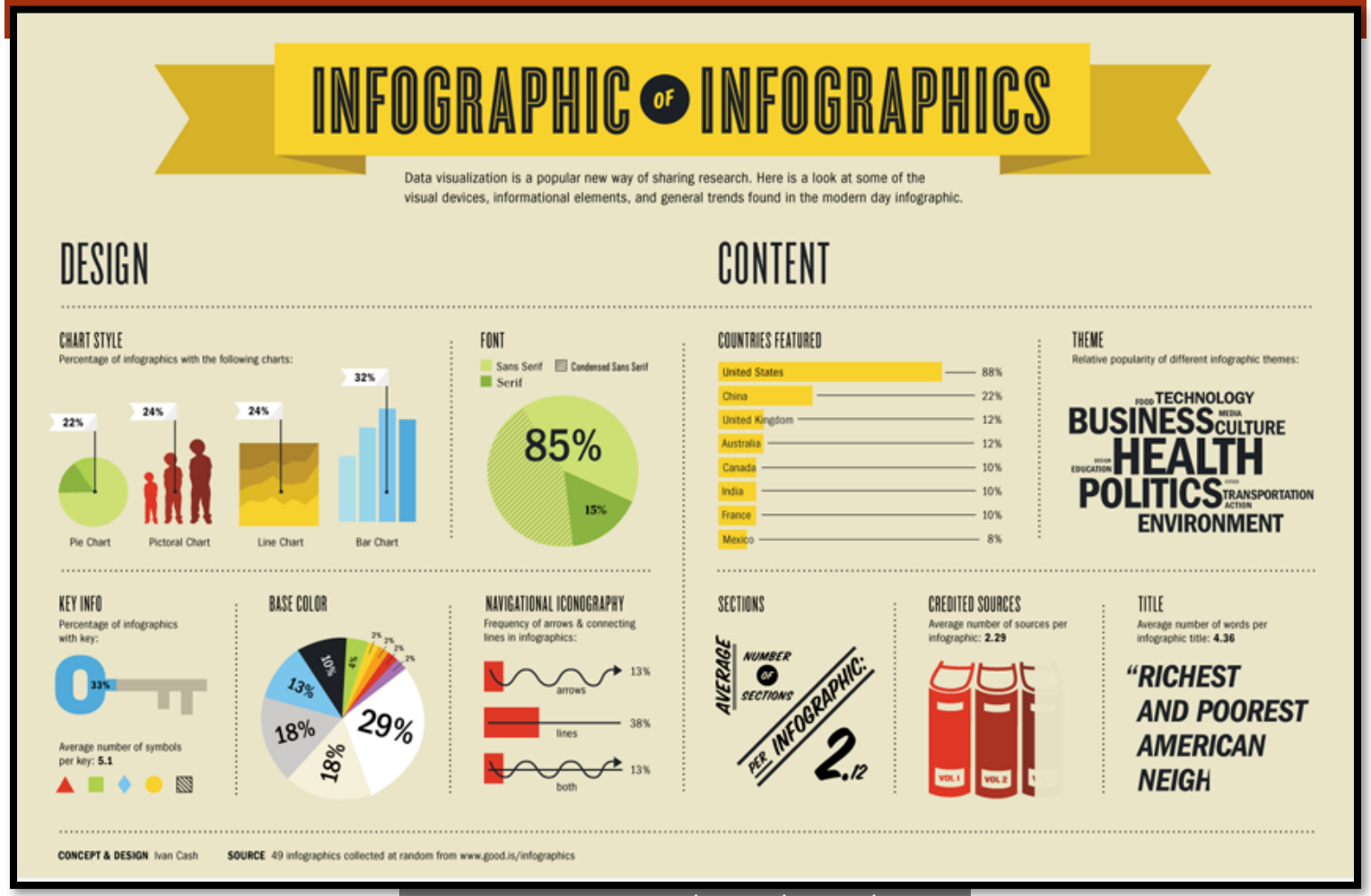
Deviation bar graph

Stratum graph

Follow these seven guidelines for creating compelling **infographics**:

1. Make a clear assertion.
2. Use accurate and reliable data.
3. Follow the guidelines specific to the graphic type you're creating.
4. Write concisely.
5. Avoid information overload.
6. Keep the length appropriate.
7. Test your infographic's readability and effectiveness.

