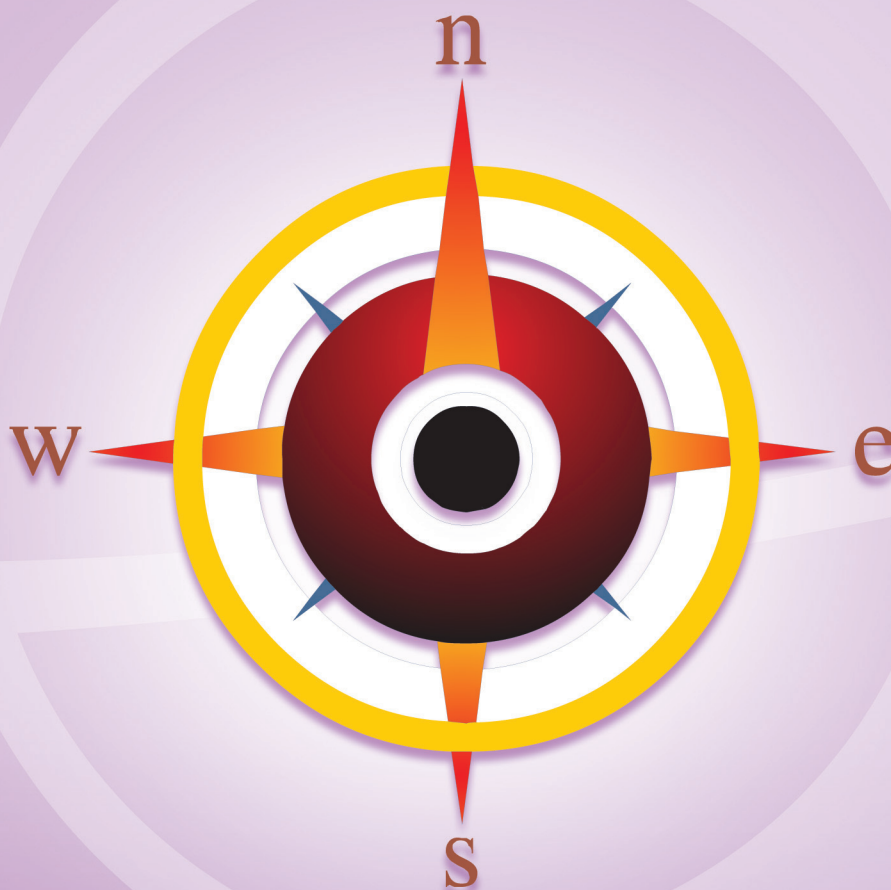


# WIN CAREER READINESS COURSEWARE

*Skill building for tomorrow's workforce... today!*



## Locating Information *Level 5*



**WIN**  
W-WIN.COM

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1000 Waterford Place, Kingston, TN 37763 • 888.717.9461  
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www.w-win.com



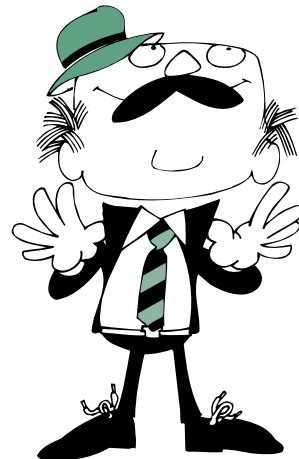
## INTRODUCTION

### WIN CAREER SOLUTIONS

HEY!! It's me, EdWIN... Here I am again ready to be your guide through this course. As usual, look for me to pop up throughout your lessons to give you a helpful tip, suggestion, or maybe even a pop quiz question. Be sure to check your answers which are located at the end of the course.

If you have already met me in an earlier level of our study, you have found that we have been able to complete the levels of study without too much pain and suffering! At least, I hope you have not found it too painful... I hope, too, that when we have finished, you'll be able to use what you have learned here in your everyday workplace.

Hi, I'm EdWIN





LESSON 1	Understanding Specific Relationships Shown by Graphics
LESSON 2	Distinguishing Representational Versus Nonrepresentational Graphics
LESSON 3	Recognizing Discrete Data Versus Continuous Data
LESSON 4	Sorting through Extraneous Information
LESSON 5	Recognizing, Analyzing, and Synthesizing Essential Data
LESSON 6	Relating Multiple Graphics
LESSON 7	Recognizing and Applying Conditional Statements
LESSON 8	Recognizing and Applying Value Judgments
LESSON 9	Posttest/Summary
REFERENCE	Resource List Pop Quiz Answers

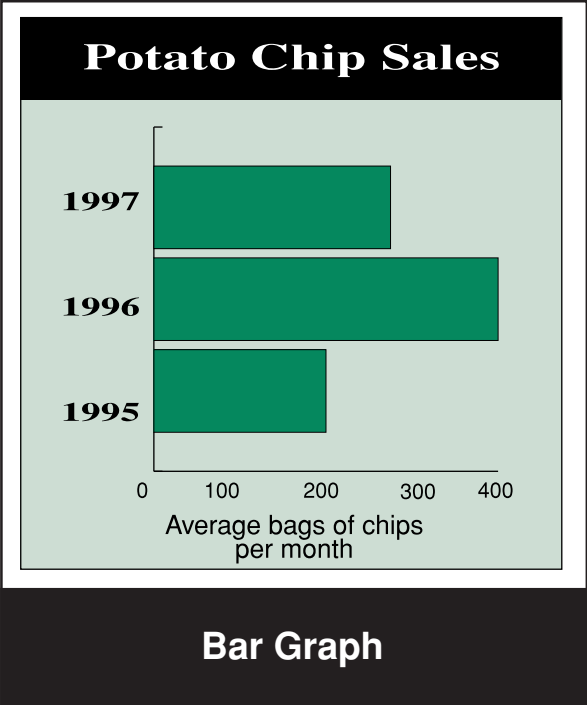
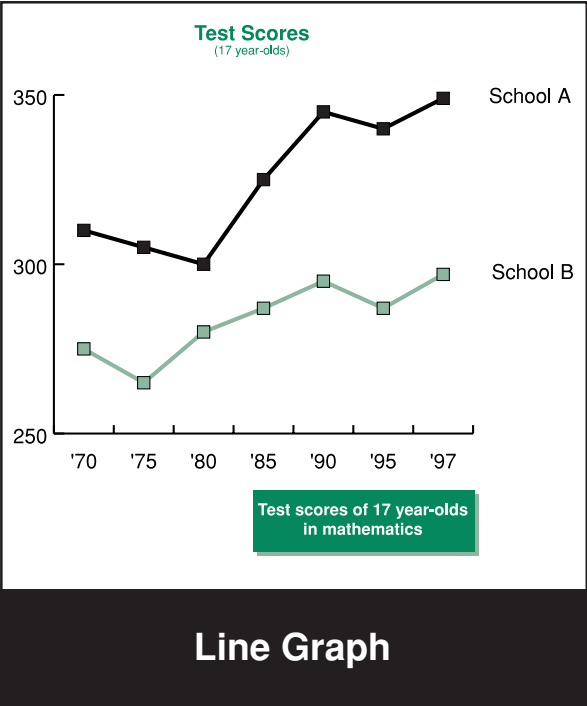


## **UNDERSTANDING SPECIFIC RELATIONSHIPS SHOWN BY GRAPHICS**

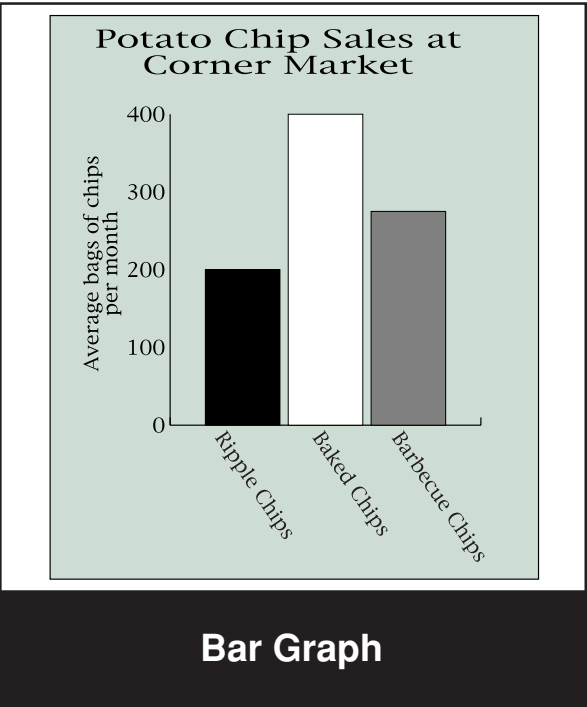
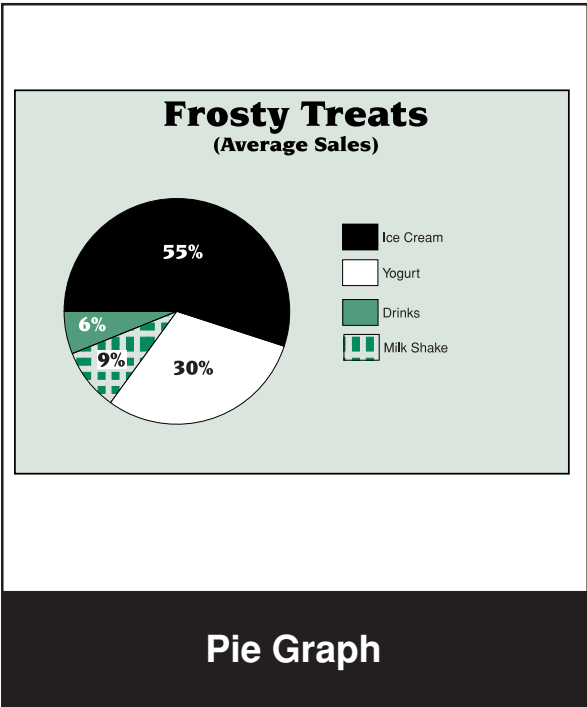
In previous levels of *Locating Information*, we have defined “graphics” in the simplest terms. Now we will refine that definition by describing the different relationships that they can illustrate and discuss in greater detail what types of graphics are best used to depict the various relationships.

Graphics are visual representations of ideas, processes, procedures, objects, or events that allow us to see relationships among information. These relationships might include change, comparison, arrangement, procedure, quantity, and attributes. Most graphics can be designed to show most of these relationships, however, certain graphics are more effective than others when depicting certain relationships

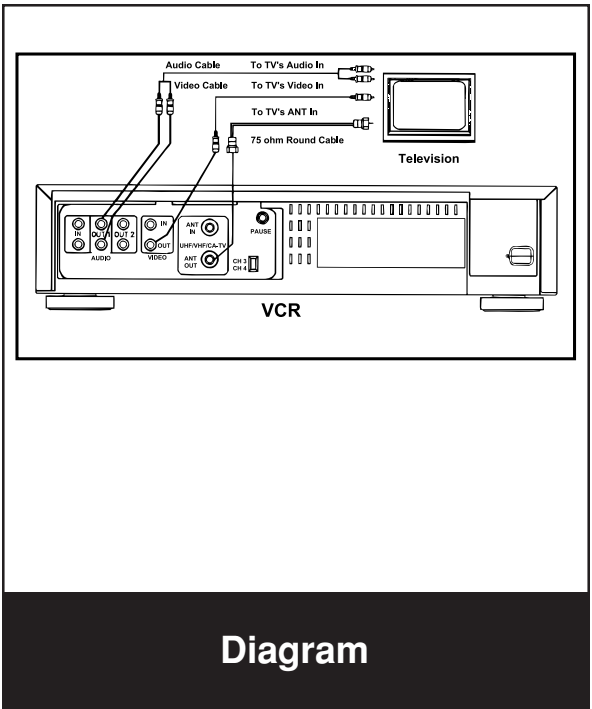
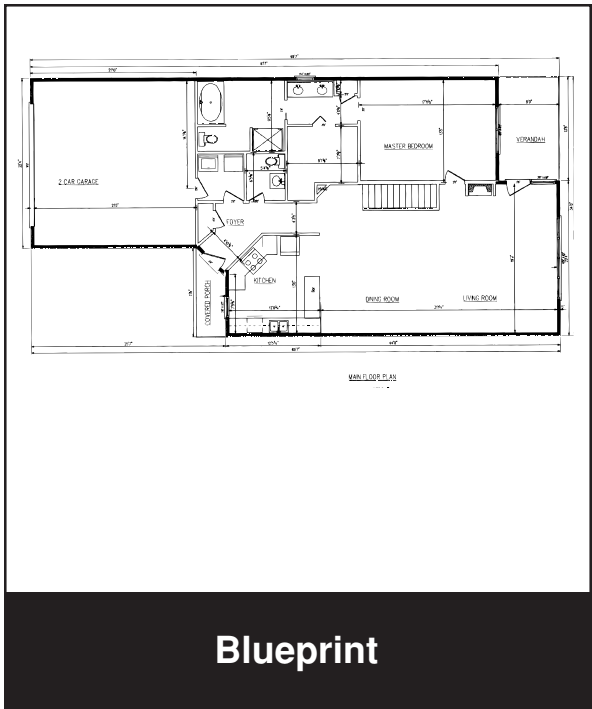
Example Graphics:



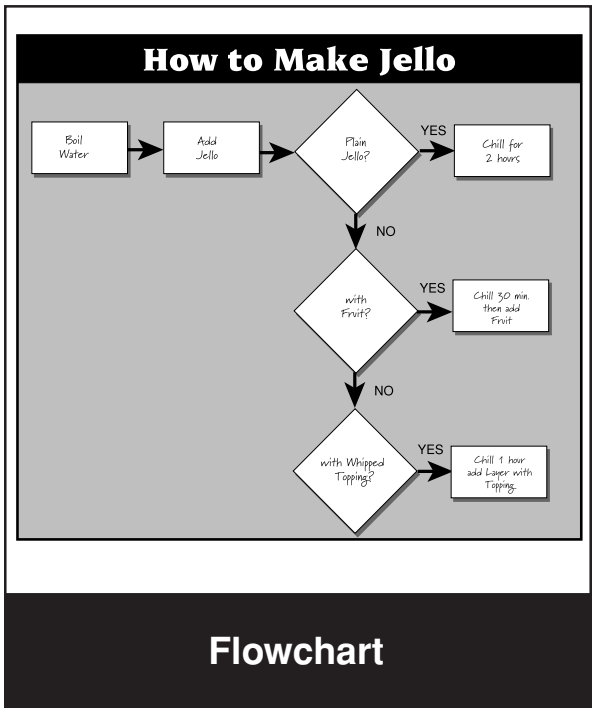
Line graphs and bar graphs visually depict change.



Pie graphs and bar graphs effectively illustrate comparisons.



Blueprints, diagrams, charts, maps, layouts, and floor plans clearly show arrangement.



### TACO ORDER

---

<input type="checkbox"/> Here	<input type="checkbox"/> Soft
<input type="checkbox"/> To go	<input type="checkbox"/> Hard

---

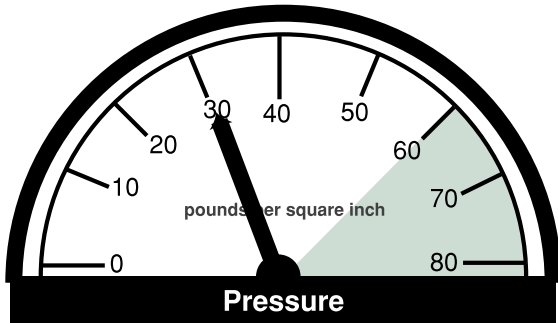
**Toppings:**

- ☐ Hot Sauce
- ☐ Sour Cream
- ☐ Jalapeño Peppers
- ☐ Black Olives

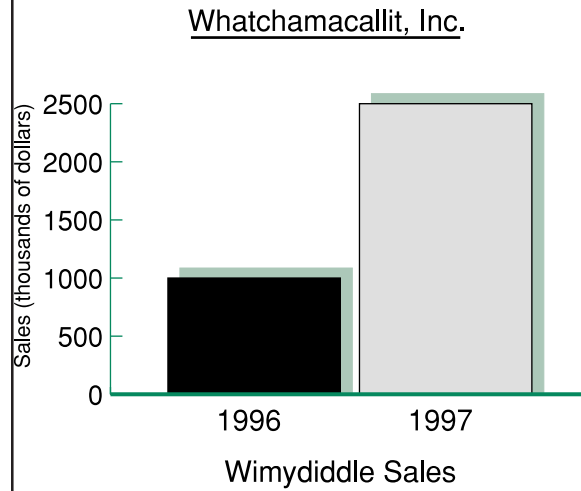
## TACOS!