Infographic



Source: Ivan Cash/Cash Studios.

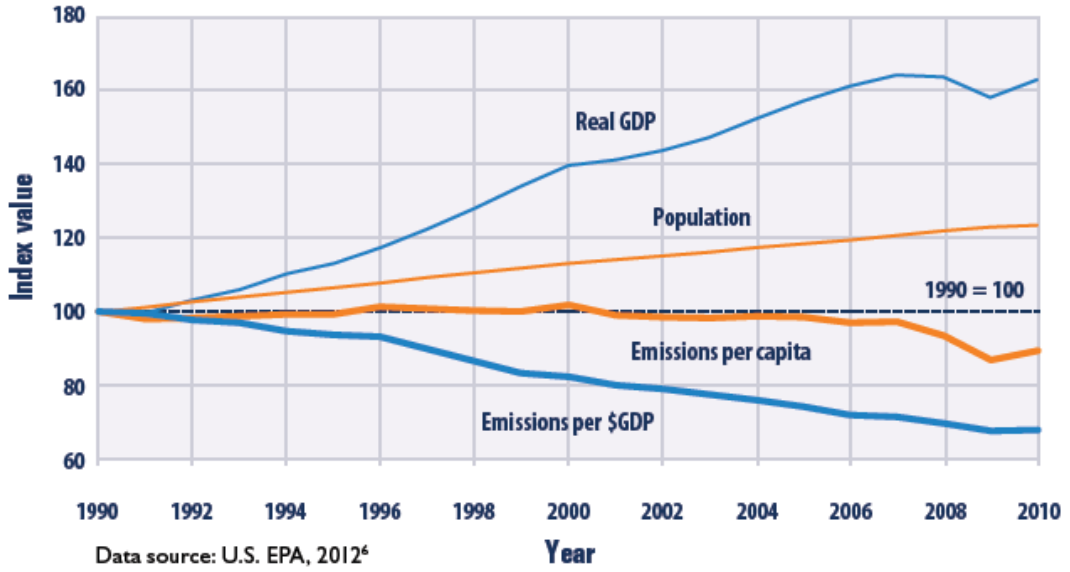
Follow these three guidelines for creating effective **line graphs**:

1. Start the quantity scale at zero if possible.
2. Maintain reasonable proportions between the vertical and horizontal axes.
3. Opt for grid lines over tick marks for precise quantity reading.

Effective Line Graph

Figure 3. U.S. Greenhouse Gas Emissions per Capita and per Dollar of GDP, 1990–2010

This figure shows trends in greenhouse gas emissions from 1990 to 2010 per capita (heavy orange line), based on the total U.S. population (thin orange line). It also shows trends in emissions compared with the real GDP (heavy blue line). Real GDP is the value of all goods and services produced in the country during a given year, adjusted for inflation (thin blue line). All data are indexed to 1990 as the base year, which is assigned a value of 100. For instance, a real GDP value of 163 in the year 2010 would represent a 63 percent increase since 1990.

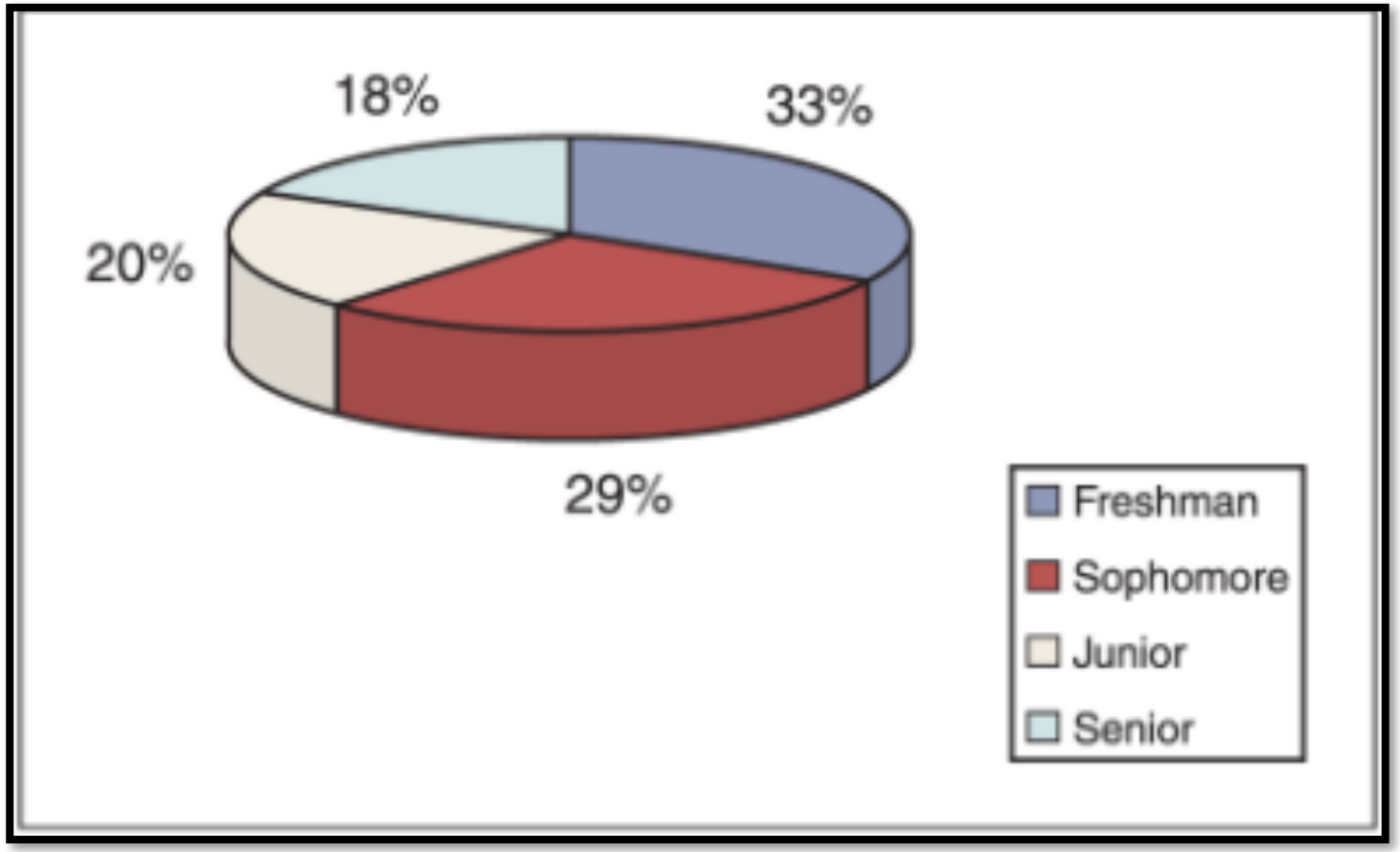


Source: U.S. Environmental Protection Agency, 2012, p. 13: http://www.epa.gov/climatechange/pdfs/climateindicators-full-2012.pdf.

Follow these eight guidelines for creating effective pie charts:

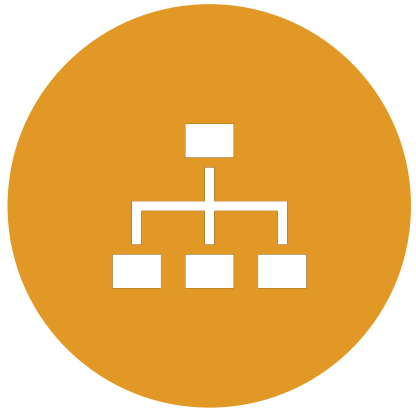
1. Limit the number of slices to seven or less.
2. Start with the largest slice at the top, proceeding clockwise with slices of decreasing size.
3. Group very small quantities together into one slice.
4. Insert labels inside the slices, placed horizontally.
5. To emphasize one slice, use a contrasting color or separate the slice from the rest of the pie.
6. Ensure your software follows the appropriate guidelines for pie charts.
7. Don’t overdo fill patterns.
8. Verify that your percentages add up to 100.