**Form**

Flowcharts, forms, and tables graphically show procedures.



**Dial**

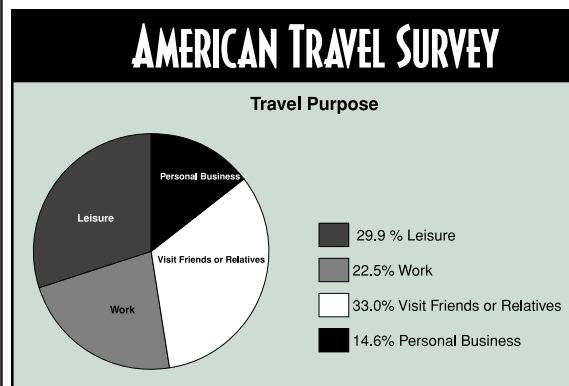


**Bar Graph**

**All types of graphs, tables, forms, and dials depict quantity.**

Part Number	Quantity	Weight (lb per part)
SK740	104	2.0
TR130	241	2.5
ZK220	93	3.0
BR560	152	5.0

**Table**



**Pie Graph**

**Attributes may be displayed through tables, graphs, and forms.**



**GRAPHIC RELATIONSHIPS**

Instructions: *Answer the following questions regarding relationships expressed through graphics.*

**1. Name three types of graphics used to show order or importance.**

---

---

---

**2. What type of graphic would best illustrate the percentage of Hondas manufactured in 1997 that were white in comparison to other colors?**

---

---

**3. A department that receives parts daily might use a \_\_\_\_\_ to record the number, size, and type of parts in each order.**

- a. diagram
- b. form
- c. line graph
- d. flowchart

**4. The placement of computer stations within your work environment would best be depicted through a \_\_\_\_\_.**

- a. map
- b. pie graph
- c. gauge
- d. layout



## LESSON 1

### WIN CAREER SOLUTIONS

5. Name five graphics used to show arrangement.

---

---

---

---

---

6. Since room temperature affects the efficiency of the manufacturing process at Roane Cast Iron Inc., a \_\_\_\_\_ is used to record temperature on the half hour to monitor any change.

- a. form
- b. table
- c. line graph
- d. diagram

Note: In a self directed course like this one, it is important that you spend time reviewing answers to the exercises. If you were unable to answer some questions before looking up my responses, go back and try the questions again to see if you understood the answers when you read them. Repetition is one way you will learn to locate information.

**ANSWERS TO EXERCISE**

- 1. Name three types of graphics used to show order or options.**

*Answer: flowcharts  
tables  
forms*

- 2. What type of graphic would best illustrate the percentage of Honda's manufactured in 1997 that were white in comparison to other colors?**

*Answer: A graph would most likely be the best visual to show the comparison. A pie graph would be used if all colors manufactured are shown (must total 100%). A bar graph would be used if the top three or four colors were shown. A table could also be created to reveal the percentages, but a graph would be the best visual.*

- 3. A department that receives parts daily might use a \_\_\_\_\_ to record the number, size, and type of parts in each order.**

- a. diagram
- b. form
- c. line graph
- d. flowchart

*Answer: b. Of these options, a form would be the best to record the attributes of the parts. A table could also be used to chart inventory.*

- 4. The placement of computer stations within your work environment would best be depicted through a \_\_\_\_\_.**

- a. map
- b. pie graph
- c. gauge
- d. layout

*Answer: d. A layout would show where computer stations are located. A chart designating room numbers would also work.*



**5. Name five graphics used to show arrangement.**

*Answer: (any of the following) diagrams, blueprints, maps, floor plans, layouts, or charts.*

**6. Since room temperature affects the efficiency of the manufacturing process at Roane Cast Iron Inc., a \_\_\_\_\_ is used to record temperature on the half hour to monitor any change.**

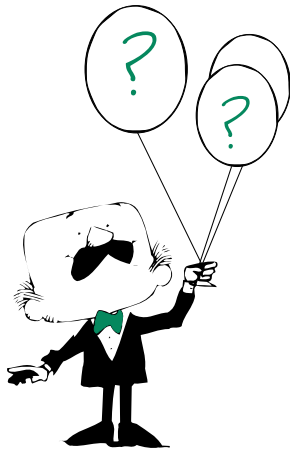
- a. form
- b. table
- c. line graph
- d. diagram

*Answer: c. A line graph would best illustrate any change in temperature though a form or table could be used to record the data. They do not emphasize the change like a line graph would.*

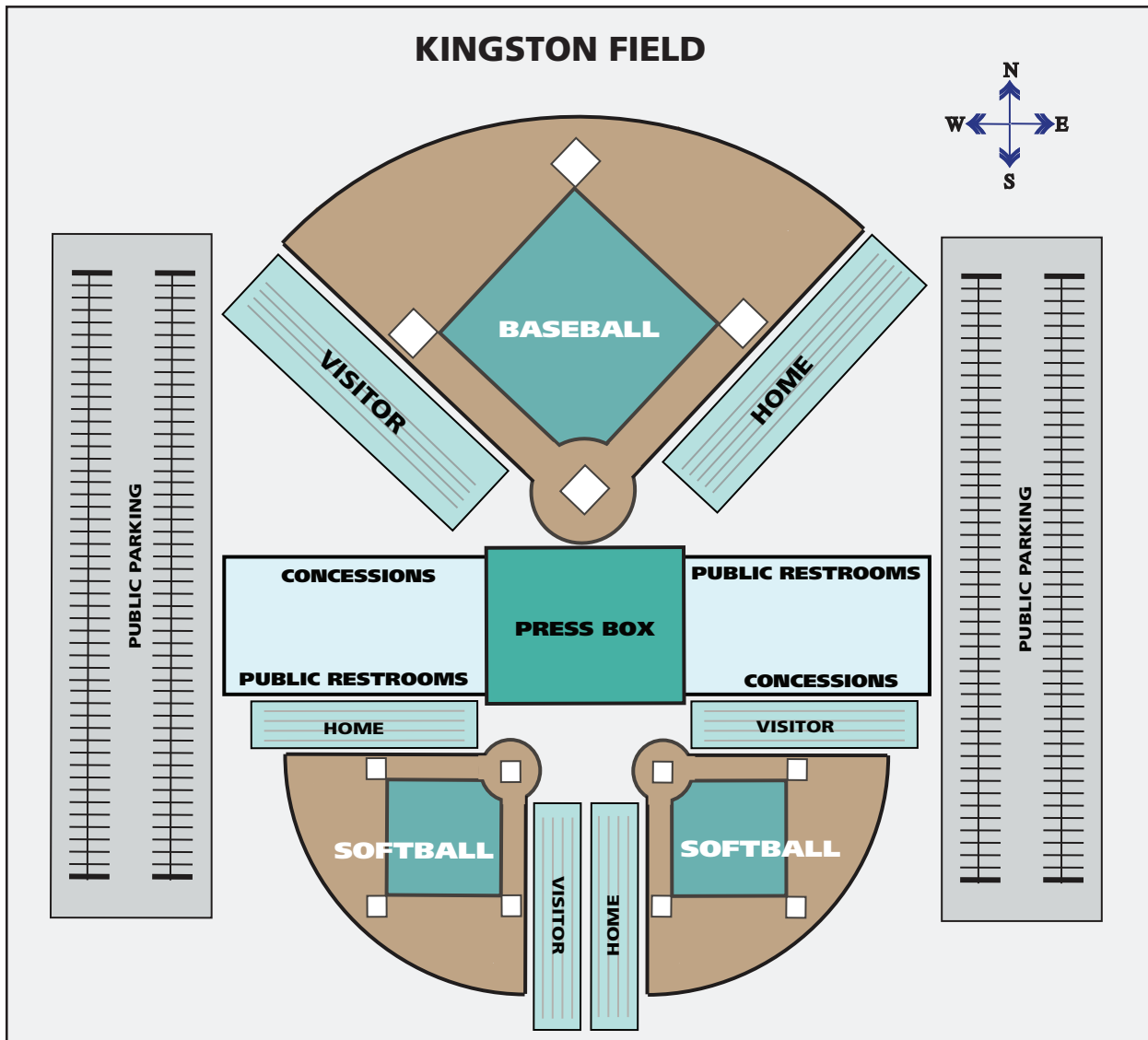
## **DISTINGUISHING REPRESENTATIONAL VERSUS NONREPRESENTATIONAL GRAPHICS**

In a representational graphic, information cannot be moved around in any manner without changing the meaning of the graphic. For example, if you move the location of a bedroom in a floor plan, you have created an entirely different plan. Even though it may be similar to the original, it is still not the *same* floor plan. The same would apply if you reverse the entire plan. It would represent a different floor plan because everything would be reversed.

Pop Quiz: What type of graphic would best depict a procedure?



Look at the following example of the layout of Kingston Field. Now, suppose you are the contractor who will build the ball park. At the last minute the city decides they want all parking moved to the east side of the field and all concessions and public restroom facilities moved to the west side of the field. The contractor knows the many problems this could cause such as improper drainage, mass congestion on adjoining roadways, including accessibility problems into the stadium from parking areas, and so on. Can you see the difficulty involved in changing a pre-planned organizational diagram?





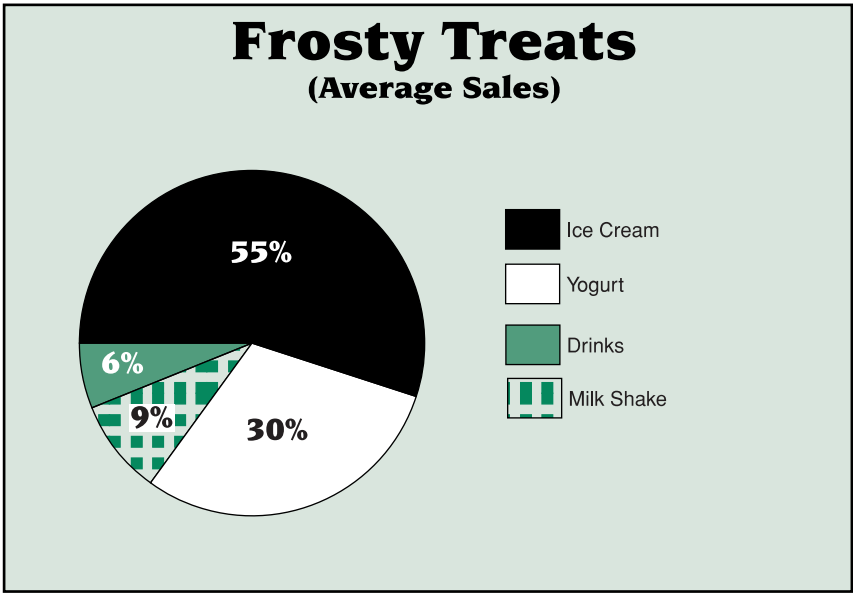
## LESSON 2

### WIN CAREER SOLUTIONS

Contractors must have an accurate diagram to follow during the construction process. Construction plans must also comply with local building codes and regulations. Site inspection must meet approval based on many guidelines. For instance, you couldn't have the excavator dig the pipelines for public restrooms and concession facilities on the west side of the field if the diagram shows them in the center of the field. What do you think would happen after local inspectors showed up unexpectedly to inspect the progress and found the excavation prepared on the wrong side of the property? Uh ...does the term "you're fired" mean anything to you?!

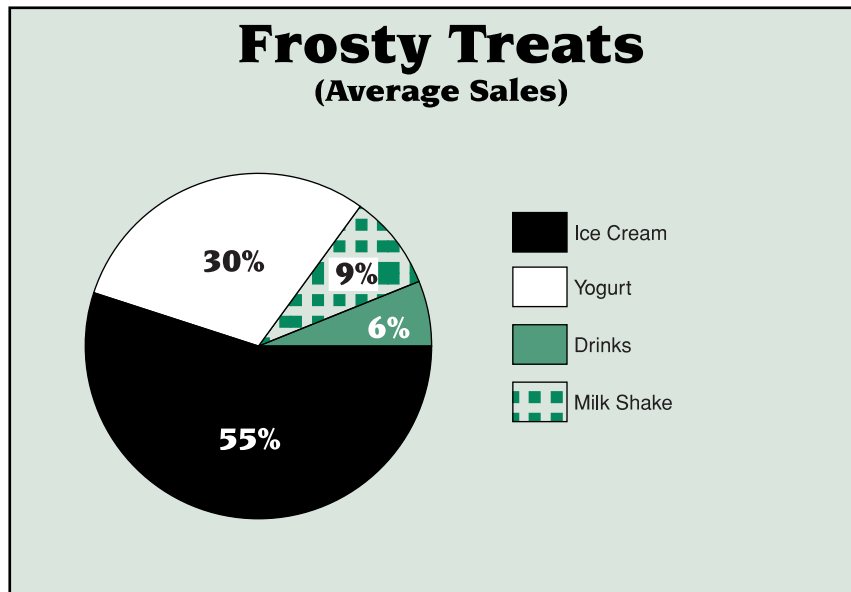
The purpose of any representational drawing, diagram, floor plan, or other graphic is to show *the data exactly* in order to be correct. Let me iterate; it cannot be changed in any way and still be a representational graphic.

A nonrepresentational graphic is one in which the data contained therein can be moved about and not change the meaning of the graphic. A pie graph is a great example of this concept. As you remember, all pie graphs equal one whole, or 100%. Imagine you have divided a cherry pie into five slices. The slices, regardless of their individual sizes, can be moved around within the pie pan, and you still will have a whole pie. Look at the example of the pie graph.



Notice the 55% amount that represents ice cream is located at the top of the chart. If you rearranged this so that the ice cream section was at the bottom of the chart, you can see that the chart would still represent the same amount. The meaning of the graphic would remain the same.



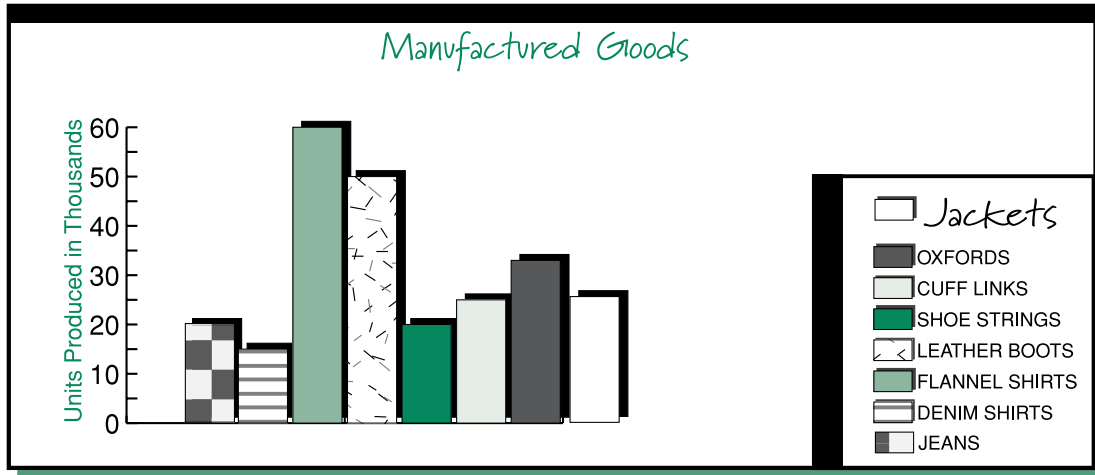


The purpose of nonrepresentational graphics is to allow the designer to have more flexibility in portraying the necessary data. The data or information can be depicted in a variety of ways without changing the meaning of the information.