Effective Pie Chart



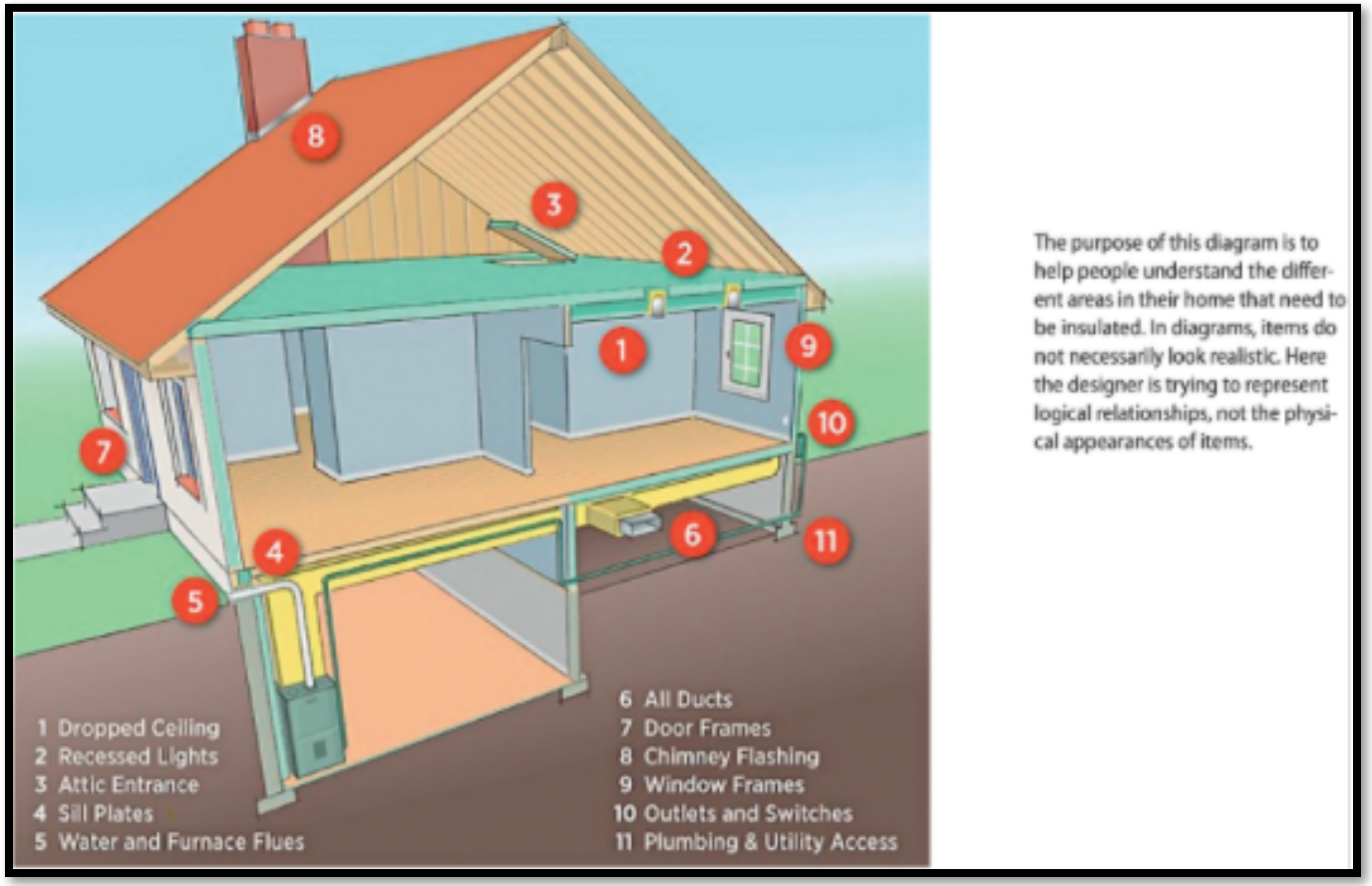
To illustrate **logical relationships**, these two types of graphics can be used:

Diagrams



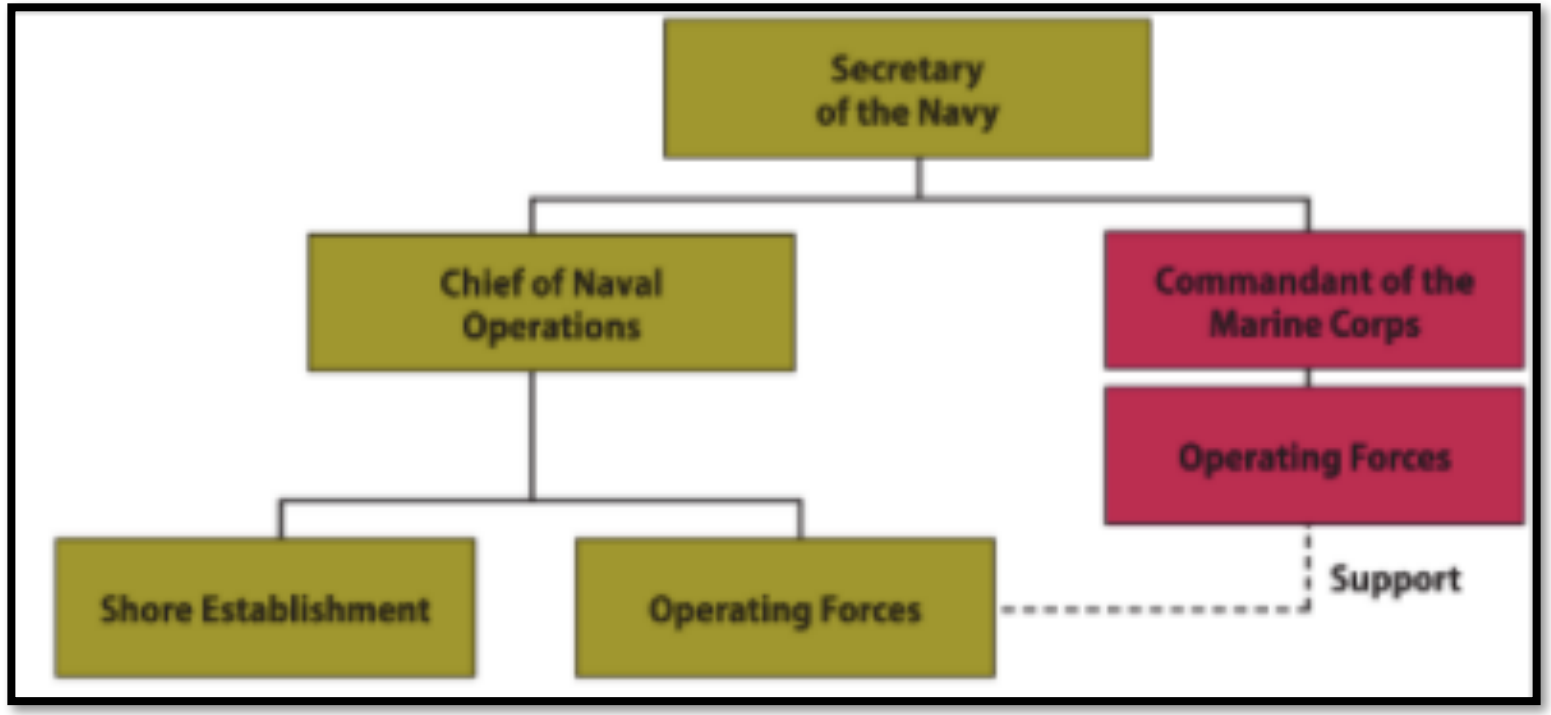
Organization charts

Diagram:



The purpose of this diagram is to help people understand the different areas in their home that need to be insulated. In diagrams, items do not necessarily look realistic. Here the designer is trying to represent logical relationships, not the physical appearances of items.