**EXERCISE - DISTINGUISHING REPRESENTATIONAL FROM NONREPRESENTATIONAL GRAPHICS**

**Instructions:** *Identify each of the following graphics as representational or nonrepresentational.*

1.

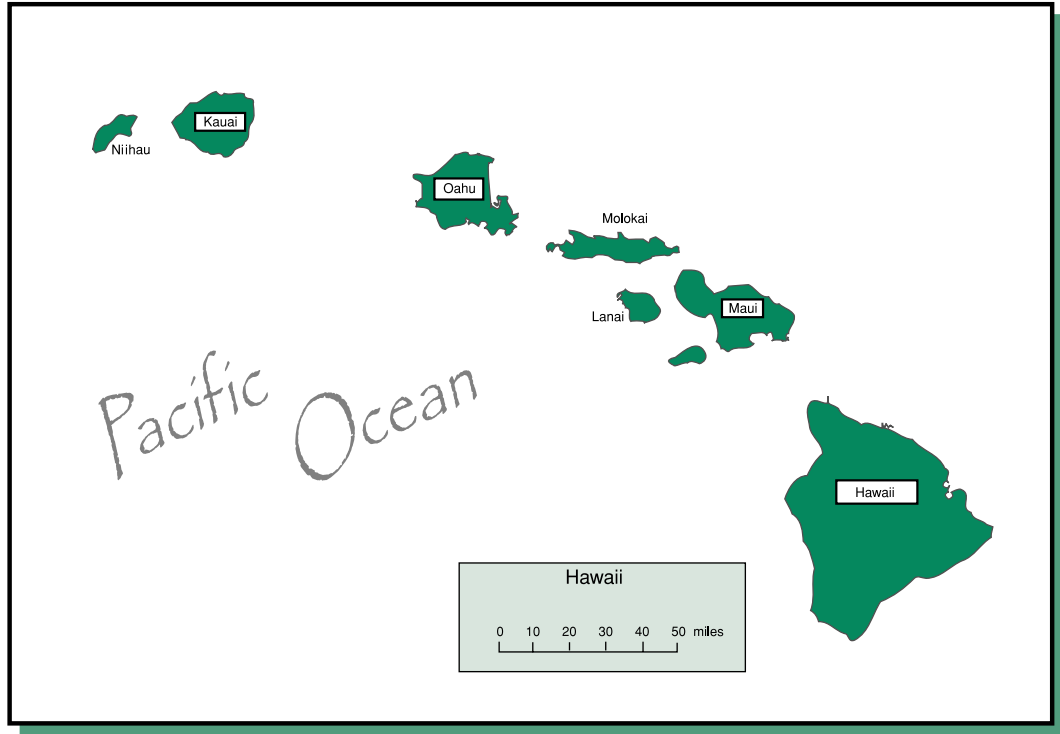


2.

	M	T	W	R	F	S
6:00am-2:00pm	Casey	Casey	Casey	Tony	Casey	Casey
2:00pm-10:00pm	John	Tony	Kim	Kim	John	John
10:00pm-6:00am	Kim	Kim	John	John	Kim	Kim

All employees contact Wanda Duffy 555-1760 for schedule changes.  
**ALWAYS BE PROMPT FOR EVERY SHIFT**

3.



4.

1-15  
LB-0301

**TENNESSEE WORKERS' COMPENSATION DIVISION**  
501 UNION BUILDING, 2ND FLOOR, NASHVILLE, TENNESSEE 37219

STATE OF TENNESSEE, \_\_\_\_\_ County

**AGREEMENT OF GENERAL CONTRACTOR TO PROVIDE WORKERS' COMPENSATION  
COVERAGE TO SUBCONTRACTOR**

To the Workers' Compensation Director:

You are hereby notified that the undersigned \_\_\_\_\_  
Type or Print  
\_\_\_\_\_ being a subcontractor and being engaged  
Address  
as such to the general contractor \_\_\_\_\_  
Firm Name  
\_\_\_\_\_ hereby elects to come under the  
Address  
provisions of the Tennessee Workers' Compensation Law.

Signature of General Contractor \_\_\_\_\_ Federal Employer Identification No. \_\_\_\_\_  
State, City and Street \_\_\_\_\_ Date \_\_\_\_\_

Subscribed and sworn before me this the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_  
\_\_\_\_\_  
Notary Public

My Commission expires \_\_\_\_\_

Signature of Sub-Contractor \_\_\_\_\_ Social Security Number \_\_\_\_\_  
State, City and Street \_\_\_\_\_ Date \_\_\_\_\_

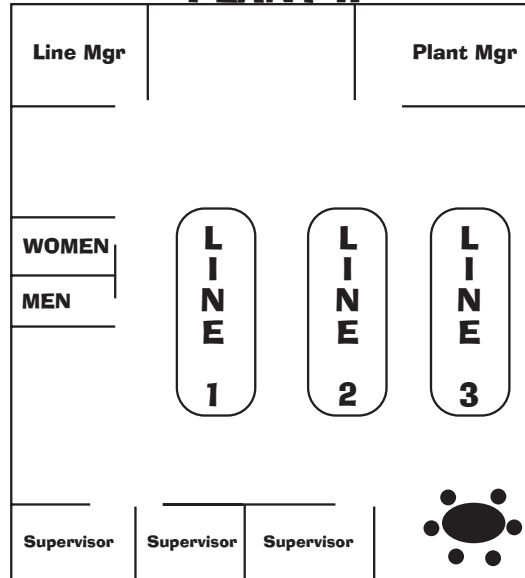
Subscribed and sworn before me this the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_  
\_\_\_\_\_  
Notary Public

5.

FOOTBALL	Volunteer Schedule	
	August 30	Texas Tech at Knoxville
	September 6	UCLA at Pasadena
	September 20	Florida at Gainesville
	October 4	Mississippi at Knoxville
	October 11	Georgia at Knoxville
	October 18	Alabama at Birmingham
	November 1	South Carolina at Knoxville
	November 8	Southern Miss at Knoxville
	November 15	Arkansas at Little Rock
	November 22	Kentucky at Lexington
	November 29	Vanderbilt at Knoxville
SEC Championship Game December 6 at Atlanta		

6.

**PLANT II**



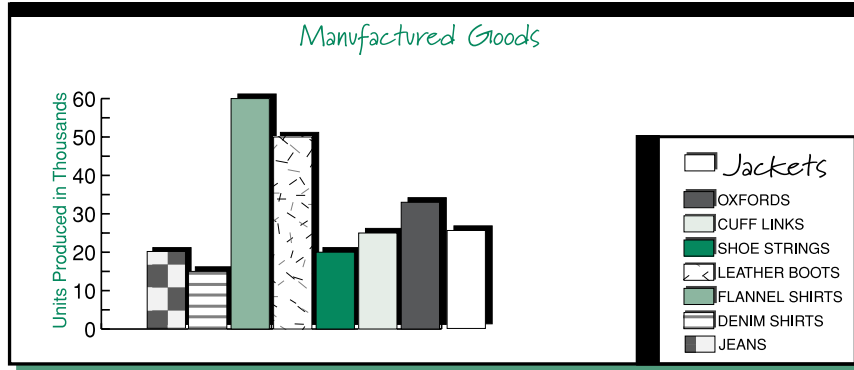


7.

Part Number	Quantity	Weight (lb per part)
SK740	104	2.0
TR130	241	2.5
ZK220	93	3.0
BR560	152	5.0

## ANSWERS TO EXERCISE

1.



**Answer:** *Nonrepresentational –  
It does not matter in what order the goods are listed.*

2.

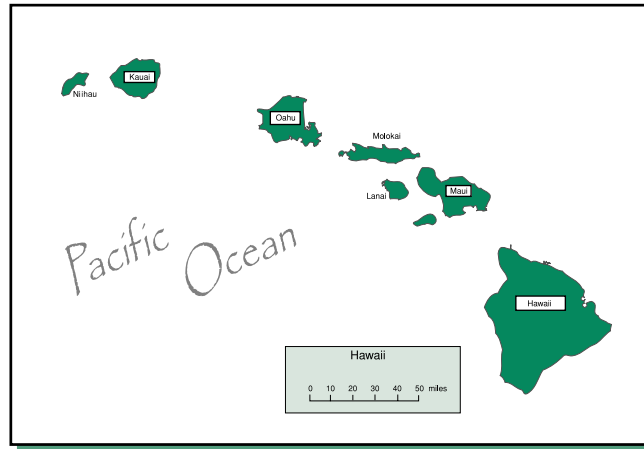
	M	T	W	R	F	S
6:00am-2:00pm	Casey	Casey	Casey	Tony	Casey	Casey
2:00pm-10:00pm	John	Tony	Kim	Kim	John	John
10:00pm-6:00am	Kim	Kim	John	John	Kim	Kim

All employees contact Wanda Duffy 555-1760 for schedule changes.  
**ALWAYS BE PROMPT FOR EVERY SHIFT**

**Answer:** *Representational –  
Changing the order of the days (columns) or times of the day would be very confusing for the reader since graphics should be written logically when possible. Days and time follow a logical order. Changing the names, who works when, would change the meaning of the graphic.*



3.



*Answer: Representational - If you move any islands around, the airlines might have trouble landing in Maui!*

4.

18  
LR-301

**TENNESSEE WORKERS' COMPENSATION DIVISION**  
501 UNION BUILDING, 2ND FLOOR, NASHVILLE, TENNESSEE 37219

STATE OF TENNESSEE, \_\_\_\_\_ County

AGREEMENT OF GENERAL CONTRACTOR TO PROVIDE WORKERS' COMPENSATION  
COVERAGE TO SUBCONTRACTOR

To the Workers' Compensation Director:

You are hereby notified that the undersigned \_\_\_\_\_  
Type or Print  
\_\_\_\_\_ being a subcontractor and being engaged  
Address  
as such to the general contractor \_\_\_\_\_  
Firm Name  
\_\_\_\_\_, hereby elects to come under the  
Address  
provisions of the Tennessee Workers' Compensation Law.

Signature of General Contractor \_\_\_\_\_ Federal Employer Identification No. \_\_\_\_\_  
State, City and Street \_\_\_\_\_ Date \_\_\_\_\_

Subscribed and sworn before me this the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_  
\_\_\_\_\_  
Notary Public

My Commission expires \_\_\_\_\_

Signature of Sub-Contractor \_\_\_\_\_ Social Security Number \_\_\_\_\_  
State, City and Street \_\_\_\_\_ Date \_\_\_\_\_

Subscribed and sworn before me this the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_  
\_\_\_\_\_  
Notary Public

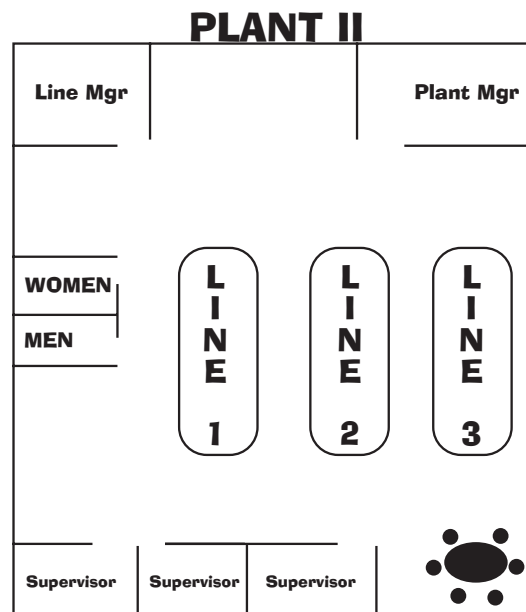
*Answer: Nonrepresentational - One could rearrange words in the sentences, order of the sentences, address, etc., without changing the meaning though it has probably been designed to be efficient.*

5.

<b>FOOTBALL</b>	<b>Volunteer Schedule</b>	
	August 30	Texas Tech at Knoxville
	September 6	UCLA at Pasadena
	September 20	Florida at Gainesville
	October 4	Mississippi at Knoxville
	October 11	Georgia at Knoxville
	October 18	Alabama at Birmingham
	November 1	South Carolina at Knoxville
	November 8	Southern Miss at Knoxville
	November 15	Arkansas at Little Rock
	November 22	Kentucky at Lexington
	November 29	Vanderbilt at Knoxville
	SEC Championship Game December 6 at Atlanta	

*Answer: Representational - Move any dates and you will have some angry fans at the wrong games!*

6.



*Answer: Representational*

**7.**

Part Number	Quantity	Weight (lb per part)
SK740	104	2.0
TR130	241	2.5
ZK220	93	3.0
BR560	152	5.0

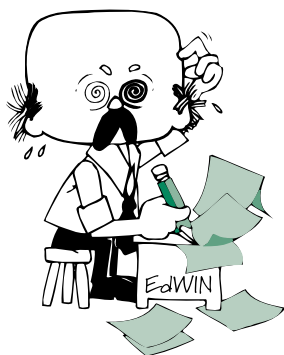
*Answer: Nonrepresentational if data is moved by rows or columns.  
Representational if data is altered by cell.*

## RECOGNIZING DISCRETE (COUNTED) DATA VERSUS CONTINUOUS (MEASURED) DATA

Data can be classified as either discrete or continuous. You need to be aware of this difference and be able to recognize it in order to evaluate certain aspects of graphs. It is easy to confuse discrete and continuous data that is graphically displayed, especially since the display format does not always best represent the information the data is trying to convey. In this section, we will define discrete and continuous data and explain their differences.

Data that contains information that can be counted is referred to as discrete data. The number of goals scored in a soccer game can be counted. We can count the number of students who scored in the 95% on an assessment, and the number of rolls of fabric processed in a week. For example, if we counted the number of patients a doctor sees during a week, we might come up with 67 people. It could not be 66.8 people or 67.2 people, because it would be impossible to have a fraction of a person. Speaking of exact counts of things, how does the government figure that the average household has 2.5 children? I always wonder where all those half children are!! This is a misleading figure, of course, but hey, it's the bureau of statistics. Who am I to argue with their logic?! Anyway, back to our point. Discrete information is information that can be counted.

*Discrete or continuous...  
that is the question!*





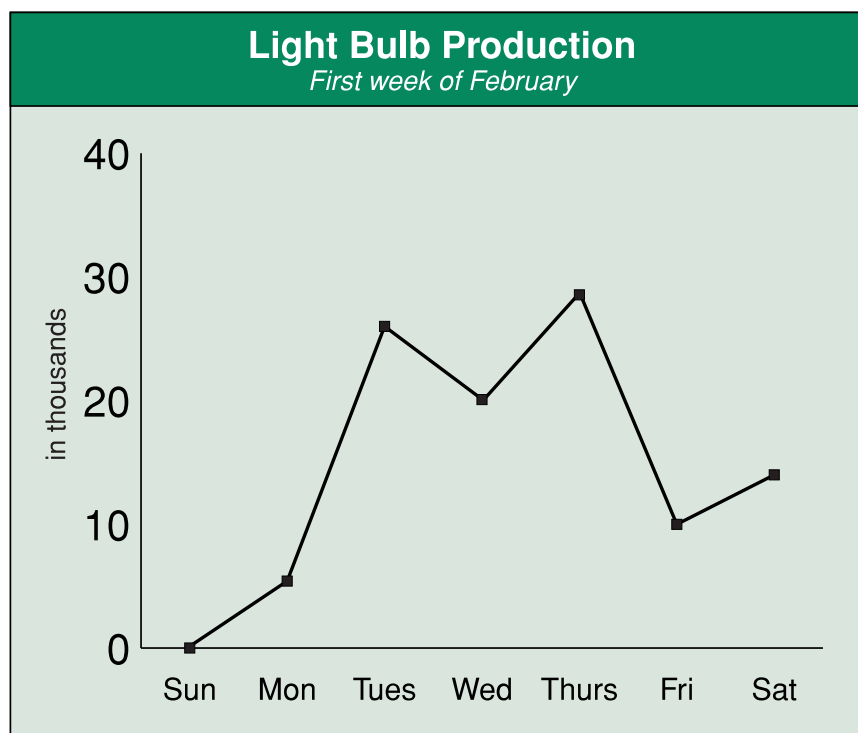
## LESSON 3

### WIN CAREER SOLUTIONS

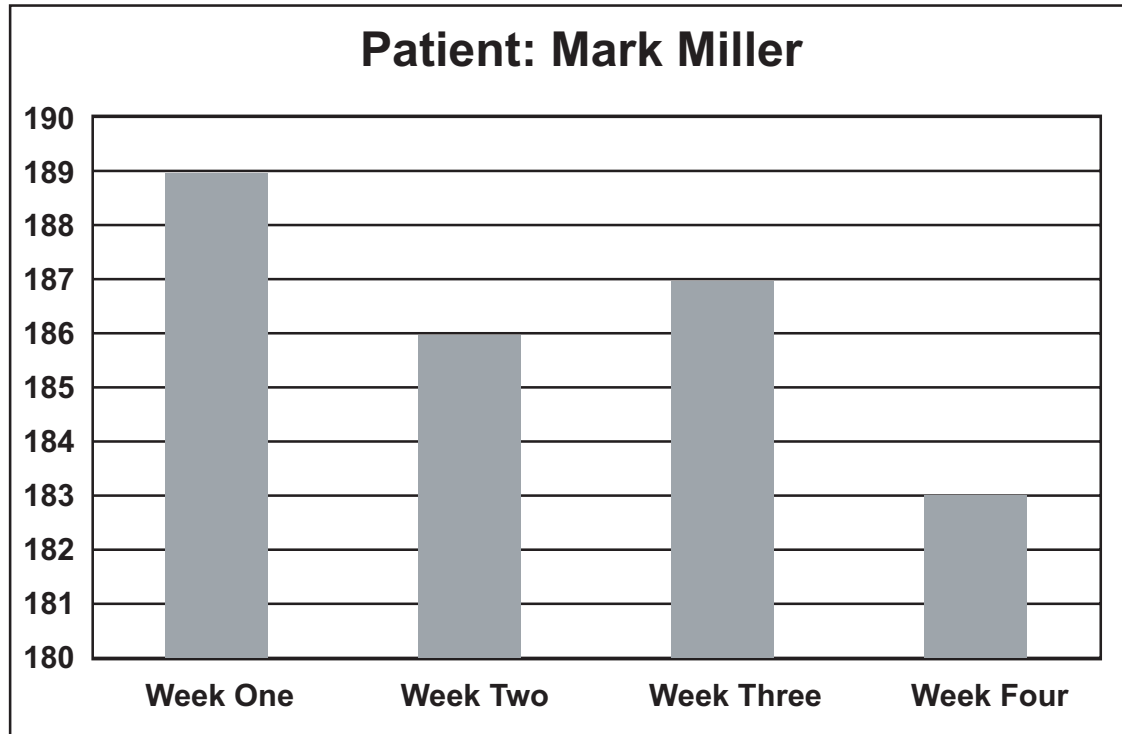
Continuous data is information that can be measured over time rather than counted. Discrete data is independent of the other data within the graph. Continuous data is related to the data that comes before and after it within the graph. Height, length, elapsed time, temperature, and blood pressure are examples of continuous data. The volume of water flow or sound would be continuous data because it is measured. The volume of sales would be discrete data because it is counted.

As we stated earlier, discrete versus continuous data can be easily confused because the display format does not always indicate the type. Let's look at this concept a little closer. Body weight is an example of continuous data, but if an individual's weight to the nearest pound is recorded on a bar graph, the data appears to be discrete or counted. On the other hand, if average monthly attendance is displayed on a line graph, it may appear to be continuous data even though it actually is a counted figure.

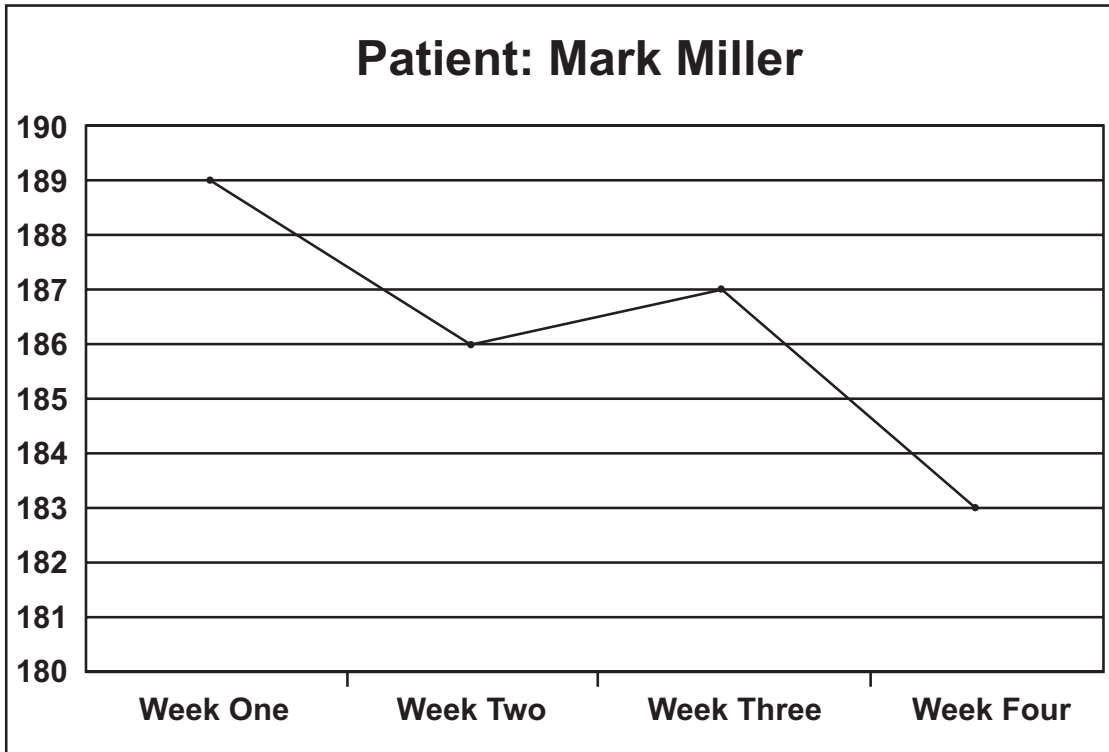
Let's look at a couple of examples to clarify this.



The line graph of Light Bulb Production shows the number of bulbs manufactured daily for one week in a small plant. Twenty thousand bulbs were produced on Wednesday and twenty-nine thousand were produced on Thursday. The connecting line on the graph gives the inaccurate impression that more were produced between these two points because the line rises steadily until it reaches the next point. We know that this is not possible because there is no day between Wednesday and Thursday! The data is discrete but appears to be continuous on the graph.



Now look at the bar graph of patient, Mark Miller. This graph displays the weekly weight of a patient in a health care facility. In this case, we know the patient had a measurable weight continuously, not just on a weekly basis. We know that in order for Mark to lose 3 pounds from week one to week two, that the patient's weight had to pass through all the points between 189 pounds and 186 pounds. This is continuous data because it is measured over time; however the bar graph would lead you to think that it is discrete or counted.



Now, look at Mr. Miller's line graph. This graph shows the same information as the previous bar graph and the data appears to be continuous. But look a little closer; this shows the patient's exact weight at weekly intervals. Mr. Miller's weight is continuous but when specific data is recorded at the end of the week, it is being counted as discrete data. If the weight were actually recorded only at the end of the week, the weight for example during the middle of week two would not necessarily have been 186.5 pounds. Actually, Mark Miller's weight may have dropped below 186 pounds, risen above 187 pounds, or risen at an irregular rate during this week. This line graph may be deceiving.





## LESSON 3

### WIN CAREER SOLUTIONS

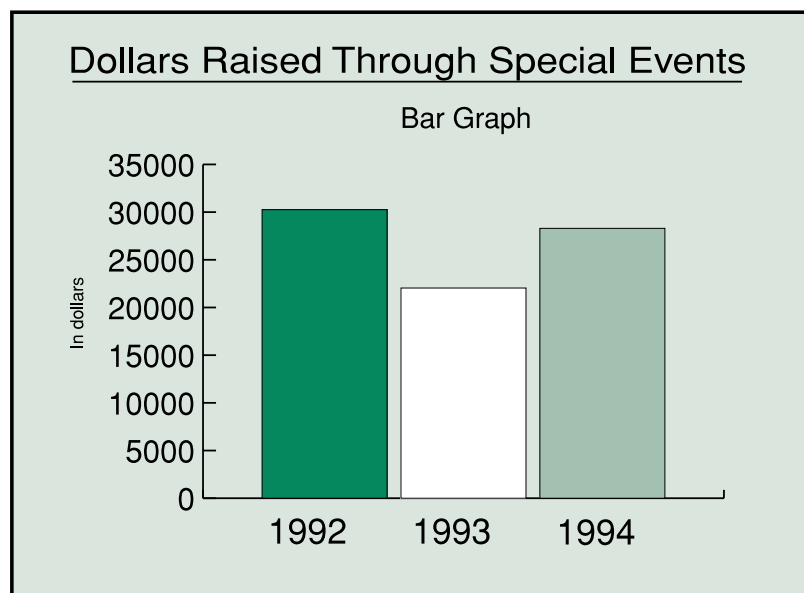
If you are presented with graphics similar to these in the workplace, (which, undoubtedly, you will) always look closely to determine which type of data it is conveying. This will make it easier for you to correctly analyze or summarize the information and to avoid interpreting implied information as accurate. A dietician tending to Mark Miller could not with certainty state that the patient's weight never fell below 183 pounds during these four weeks.

**EXERCISE - DISTINGUISHING DISCRETE AND CONTINUOUS DATA**

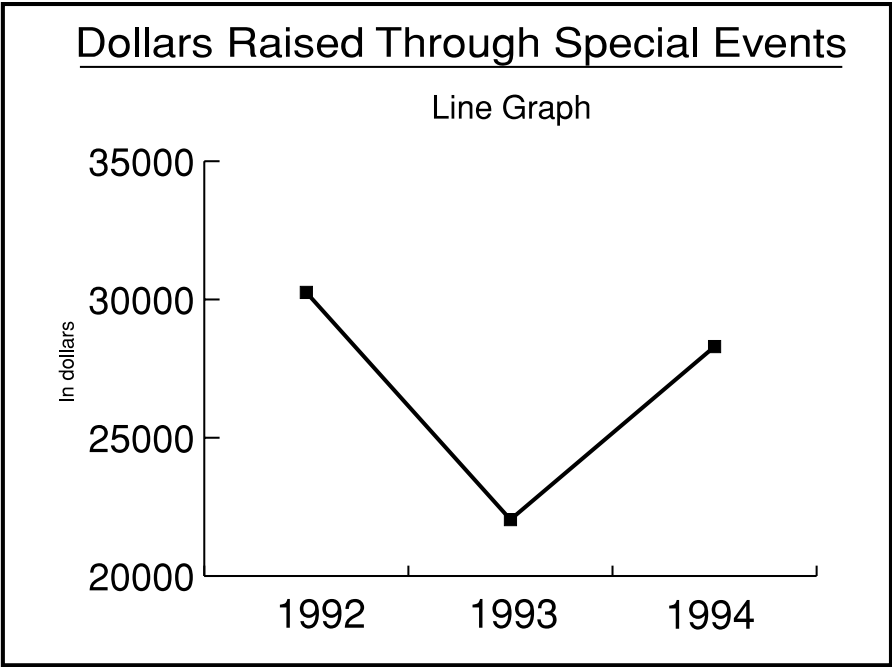
**Instructions:** *Identify whether the graphic represents discrete or continuous data.*

**1.**

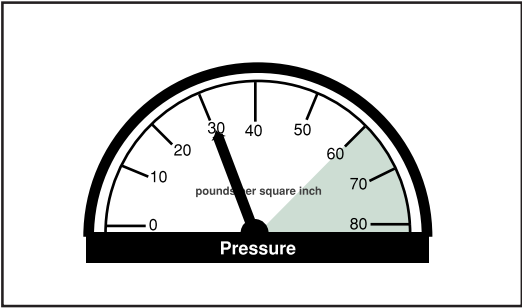
Baseball League			
	WON		LOST
Pittsburgh	61		38
New York	54		44
Chicago	53		49
St. Louis	48		50
Montreal	45		52
Philadelphia	38		62

**2.**

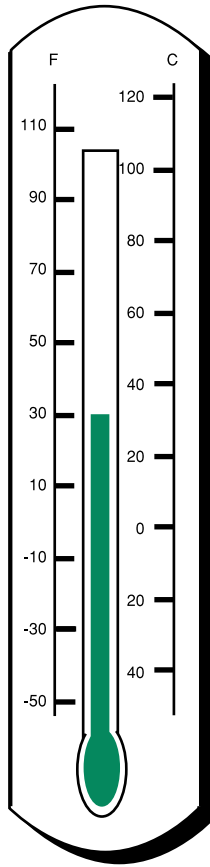
3.



4.



5.



6.

Week of March 18

	S	M	T	W	R	F	S
HIGH	52°	57°	49°	52°	48°	39°	37°
LOW	36°	38°	34°	38°	35°	31°	28°

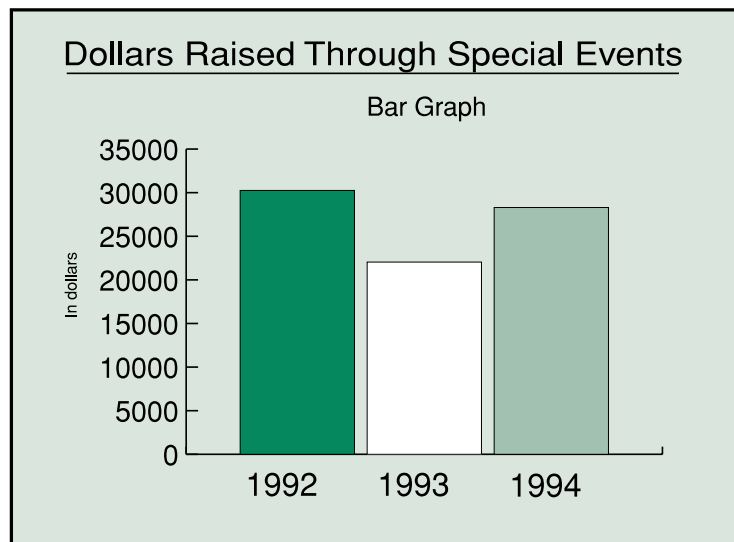
**ANSWERS TO EXERCISE**

1.

Baseball League			
	WON		LOST
Pittsburgh	61		38
New York	54		44
Chicago	53		49
St. Louis	48		50
Montreal	45		52
Philadelphia	38		62

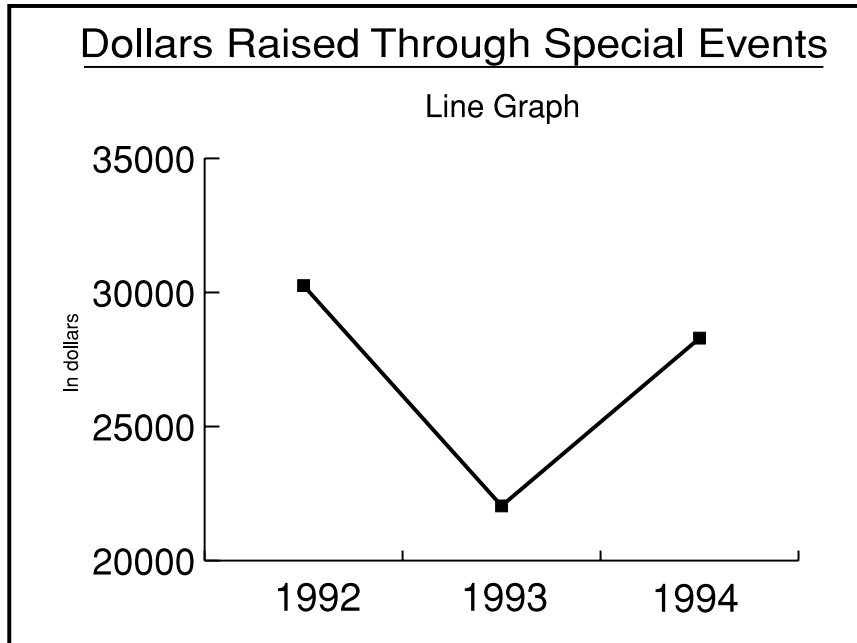
*Answer: The data is discrete. The number of games won or lost can be counted.*

2.