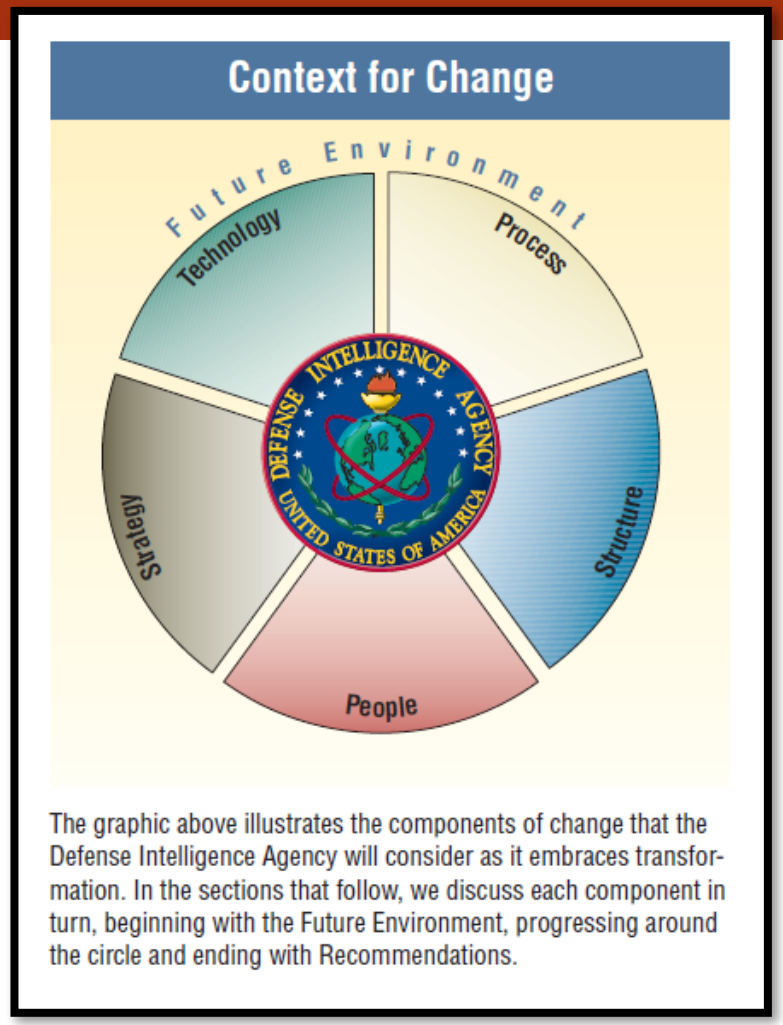
Organization Chart



Four kinds of graphics help illustrate process **descriptions and instructions**:

1. Checklists
2. Flowcharts
3. Logic trees
4. Techniques that showcase action or motion

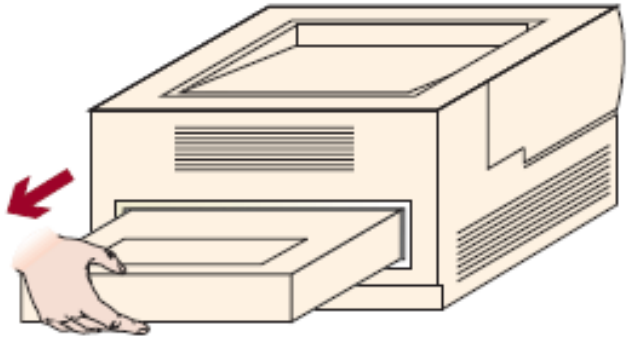
How effective is this graphic?



***Source*:** Defense Intelligence Agency, 2003 : www.dia.mil/thisisdia/

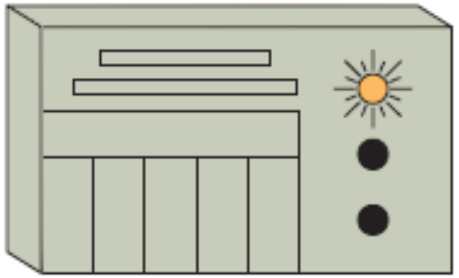
DIA_Workforce_of_the_Future.pdf.

Showing Action or Motion

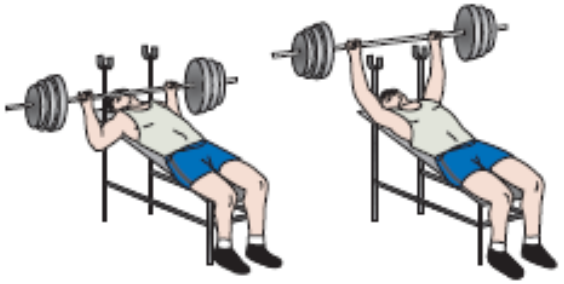


a. Use arrows or other symbols to suggest the direction in which something is moving or should be moved.

c. Shake lines suggest vibration.



b. Starburst lines suggest a blinking light.



d. An image of an object both before and after the action suggests the action.