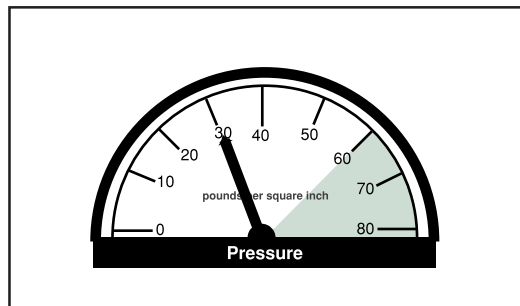
*Answer: The data is discrete. The number of dollars is counted.*

3.



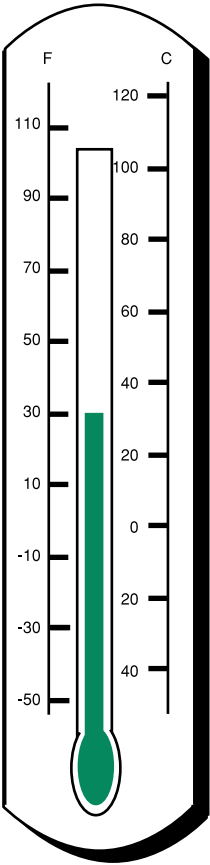
*Answer: The data is discrete. It represents the same counted data as in number 2. However, this graphic is misleading because of the lines connecting each year. It implies something is being measured continuously.*

4.



*Answer: The data is continuous because the pressure is being measured. The range is continuous on the gauge measuring between each number indicated.*

5.



Answer: The data is continuous.

6.

Week of March 18

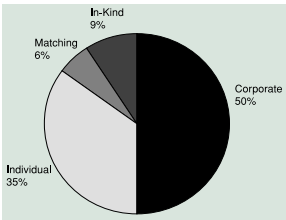
	S	M	T	W	R	F	S
HIGH	52°	57°	49°	52°	48°	39°	37°
LOW	36°	38°	34°	38°	35°	31°	28°

Answer: The data is discrete. Though temperature can be measured continuously, this data is counted at a high and a low.

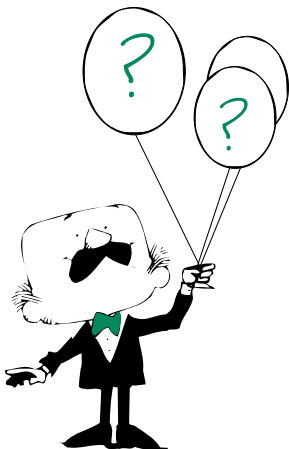
## SORTING THROUGH EXTRANEEOUS INFORMATION

As you progress to more difficult and confusing graphics, it will become more important for you to be able to sort through the material presented and block out information that is not needed to accomplish your immediate task. This skill will save you much time and effort in preparing and/or presenting data and allow you to work much faster and more efficiently.

Pop Quiz:

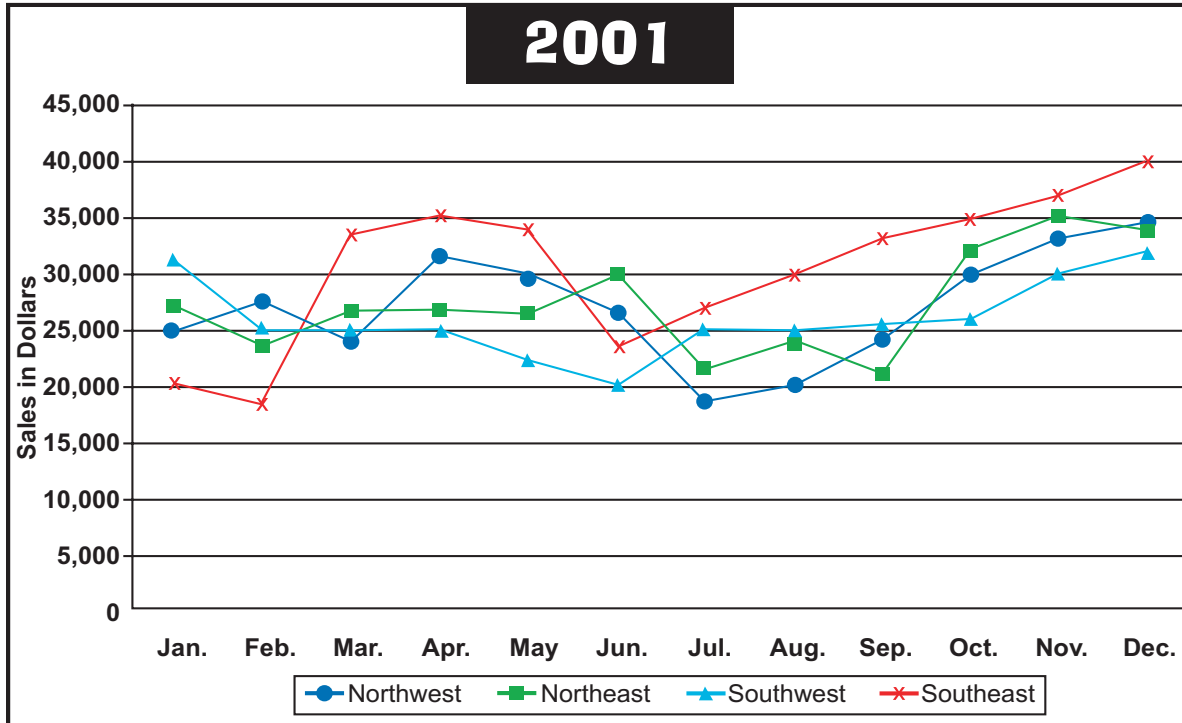


Representational or nonrepresentational?

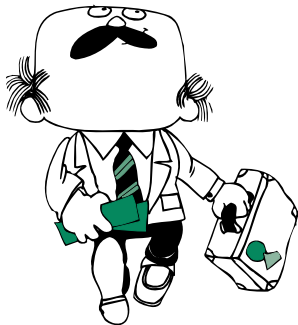




Look at the example:



At first glance this graphic appears very confusing and is filled with multiple bits of information. If you wanted to track the changes for the Southeast region, for instance, recognize from the key included that the Southeast region is represented by the red line with the asterisk, and then “block out” or ignore all of the other lines presented. When you do this, the graphic does not seem that difficult to interpret at all. You can easily pick out the line that represents the sales for the Southeast region.



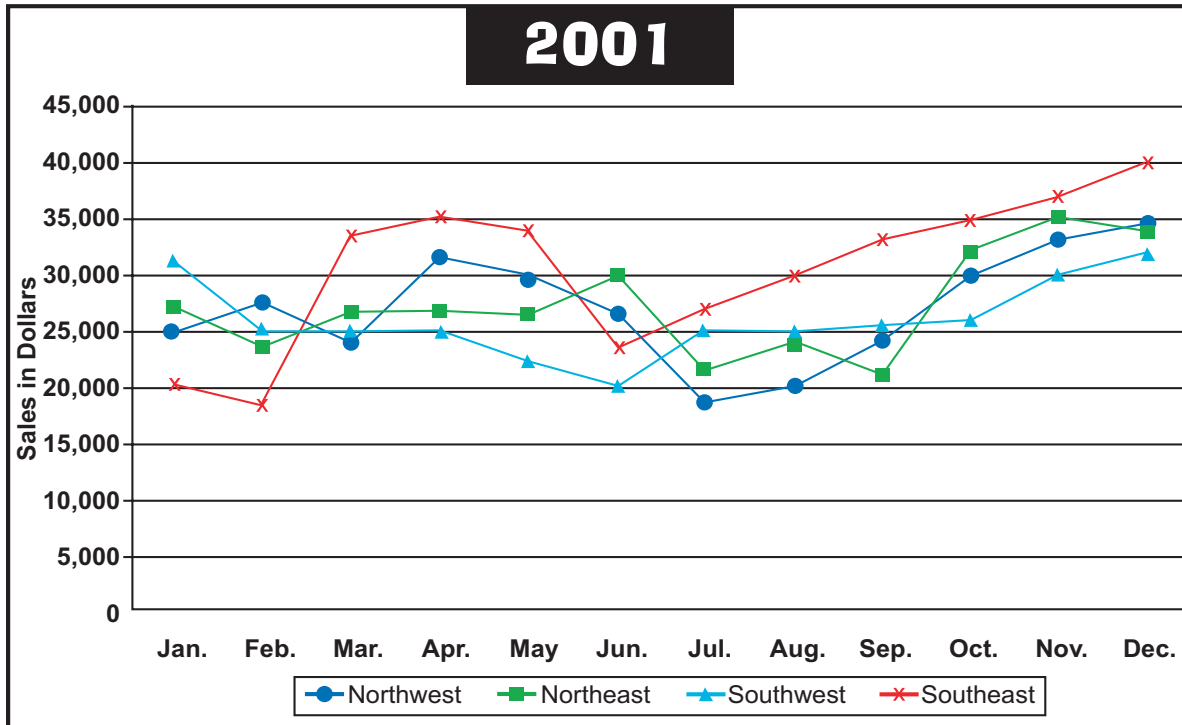
Item Number	Description	Cost per lb	Dec. 97 Sales	Changes from 12/96 Sales
J578	Sunflower, striped	\$0.80	124	-126
R433	Sunflower, black oil	\$0.75	400	+40
B159	Thistle	\$0.60	165	-10
M272	Mixed	\$0.25	528	+120
D884	Suet (with peanut butter)	\$1.49	225	+25

In this example, imagine that your employer wants to know which type of feed for birds had the highest sales in the month of December 1997. The “Item Number,” “Cost,” and “Change” columns are not pertinent for this particular task and can be eliminated from consideration ... only focus on “Description” and “Dec. 97 Sales.” If you were asked to show which type of feed had the greatest increase in sales during the period of time shown, you would eliminate from consideration any of the negative numbers in the “Change” column and look for the highest of those remaining. Once again, the “Item Number” and “Cost” columns can be eliminated along with the “Sales” column. The “Change” and “Description” columns would be all you would need to extract this data.

The key is to focus on the specific information you need. Sometimes writing yourself notes helps to separate the extraneous information.

**EXERCISE - FINDING PERTINENT DATA**

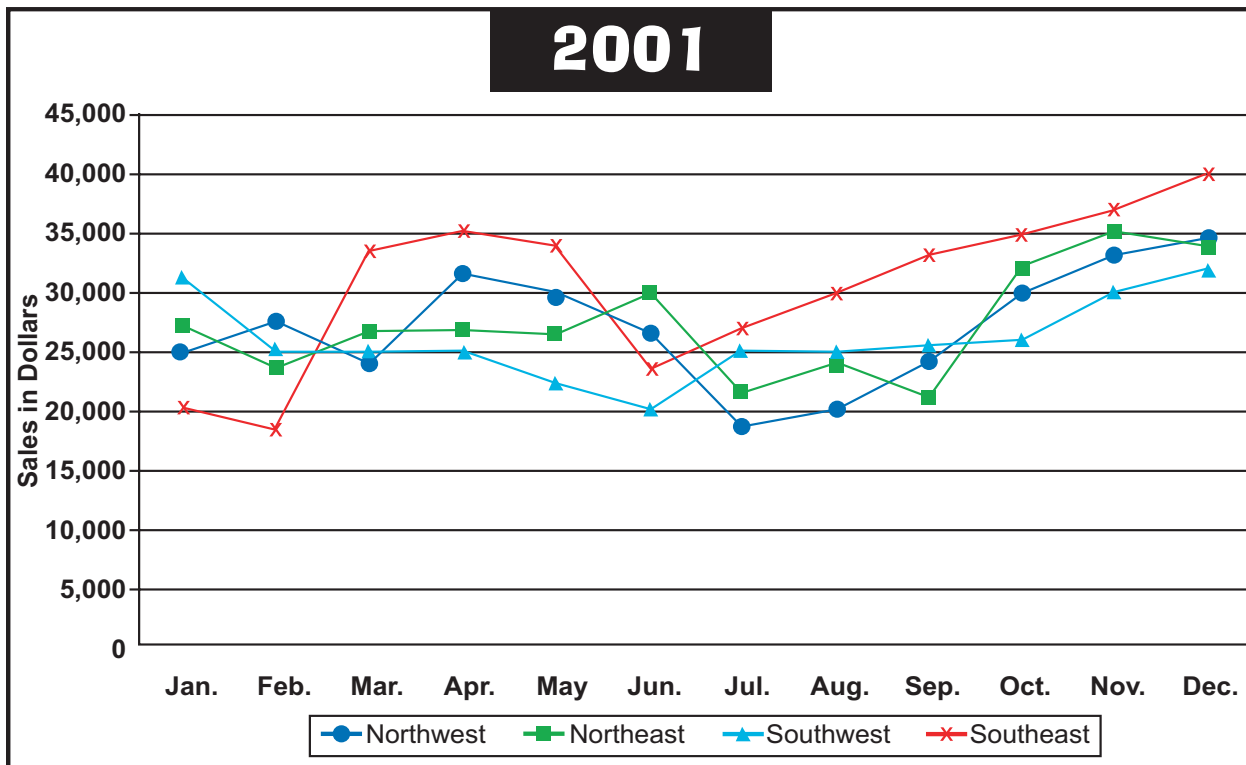
Instructions: *Answer the following questions.*



- What were the total sales for the Northeast region in October?
  - \$25,000
  - \$30,000
  - \$32,500
  - \$35,000
- What region represented in this graph reached the highest sales?
  - Northwest
  - Northeast
  - Southwest
  - Southeast

3. In which month did the highest sales occur?

- a. Jan.
- b. Apr.
- c. Oct.
- d. Dec.





## LESSON 4

### WIN CAREER SOLUTIONS

Item Number	Description	Cost per lb	Dec. 97 Sales	Changes from 12/96 Sales
J578	Sunflower, striped	\$0.80	124	-126
R433	Sunflower, black oil	\$0.75	400	+40
B159	Thistle	\$0.60	165	-10
M272	Mixed	\$0.25	528	+120
D884	Suet (with peanut butter)	\$1.49	225	+25

4. What is the cost of suet?

- a. \$0.80
- b. \$0.75
- c. \$0.60
- d. \$1.49

5. How many pounds of Black Oil Sunflower Seed were sold in December '97?

- a. 400 lb
- b. 124 lb
- c. 225 lb
- d. 528 lb

**ANSWERS TO EXERCISE****1. What was the cost of Alpha Corp stock in October?**

*Answer: c. \$32,500 (Ignore all data except the Northeast line in October.)*

**2. What region represented in this graph reached the highest sales?**

*Answer: d. Southeast. (Focus on the highest symbol on the graph. Then look at the key to determine which region it represents. You do not need to sort through any more information to answer this question.)*

**3. In which month did the highest sales occur?**

*Answer: d. Focus on the highest symbol on the graph. Then look down the graph to see the month. You do not need to sort through any more information to answer this question.*

**4. What is the cost of suet?**

*Answer: d. \$1.49 (Ignore item numbers, sales and changes. Focus only on the bottom row and cost column.)*

**5. How many pounds of Black Oil Sunflower Seed were sold in December 97?**

*Answer: a. 400 lb (Ignore item number, cost, and changes.)*



## **RECOGNIZING, ANALYZING, AND SYNTHESIZING ESSENTIAL DATA**

This skill is similar to Lesson 4, but we will take it a step further to discuss analyzing and synthesizing data once you have learned to sort out the unneeded information and apply the pertinent material for the immediate task.

Analyzing and synthesizing data, in simpler terms, means to evaluate and blend the data into an informative and cohesive result. This may require that you use more than one graphic to accomplish the specific task required. Look at the following tables to get a clearer meaning of this.

**INVENTORY**

Part Number	Quantity	Weight lb per part
SK740	104	2.0
TR130	241	2.5
ZK220	93	3.0
BR560	152	5.0

*figure a.*

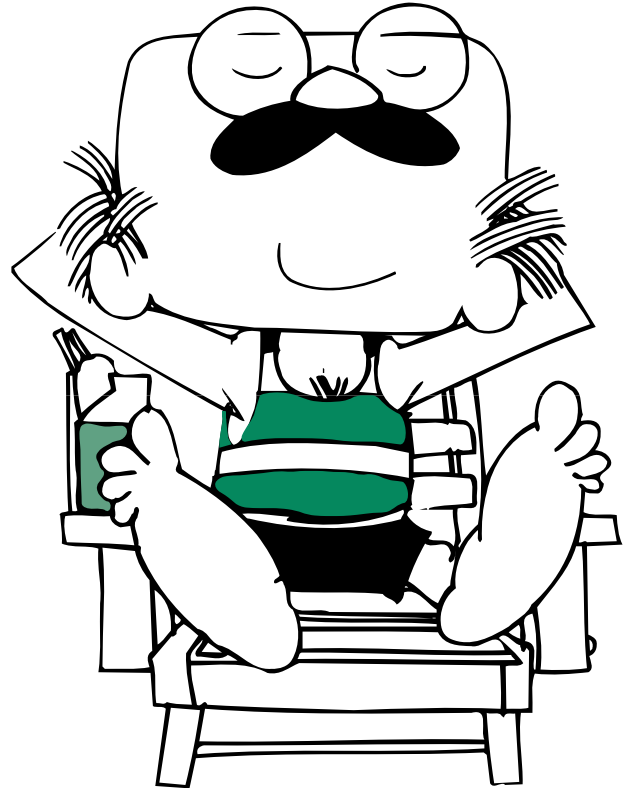
Shipping and Handling	
Weight (lb)	\$
1.0-2.0	3.50
2.1-5.0	6.00
5.1-8.0	7.50
8.1-12.0	10.00

*figure b.*

Suppose your manager wants to know what the shipping charges would be for Part Number BR560. You would need to analyze (evaluate) the data from both of these tables and synthesize (blend) the information to give him a correct figure. Specifically, the Weight column on *figure a* shows that the part number in question has a total weight of 5.0 lbs. The Shipping Charges table, *figure b*, shows that the charge for items weighing between 2.1-5.0 lbs. will be \$6.00. Analyzing (evaluating) the data and synthesizing (blending) the information from both graphics gives you the answer to his question. It will cost \$6.00 to have part #BR560shipped to your location.



You will use this skill many times when dealing with graphically presented information. Becoming comfortable with the process will be very valuable, so I would suggest that you use this graphic to practice extracting other bits of information to sharpen your analyzing and synthesizing skills.





## LESSON 5

### WIN CAREER SOLUTIONS

#### EXERCISE - ANALYZING AND SYNTHESIZING

Instructions: *Using both tables answer the following questions.*

**INVENTORY**

Part Number	Quantity	Weight lb per part
SK740	104	2.0
TR130	241	2.5
ZK220	93	3.0
BR560	152	5.0

**Shipping and Handling**

Weight (lb)	\$
1.0-2.0	3.50
2.1-5.0	6.00
5.1-8.0	7.50
8.1-12.0	10.00



## LESSON 5

### WIN CAREER SOLUTIONS

1. What are the shipping charges for a quantity of four number SK740 parts?

---

2. What are the shipping charges for three number ZK220 parts?

---

3. How much would 2 number TR130 parts weigh?

---

4. What would it cost to ship these 2 (#TR130) parts?

---

**ANSWERS TO EXERCISE****INVENTORY**

Part Number	Quantity	Weight lb per part
SK740	104	2.0
TR130	241	2.5
ZK220	93	3.0
BR560	152	5.0

Shipping and Handling	
Weight (lb)	\$
1.0-2.0	3.50
2.1-5.0	6.00
5.1-8.0	7.50
8.1-12.0	10.00

1. What are the shipping charges for a quantity of four number SK740 parts?

*Answer:* \$7.50

2. What are the shipping charges for three number ZK220 parts?

*Answer:* \$10.00

3. How much would 2 number TR130 parts weigh?

*Answer:* 5 lb

4. What would it cost to ship these 2 (#TR130) parts?

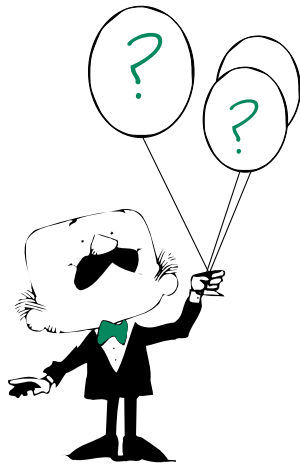
*Answer:* \$6.00

## RELATING MULTIPLE GRAPHICS

In Lesson 5 you were using two tables to analyze and synthesize data. As you continue to use multiple graphics, you will need to understand in what ways the individual graphics can relate to each other. Using multiple graphics complicates the integration of previously learned skills.

You must be able to summarize and compare information between graphics to identify and analyze required data. You must examine the connections between the graphics before determining where to begin on the task and how one document can be used to understand material in another.

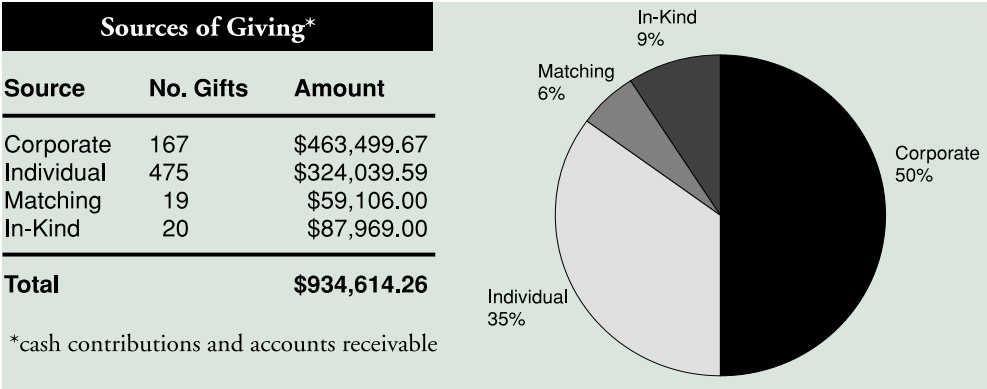
Pop Quiz: Bar graphs show discrete data effectively. True or false?



Graphics can relate to each other in the following ways:

1. One graphic can be used to provide more details for another graphic.

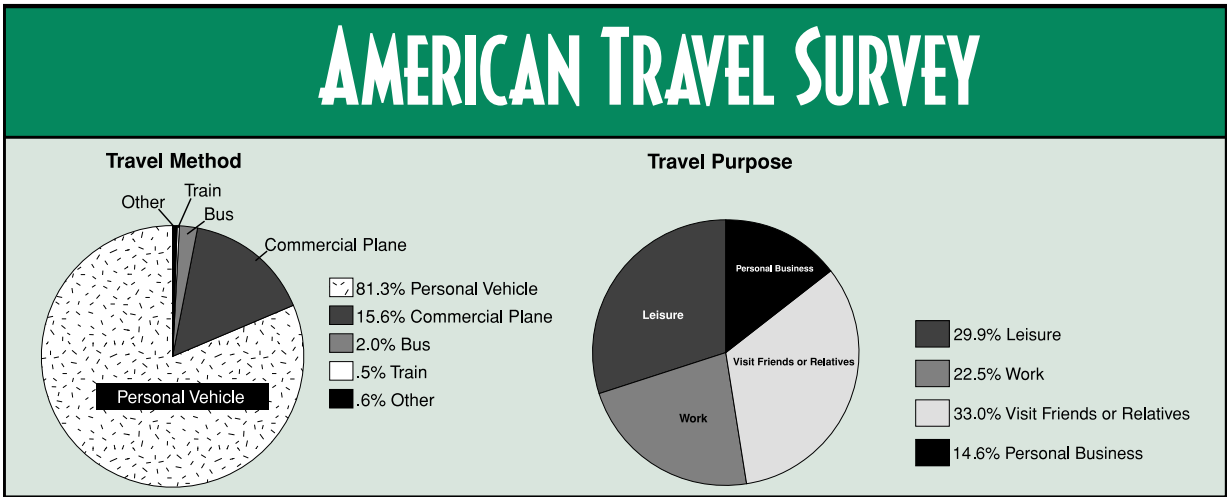
Example: Pie graph amplification of a table



Though all information is communicated through the table on the left, the pie graph amplifies how important corporate and individual contributions are as sources of income.

2. Graphics can be used to illustrate comparisons between similar items.

Example: Two pie charts comparing usage of different items



Source: U.S. Dept. of Transportation

Both graphs relate to the Travel Survey, but communicate different information.

3. Information can be extracted from one graphic and then presented in a different type of graphic.

**Example:**

<b>CALCIUM IN SELECTED FOODS</b>	
FOOD	CALCIUM (MG.)
<b>DAIRY</b>	
Yogurt, nonfat, plain (1 cup)	415
Macaroni and cheese (1 cup)	362
Milk, nonfat, protein-fortified (1 cup)	302
Milk, 1% fat (1 cup)	300
Milk, 2% fat (1 cup)	297
Ice cream or ice milk (1 cup)	164
Cottage cheese, 1% fat (1 cup)	138
<b>OTHER</b>	
Wonder Calcium Enriched Bread (2 slices)	580
Tropicana Season's Best Orange Juice Plus Calcium (1 cup)	333
Minute Maid Calcium Enriched Orange Juice (1 cup)	293
Sherbet, orange (1 cup)	103
Bread, white or whole wheat (2 slices)	47
<i>Sources: Food Values of Portions Commonly Used by Jean Pennington, package labels.</i>	

Sources: National Institutes of Health; Center for Science in the Public Interest; USDA materials; National Osteoporosis Foundation

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## **7 WAYS TO SNEAK MORE CALCIUM INTO YOUR DIET**

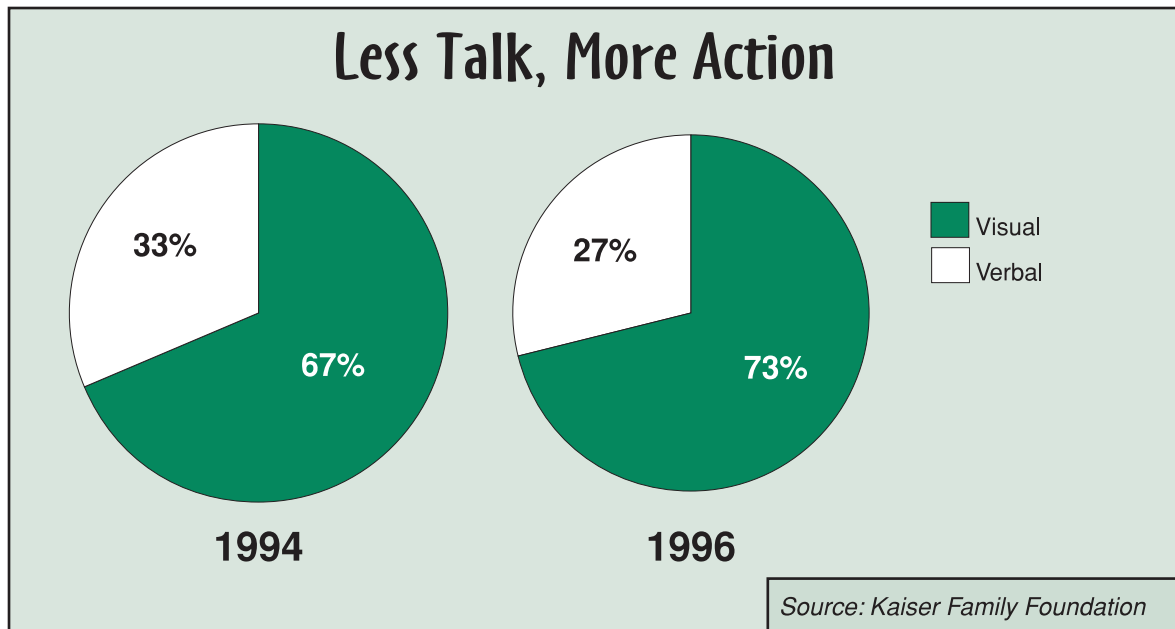
- **Drink nonfat or 1% milk** at every meal, and/or enjoy it for snacks.
- **Drink calcium-fortified** fruit juices.
- **Enjoy nonfat frozen yogurt or ice milk** for dessert.
- **Add low-fat cottage cheese** to your fruit or vegetable salad.
- **Add nonfat dry milk** to casserole dishes and homemade breads.
- **Use milk**, instead of water, to make instant oatmeal, pancakes, etc.
- **For lunch**, enjoy a toasted whole wheat English muffin, topped with low-fat cheese and a tomato slice.
- **Buy calcium-enriched** bread.

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By reading and extracting the amount of calcium in selected foods, you are better able to have an enhanced understanding of sneaking more calcium in your diet. The format of the “Ways to Sneak Calcium” data makes more sense if you can relate the amount of calcium in foods.

4. Graphics can show trends by comparing similar data obtained at various times.

**Example:** Two pie charts comparing a trend over time.



By comparing visual and verbal time documented on soap operas in 1994 and 1996, we can see the trend to talk less and show more.



5. Information obtained from one or more graphics can be inserted into another graphic in order to obtain more specific information.

**Example:** A chart can be used to identify dietary requirements of a hospital patient's authorized menu items.

HOW MUCH of WHAT is in your vegetables?								
VEGETABLE (1/2 cup cooked unless otherwise noted)	SCORE	CALORIES	FIBER	VIT C*	VIT A	FOLIC ACID	CALCIUM	IRON
Spinach	184	21	+		++	+++		+++
Collard Greens	181	31		+	++	++	+++	++
Sweet potato, 1 baked w/skin	173	118	+++	++	+++			
Kale	160	21	++	++	++		++	
Spinach, raw, 1 cup	148	21			++	+++		+++
Turnip greens	147	15	++	+	++	+++	+++	
Broccoli	143	22	+	+++			+	+
Dandelion greens	142	17	+		++		+++	++
Carrot, 1 raw	128	31	++		+++			
Brussels sprouts	125	30	+++	+++		+	+	++
Carrots	117	35			+++			
Winter squash	111	118	++		++			
Swiss chard	107	18			+			+++
Mustard greens	99	11		+	+	+	++	
Snow peas	92	12	+	++				+++
Pepper, sweet, raw, 1/4 cup	89	13		+++		+		
Potato, 1 baked w/skin	86	220	+++	++				+++
Romaine lettuce, raw, 1 cup	81	8			+	++		+
Cauliflower	75	15			++			
Tomato, 1 raw	70	26		+				
Artichoke, 1	69	60	+++			++	++	+++
Asparagus	69	22				+++		+
Watercress, raw, 1 cup	64	4			+		+	
Peas	59	67	++					++
Red cabbage	57	16		++				
Endive, raw, 1 cup	55	8				++		
Mung bean sprouts, raw, 1 cup	51	32				++		++
Okra	51	25					++	
Rutabaga	51	29	++	+			+	
Cabbage	47	16	+	+				
Parsnips	42	63	+			+		
Scallions, raw, 1/4 cup	39	16					+	+
Corn, yellow	38	89	+++					
Green beans	35	22						+
Iceberg lettuce, 1 cup	31	8						
Beets	30	26				+		
Fennel, raw, 1 cup	28	27					+	
Summer squash	27	39						
Turnips	26	14						
Onions	25	47						
Radishes, raw, 10	24	7						
Leeks	20	16	+					
Arugula, raw, 1 cup	18	4						
Cucumber, raw, 1 cup	18	14						
Alfalfa sprouts, raw, 1 cup	15	10						
Celery, raw, 1 stalk	14	6						
Radicchio, raw, 1 cup	14	10						
Mushrooms	8	9						
Eggplant	5	13						

Source: Vegetarian Resource Group: (410) 366-VEGE

\*Vitamin C is destroyed by exposure to heat, oxygen, and/or light.