To depict **visual and spatial characteristics**, consider these four types of graphics:

Photographs

Screen shots

Line drawings

Maps

Follow these five guidelines for presenting photographs effectively:

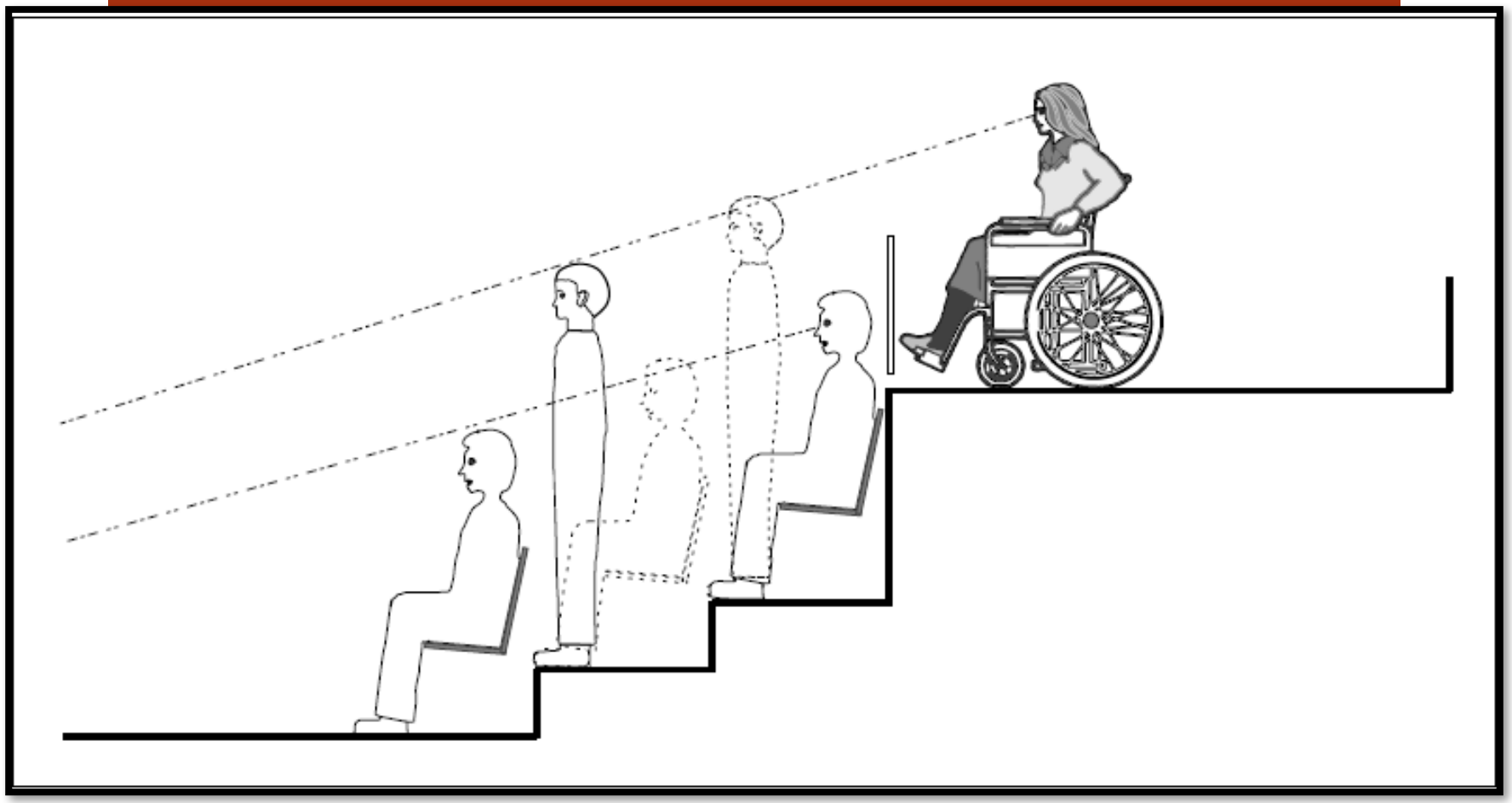
1. Remove unnecessary background clutter that could distract readers.
2. Refrain from manipulating the image electronically.
3. Help readers understand the perspective.
4. If appropriate, include a common object for scale.
5. If necessary, label important features or components.