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## Patient Dietary Instructions

Patient: U.B. Sick Doctor: Will Feelbetter

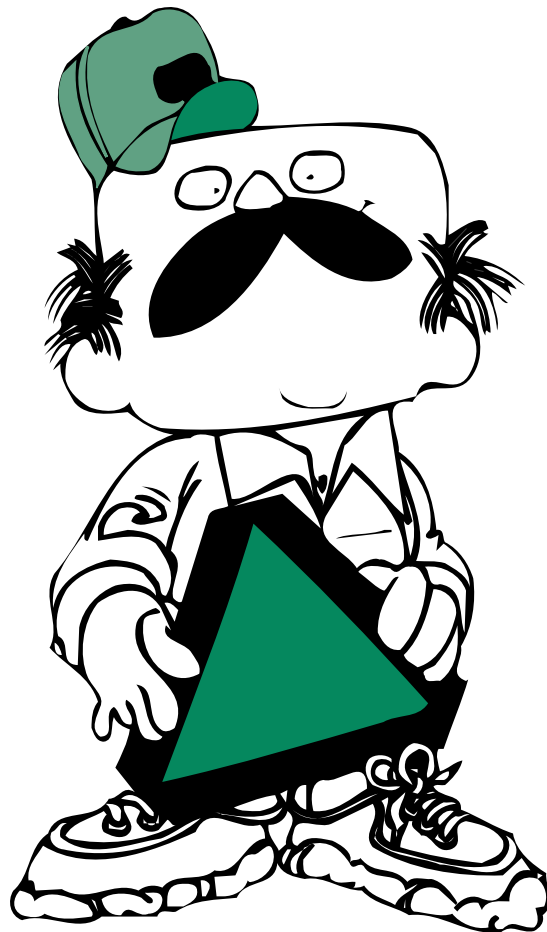
Room #: 605 Code: 1402

Dietary Requirements: High Iron, High Folic Acid

Daily Vegetables: Spinach, Greens, Snow Peas,  
Artichokes, Bean Sprouts

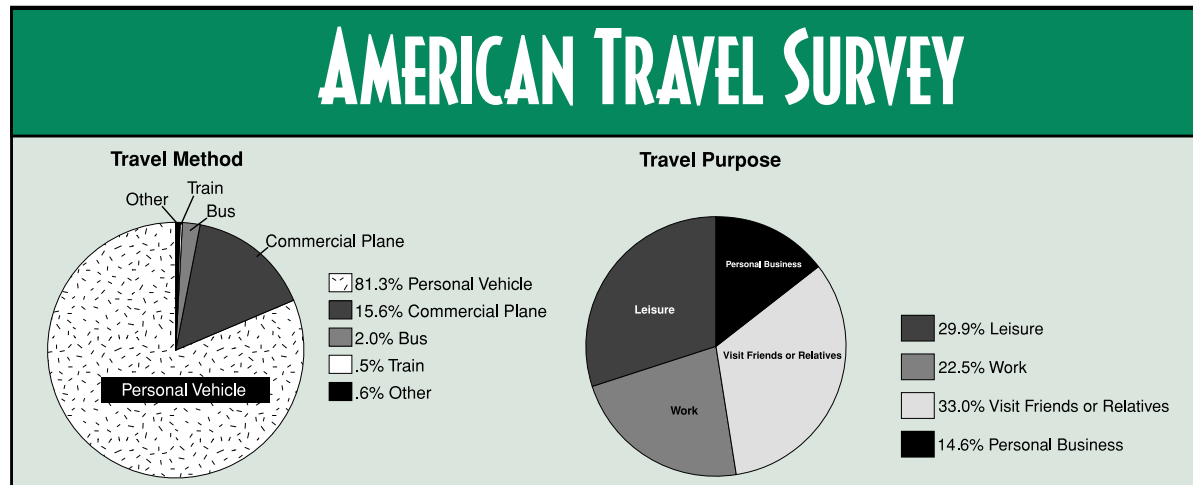
By using the general graphic on what is in vegetables, you can make decisions or take action in completing other graphics such as the patient's chart. Daily vegetables can be identified by using both graphics.

It is important to remember that no matter how complex they become you must not allow your mind to “shut down” when faced with difficult or unfamiliar graphics. Now, I know that at first glance, some can be pretty intimidating... but if you will remember your basic steps and break them down into simpler, more understandable parts, you will see that you can interpret the most scary looking graphic you’ve ever seen!! Really, you can do it... just don’t panic. Slow down, take a deep breath, and take it one step at a time.



## EXERCISE - RELATING GRAPHICS

**Instructions:** Use multiple graphics to answer the following questions.



Source: U.S. Dept. of Transportation

**1. What is the reason most people indicate they travel?**

---

**2. What travel method do most people use to visit friends and family?**

---



## LESSON 6

### WIN CAREER SOLUTIONS

Instructions: Use this table to answer the following two questions.

HOW MUCH of WHAT is in your vegetables?								
VEGETABLE (1/2 cup cooked unless otherwise noted)	SCORE	CALORIES	FIBER	VIT C*	VIT A	FOLIC ACID	CALCIUM	IRON
Spinach	184	21	+		++	+++		+++
Collard Greens	181	31		+	++	++	+++	++
Sweet potato, 1 baked w/skin	173	118	+++	++	+++			
Kale	160	21	++	++	++		++	
Spinach, raw, 1 cup	148	21			++	+++		+++
Turnip greens	147	15	++	+	++	+++	+++	
Broccoli	143	22	+	+++			+	+
Dandelion greens	142	17	+		++		+++	++
Carrot, 1 raw	128	31	++		+++			
Brussels sprouts	125	30	+++	+++		+	+	++
Carrots	117	35			+++			
Winter squash	111	118	++		++			
Swiss chard	107	18			+			+++
Mustard greens	99	11		+	+	+	++	
Snow peas	92	12	+	++				+++
Pepper, sweet, raw, 1/4 cup	89	13		+++		+		
Potato, 1 baked w/skin	86	220	+++	++				+++
Romaine lettuce, raw, 1 cup	81	8			+	++		+
Cauliflower	75	15			++			
Tomato, 1 raw	70	26		+				
Artichoke, 1	69	60	+++			++	++	+++
Asparagus	69	22				+++		+
Watercress, raw, 1 cup	64	4			+		+	
Peas	59	67	++					++
Red cabbage	57	16		++				
Endive, raw, 1 cup	55	8				++		
Mung bean sprouts, raw, 1 cup	51	32				++		++
Okra	51	25					++	
Rutabaga	51	29	++	+			+	
Cabbage	47	16	+	+				
Parsnips	42	63	+			+		
Scallions, raw, 1/4 cup	39	16					+	+
Corn, yellow	38	89	+++					
Green beans	35	22						+
Iceberg lettuce, 1 cup	31	8						
Beets	30	26				+		
Fennel, raw, 1 cup	28	27					+	
Summer squash	27	39						
Turnips	26	14						
Onions	25	47						
Radishes, raw, 10	24	7						
Leeks	20	16	+					
Arugula, raw, 1 cup	18	4						
Cucumber, raw, 1 cup	18	14						
Alfalfa sprouts, raw, 1 cup	15	10						
Celery, raw, 1 stalk	14	6						
Radicchio, raw, 1 cup	14	10						
Mushrooms	8	9						
Eggplant	5	13						

Source: Vegetarian Resource Group;  
(410) 366-VEGE

\*Vitamin C is destroyed by exposure  
to heat, oxygen, and/or light.

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## LESSON 6

### WIN CAREER SOLUTIONS

#### Patient Dietary Instructions

Patient: Mother-to-Be Doctor: Will U. Feelbetter

Room #: 310 Code: 0092

Dietary Requirements: High Calcium

Daily Vegetables: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Determine the vegetables you would require for the patient.

---

#### Patient Dietary Instructions

Patient: Bea Retired Doctor: Will Feelbetter

Room #: 102 Code: 1214

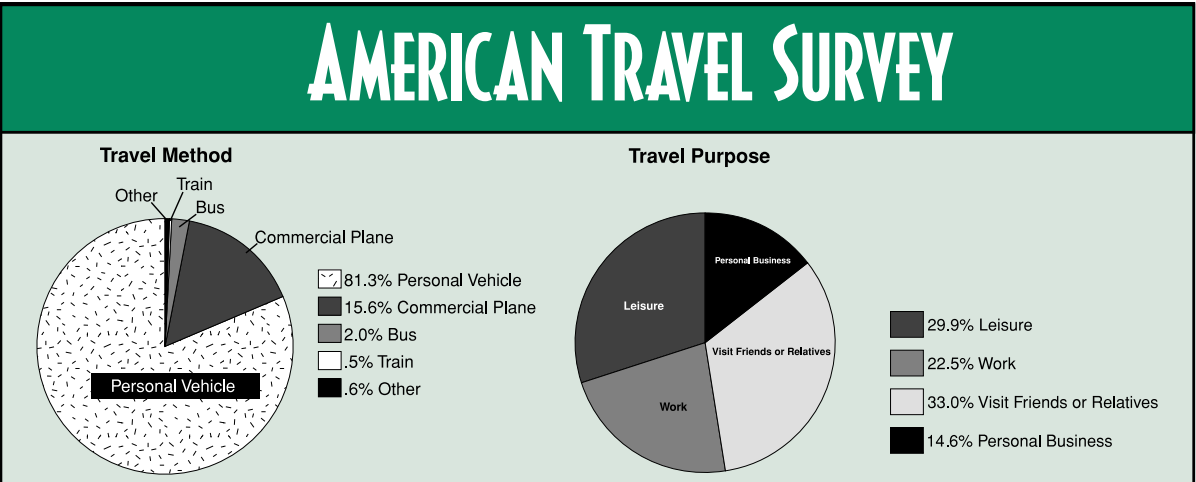
Dietary Requirements: Fiber

Daily Vegetables: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Determine the vegetables you would require for this patient.

---

ANSWERS TO EXERCISE



Source: U.S. Dept. of Transportation

1. What is the reason most people indicate they travel?  
*Answer: Visit friends or relatives*
2. What travel method do most people use to visit friends and family?  
*Answer: Personal vehicle*  
*If 81% of Americans use personal vehicles for travel and visiting is the most frequent purpose, while not empirical in the data, it is likely that personal vehicles are used for visiting friends and family more than the other modes of transportation.*

**WIN CAREER SOLUTIONS**

**HOW MUCH of WHAT is in your vegetables?**

VEGETABLE (1/2 cup cooked unless otherwise noted)	SCORE	CALORIES	FIBER	VIT C*	VIT A	FOLIC ACID	CALCIUM	IRON
Spinach	184	21	+		++	+++		+++
Collard Greens	181	31		+	++	++	+++	++
Sweet potato, 1 baked w/skin	173	118	+++	++	+++			
Kale	160	21	++	++	++		++	
Spinach, raw, 1 cup	148	21			++	+++		+++
Turnip greens	147	15	++	+	++	+++	+++	
Broccoli	143	22	+	+++			+	+
Dandelion greens	142	17	+		++		+++	++
Carrot, 1 raw	128	31	++		+++			
Brussels sprouts	125	30	+++	+++		+	+	++
Carrots	117	35			+++			
Winter squash	111	118	++		++			
Swiss chard	107	18			+			+++
Mustard greens	99	11		+	+	+	++	
Snow peas	92	12	+	++				+++
Pepper, sweet, raw, 1/4 cup	89	13		+++		+		
Potato, 1 baked w/skin	86	220	+++	++				+++
Romaine lettuce, raw, 1 cup	81	8			+	++		+
Cauliflower	75	15			++			
Tomato, 1 raw	70	26		+				
Artichoke, 1	69	60	+++			++	++	+++
Asparagus	69	22				+++		+
Watercress, raw, 1 cup	64	4			+		+	
Peas	59	67	++					++
Red cabbage	57	16		++				
Endive, raw, 1 cup	55	8				++		
Mung bean sprouts, raw, 1 cup	51	32				++		++
Okra	51	25					++	
Rutabaga	51	29	++	+			+	
Cabbage	47	16	+	+				
Parsnips	42	63	+			+		
Scallions, raw, 1/4 cup	39	16					+	+
Corn, yellow	38	89	+++					
Green beans	35	22						+
Iceberg lettuce, 1 cup	31	8						
Beets	30	26				+		
Fennel, raw, 1 cup	28	27					+	
Summer squash	27	39						
Turnips	26	14						
Onions	25	47						
Radishes, raw, 10	24	7						
Leeks	20	16	+					
Arugula, raw, 1 cup	18	4						
Cucumber, raw, 1 cup	18	14						
Alfalfa sprouts, raw, 1 cup	15	10						
Celery, raw, 1 stalk	14	6						
Radicchio, raw, 1 cup	14	10						
Mushrooms	8	9						
Eggplant	5	13						

Source: Vegetarian Resource Group;  
(410) 366-VEGE

\*Vitamin C is destroyed by exposure  
to heat, oxygen, and/or light.

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**Patient Dietary Instructions**Patient: Mother-to-Be Doctor: Will U. FeelbetterRoom #: 310 Code: 0092Dietary Requirements: High Calcium

Daily Vegetables: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**3. Determine the vegetables you would require for the patient.**

*Answer: Best suggestions would be collard greens, turnip greens, dandelion greens (yuck! You mean that weed in my yard?). If your patient refuses to eat greens, suggest artichokes and okra.*

**Patient Dietary Instructions**Patient: Bea Retired Doctor: Will FeelbetterRoom #: 102 Code: 1214Dietary Requirements: Fiber

Daily Vegetables: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**4. Determine the vegetables you would require for this patient.**

*Answer: For high fiber suggest sweet potatoes and baked potatoes (with skins), artichokes, and corn.*



## RECOGNIZING AND APPLYING CONDITIONAL STATEMENTS

A conditional statement is one that is dependent upon another to provide the information that is required.

Remember when your Mom used to make a statement like this to you? “If you clean your room, then you may go to the movies with your friends!” Notice how one thing depended upon another in order to fulfill the objective? I am sure you recognized and applied the necessary criteria in order for you to go out with your friends! In other words, if your room still looked as though it could be condemned by the health department, you would not be leaving the house! On the other hand, if your room looked (and smelled) as though surgery could be performed there, then I’m sure you were off to the movies with Mom’s blessing!

This conditional statement can also apply to our graphic studies. Let’s look once again at a previous graphic to illustrate exactly what I mean.

**INVENTORY**

Part Number	Quantity	Weight lb per part
SK740	104	2.0
TR130	241	2.5
ZK220	93	3.0
BR560	152	5.0

*figure a.*

Shipping and Handling	
Weight (lb)	\$
1.0-2.0	3.50
2.1-5.0	6.00
5.1-8.0	7.50
8.1-12.0	10.00

*figure b.*

Once again, your boss needs to know the shipping cost of some items that he needs to order. He wants to know the cost of shipping a quantity of 4, #SK740 parts. You can apply the conditional statements this way:

If the required parts weigh 8 lb, **then**, the shipping cost will be \$7.50.