Line drawings offer three advantages over photographs:

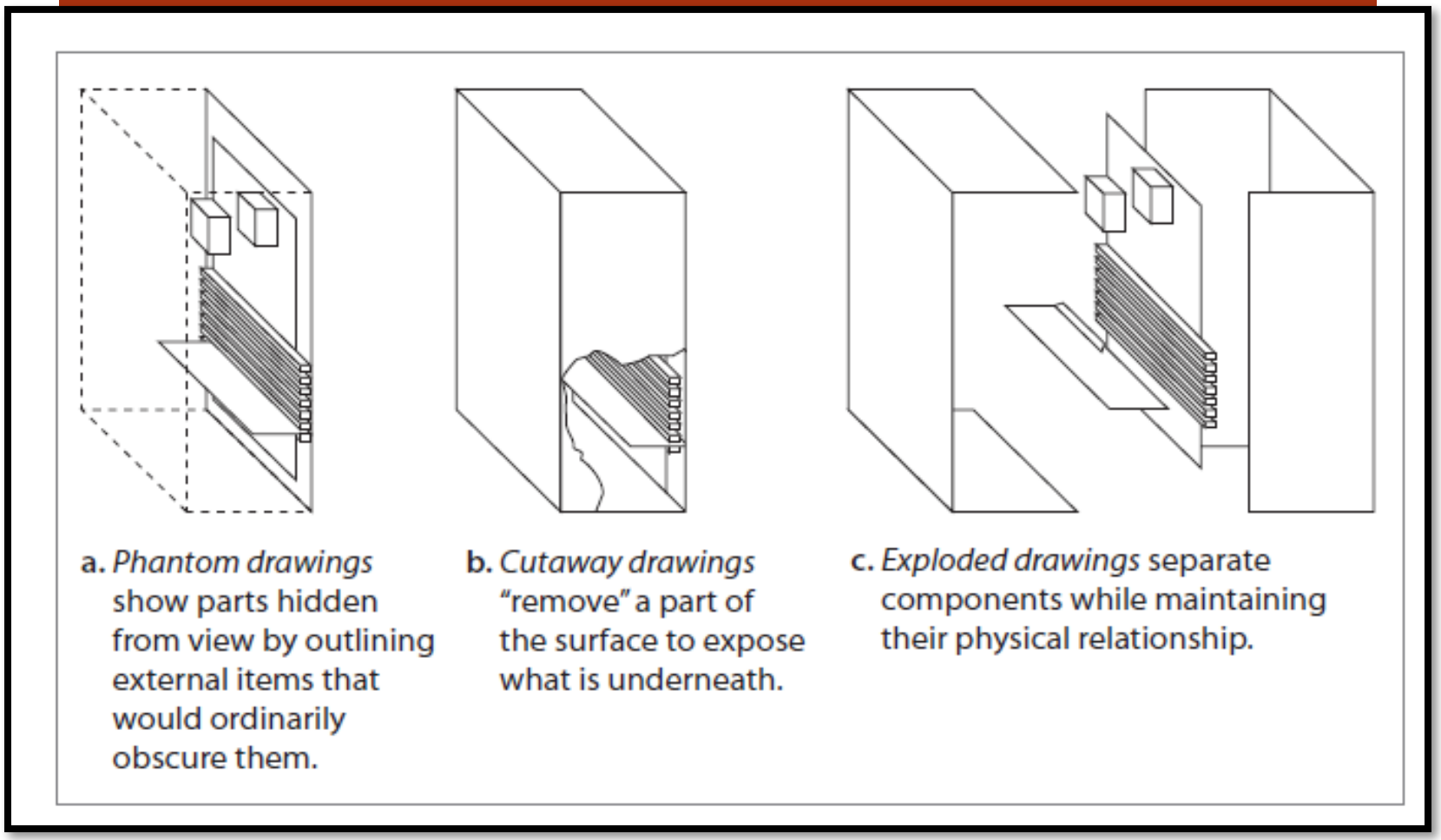
Line drawings are simplified visual visual representations of objects.

1. They direct the readers' focus to the desired information more effectively.
2. They can highlight information potentially obscured by poor lighting or a bad angle in a photograph.
3. They are sometimes easier to understand than photographs.

Line drawings offer a unique advantage over other graphics:



The basic line drawing has three variations:



a. *Phantom drawings* show parts hidden from view by outlining external items that would ordinarily obscure them.

b. *Cutaway drawings* "remove" a part of the surface to expose what is underneath.

c. *Exploded drawings* separate components while maintaining their physical relationship.

Follow these six guidelines for creating effective graphics for multicultural readers:

1. Understand that reading patterns may differ across cultures.
2. Be aware of varying cultural attitudes toward giving instruction.
3. Downplay unnecessary details.
4. Avoid language, symbols, and references specific to one culture.
5. Portray people with care and sensitivity.
6. Be particularly careful in portraying hand gestures.