### INVENTORY

Part Number	Quantity	Weight lb per part
SK740	104	2.0
TR130	241	2.5
ZK220	93	3.0
BR560	152	5.0

*figure a.*

Shipping and Handling	
Weight (lb)	\$
1.0-2.0	3.50
2.1-5.0	6.00
5.1-8.0	7.50
8.1-12.0	10.00

*figure b.*

Say you want to order a quantity of four #TR130 parts. You will apply the conditional statement twice to arrive at the correct shipping cost. **If** the weight of (1) of part #TR130 is 2.5 lb, **then** (4) of those parts will weigh a total of 10 lb. (because 4 times 2.5 is 10) **If** the total weight is 10 lb, **then** the shipping cost will be \$10.00. Notice that you have applied the conditional statements twice to arrive at the data required using both of the graphics. Nothin' to it, right?



*This blank page was inserted intentionally.*

**EXERCISE - USING MULTIPLE CRITERIA WITH GRAPHICS**

Instructions:    *Use multiple graphics to find appropriate data to make “if- then” decisions.*

**Automobile Rating Factor  
and Statistical Codes**

	Pleasure Use	Work Less Than 15 Miles	Work 15 or More Miles	Business Use	Farm Use
Principal Operator 75 or Over	8031 1.00	8032 1.05	8033 1.15	8038 1.25	8039 0.85
Principal Operator 65-74	8801 0.90	8802 0.95	8803 1.05	8808 1.15	8809 0.75
Principal Operator 50-64	8851 0.80	8852 0.85	8853 0.95	8858 1.05	8859 0.65
Female (Only Operator in Household) Age 30-49	8861 1.00	8862 1.05	8863 1.15	8868 1.25	8869 0.85
All Other (Except Youthful)	8871 1.00	8872 1.05	8873 1.15	8878 1.25	8879 0.85

Annual Liability Premiums														
\$1,000						Uninsured Motorists - BI Only - Includes Underinsured Motorists								
	Liability Limits					Single Car					Multi-Car Per Person			
	60	100	300	500		60	100	300	500		60	100	300	500
	Base	250	273	313	326		25	40	65	74		19	31	51

**Cost = Liability Limit Base × Rating Factor**



## LESSON 7

### WIN CAREER SOLUTIONS

1. If a 73-year-old man driving a vehicle for pleasure wants to purchase liability coverage for \$300,000, determine his base premium and rating factor.

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2. A 50-year-old man using his vehicle for business wants a \$500,000 liability limit. What is his premium?

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3. A 28-year-old wife drives the family vehicle 17 miles to work three days a week. To have \$100,000 liability limit, what is her premium?

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4. A 76-year-old senior works part-time at the local grocery store three miles from his home. To carry a \$100,000 liability limit, what is his premium?

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5. A single 33-year-old mother sells real estate. She must carry a minimum of \$300,000 liability coverage because of her office policy. What are her 2 choices of premiums?

---

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## LESSON 7

### WIN CAREER SOLUTIONS

## ANSWERS TO EXERCISE

### Automobile Rating Factor and Statistical Codes

	Pleasure Use	Work Less Than 15 Miles	Work 15 or More Miles	Business Use	Farm Use
Principal Operator 75 or Over	8031 1.00	8032 1.05	8033 1.15	8038 1.25	8039 0.85
Principal Operator 65-74	8801 0.90	8802 0.95	8803 1.05	8808 1.15	8809 0.75
Principal Operator 50-64	8851 0.80	8852 0.85	8853 0.95	8858 1.05	8859 0.65
Female (Only Operator in Household) Age 30-49	8861 1.00	8862 1.05	8863 1.15	8868 1.25	8869 0.85
All Other (Except Youthful)	8871 1.00	8872 1.05	8873 1.15	8878 1.25	8879 0.85

Annual Liability Premiums														
\$1,000						Uninsured Motorists - BI Only - Includes Underinsured Motorists								
	Liability Limits					Single Car					Multi-Car Per Person			
	60	100	300	500		60	100	300	500		60	100	300	500
	Base	250	273	313		326	25	40	65		74	19	31	51





1. If a 73-year-old man driving a vehicle for pleasure wants to purchase liability coverage for \$300,000, determine his base premium and rating factor.

*Answer: If he is 73 and drives for pleasure then his rating factor is .90. If he selects a \$300,000 liability limit, then his base premium is \$313. To calculate his premium, multiply base times rate.*

$$313 \times .90 = \$281.70 \text{ premium}$$

2. A 50-year-old man using his vehicle for business wants a \$500,000 liability limit. What is his premium?

*Answer: \$342.30 – If he is 50 and uses his car for business, then his rate is 1.05. If he has a \$500,000 limit, then his base is \$326.*

$$\text{So } 326 \times 1.05 = \$342.30$$

3. A 28-year-old wife drives the family vehicle 17 miles to work three days a week. To have \$100,000 liability limit, what is her premium?

*Answer: \$313.95 – If she is 28 (all other category) and is driving 17 miles to work, then her rate is 1.15. If she wants a \$100,000 liability limit, then her base is \$273. So  $273 \times 1.15 = \$313.95$ .*

4. A 76-year-old senior works part-time at the local grocery store three miles from his home. To carry \$100,000 liability limit, what is his premium?

*Answer: If he is 76 and is driving less than 15 miles to work, then his rate is 1.05. If he decides to carry \$100,000 liability limit, then his base is 273. So,  $273 \times 1.05 = \$286.65$ .*

5. A single 33-year-old mother sells real estate. She must carry a minimum of \$300,000 liability coverage because of her office policy. What are her 2 choices of premiums?

*Answer: A 33-year-old single mother would be the only operator in the household and selling real estate would specify her driving as a business use. Therefore, her rate is 1.25. The base for \$300,000 is 313, which would result in a premium of \$391.25 ( $313 \times 1.25 = \$391.25$ ). The other option she has is to carry a \$500,000 limit, which has a base of 326. So,  $326 \times 1.25 = \$407.50$ .*

## RECOGNIZING AND APPLYING VALUE JUDGMENTS

*Decisions, Decisions!*



When dealing with graphics in the workplace, there will be many times that you will find it necessary to apply a value judgment to the data that you have collected and analyzed. In fact, this may be a standard requirement of your job. Instead of just being responsible for collecting, reading, or designing the graphics necessary, you may be responsible for decision making concerning the information they represent. If you have become adept at interpretation of all types of graphics and the data they provide, you will be confident to make these judgments without too much hesitation.

Let's look at an example to practice these judgment skills. We will estimate, evaluate, recommend, and decide some important questions concerning the data depicted in this graphic.

First, take a few minutes to look over the graphic using the basics steps studied in earlier levels. Scan the headings, formats, amounts, units of measurements, etc. to familiarize yourself with the information presented.

Item Number	Description	Cost per lb	Dec. 97 Sales	Changes from 12/96 Sales
J578	Sunflower, striped	\$0.80	124	-126
R433	Sunflower, black oil	\$0.75	400	+40
B159	Thistle	\$0.60	165	-10
M272	Mixed	\$0.25	528	+120
D884	Suet (with peanut butter)	\$1.49	225	+25

Granted, many value judgments will depend on various criteria that you must take into account in any given work environment. These may include budgetary issues, availability, price increases, inflation, transportation and storage, employee costs, and many other variables that may play an important role in your ability to be flexible in making value judgments. For our purpose here, though, let's assume that things will remain static with this company's economic position in the next fiscal year.

Let's practice these skills:

Item Number	Description	Cost per lb	Dec. 97 Sales	Changes from 12/96 Sales
J578	Sunflower, striped	\$0.80	124	-126
R433	Sunflower, black oil	\$0.75	400	+40
B159	Thistle	\$0.60	165	-10
M272	Mixed	\$0.25	528	+120
D884	Suet (with peanut butter)	\$1.49	225	+25

Estimate the number of pounds of Mixed bird seed you will need to order for 12/98.

- Look in the Changes column to see if Mixed seed sales increased or decreased.  
*Nice increase +120*
- Look in the December Sales column to see how many pounds were actually sold.  
*528*
- Now, it's time to estimate. You want to be conservative, but you do not want to run out of Mixed seed next December. It was this December's biggest seller!

*Your answers will vary. This is what business decisions are all about. A conservative estimate may be 530, a typical estimate may be 550, and an aggressive estimate may be 600.*



**Evaluate** the meaning of the changes in sales of Striped Sunflower seed during the last year.

1. Look at the Change column to see how Striped Sunflower seed changed.  
*126 less pounds were sold in December of 1997*
2. Look at the December Sales to see how many pounds were sold.  
*124 Wow! Think about it... evaluate the situation... that is about half as many as the December before. That should make you wonder why. Think again... if sales dropped by 126, they must have sold 250 ( $126 + 124 = 250$ ) in 1996.*  
*Graphics often tell information that is not obvious at a glance.*
3. Now based on our thoughts, we can make a better recommendation about future sales. Do you see why it is important to evaluate graphics?

**Recommend** any necessary adjustments in ordering Thistle seed.

1. Before we can recommend, we need to evaluate the situation, as we did with Striped Sunflower seed. Look at the Change column to see 10 less pounds of Thistle seed were sold.
2. Look in the December sales column to see 165 pounds of Thistle seed were sold.
3. Evaluate this information. In 1996, 175 pounds of Thistle seed were sold... in 1997, 165 were sold.
4. How much would you predict will sell in 1998? The trend suggests 155 pounds will sell, another decrease of 10. But, you may have reason to believe sales will boom in 1998 because a popular TV nature show keeps talking about the birds that like to eat Thistle seed. Additional information to graphics often influences actual recommendations.



## LESSON 8

### WIN CAREER SOLUTIONS

Decide what changes in inventory you will make in the next time period 12/97-12/98.

Answers will vary. Utilizing the steps... estimate, evaluate, and recommend... I, EdWIN would make the following decisions:

Description	1998 Inventory
Sunflower, striped	75
Sunflower, black oil	500
Thistle	155
Mixed	650
Svet	275

Notice I used a table to make my recommendations.



## LESSON 8

### WIN CAREER SOLUTIONS



That's it!! You have now completed this level of *Locating Information* skills. Now we will check how well you have done with a little test... Remember, if you don't feel you are ready for this, just go back and review as much as you need to until you feel comfortable. Then come back and give it a try.

As usual, the answers follow so that you can judge how well you have understood this level...but don't look ahead before you take the test....you can't make an accurate evaluation that way, and besides, you probably don't need to look anyway! I'll bet you've got this down pat!!



**EXERCISE - POSTTEST**

Instructions: *Answer the following questions.*

1. What would be the most effective type of graphic to show quantities?

\_\_\_\_\_

2. What would be the most effective type of graphic to show proportions?

\_\_\_\_\_

3. What would be the most effective type of graphic to show arrangement?

\_\_\_\_\_

4. What would be the most effective type of graphic to show procedures?

\_\_\_\_\_

5. What would be the most effective type of graphic to show attributes?

\_\_\_\_\_

6. What would be the most effective type of graphic to show changes?

\_\_\_\_\_





**7. What is the difference between a representational and nonrepresentational graphic?**

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**8. Give three examples of a representational graphic.**

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**9. Give three examples of a nonrepresentational graphic.**

---

---

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**10. What is the difference between discrete and continuous data?**

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---

---

**11. What type of graphic is commonly used to show continuous data?**

---



**12. What type of graphic is commonly used to show discrete data?**

---

**13. Look at the table. I want to purchase a 15-ft Red Oak tree. What information on the chart is extraneous data?**

Oak Trees				
TYPE	HEIGHT	FOLIAGE	COST OF 10-FT TREE	COST OF 15-FT TREE
Scarlet	Tall	Scarlet	29.99	49.99
Pin	Tall	Bronze	29.99	49.99
Live	Tall	Green	29.99	49.99
Red	Medium	Red	39.99	49.99
Bur	Tall	Golden Yellow	39.99	49.99
Black	Medium	Dull Red	39.99	49.99

**14. What information is pertinent data?**

---

---



Using the graphic, apply the conditional statement “if-then” to answer the following questions.

Item Number	Description	Cost per lb	Dec. 97 Sales	Changes from 12/96 Sales
J578	Sunflower, striped	\$0.80	124	-126
R433	Sunflower, black oil	\$0.75	400	+40
B159	Thistle	\$0.60	165	-10
M272	Mixed	\$0.25	528	+120
D884	Suet (with peanut butter)	\$1.49	225	+25

**15. What would be the total cost of 500 lb of Item #B159?**

---

**16. What would be the total cost of 100 lb of Item #D884?**

---

Using the graphic, answer the following questions.



17. Estimate approximately what percentage of white roses were used for holidays.

18. Evaluate the proportions of daisies used for weddings compared to white roses used for weddings.

19. What recommendation and decision would you make for future purchases of white roses? Do these graphics give you enough information to make a good value judgment here? Explain.



20. What relationships can be shown when using multiple graphics with either positive or negative numbers? Name at least three.

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Keep up the good work!





## **ANSWERS TO EXERCISE**

- 1. What would be the most effective type of graphic to show quantities?**

*Answer: Pie graphs, bar graphs, line graphs*

- 2. What would be the most effective type of graphic to show proportions?**

*Answer: pie graphs*

- 3. What would be the most effective type of graphic to show arrangement?**

*Answer: floor plan or diagram*

- 4. What would be the most effective type of graphic to show procedures?**

*Answer: flowchart*

- 5. What would be the most effective type of graphic to show attributes?**

*Answer: forms or tables*

- 6. What would be the most effective type of graphic to show changes?**

*Answer: bar graph or line graph*

- 7. What is the difference between a representational and nonrepresentational graphic?**

*Answer: In representational graphics it is not possible to move any of the information without changing the meaning of the graphic. Information in nonrepresentational graphics can be moved around without changing the meaning.*

- 8. Give three examples of a representational graphic.**

*Answer: Any three of the following: diagrams, blueprints, maps, layouts, and floor plans*

- 9. Give three examples of a nonrepresentational graphic.**

*Answer: Any three of the following: tables, forms, bar graphs, line graphs, pie graphs and instrument gauges*

**10. What is the difference between discrete and continuous data?**

*Answer: Discrete data refers to things that can be counted; continuous data refers to things that are measured.*

**11. What type of graphic is commonly used to show continuous data?**

*Answer: line graph*

**12. What type of graphic is commonly used to show discrete data?**

*Answer: bar graph*

**13. Look at the table. I want to purchase a 15-ft Red Oak tree. What information on the chart is extraneous data?**

*Answer: Extraneous data would be the columns for Height, Foliage, Cost of 10-ft tree.*

**14. What information is pertinent data?**

*Answer: Pertinent data would be Type column and Cost of 15-ft tree column.*

**15. What would be the total cost of 500 units of Item #B159?**

*Answer: If one lb of #B159 is \$.60, then 500 lb would be \$300.*

**16. What would be the total cost of 100 units of Item #D884?**

*Answer: If one lb of #884 is \$1.49, then 100 lb would be \$149.00.*

**17. Estimate approximately what percentage of white roses were used for holidays.**

*Answer: There are approximately 40% of white roses used for holidays. (If 1/2 of the pie equals 50%, 40% is a good guess for the holiday portion of the graph.)*



**18. Evaluate the proportions of daisies used for weddings compared to roses used for weddings.**

*Answer: Don't forget we are only able to estimate proportions of these flowers because we do not have any numbers to use. Over one-half of all daisies sold are used in weddings (estimate - about 60% of daisy sales). If we mentally divide the roses pie graph into quarters, we see about half of all white roses sold are used in weddings (estimate - about 50%). We have estimated, so now we can evaluate our graphic. **A greater percentage of daisies sold are used in weddings than the percentage of white roses sold for weddings.** Be careful. This does not mean more daisies are sold for weddings than roses. For instance, it could be that 1,000 white roses are sold each year; 50% of 1,000 (total sales) is 500 white roses used in weddings while a total of 400 daisies are sold each year. Sixty percent of 400 would mean only 240 daisies are sold to be used in weddings. Evaluating data from graphics is a thought provoking and time consuming process!*

**19. What recommendation and decision would you make for future purchases of white roses? Do these graphics give you enough information to make a good value judgment here? Explain.**

*Answer: No recommendation or decision can be made without further data. Another graphic would be needed to show if more orders were made that could not be filled, or too many roses were ordered that were not used, etc.*

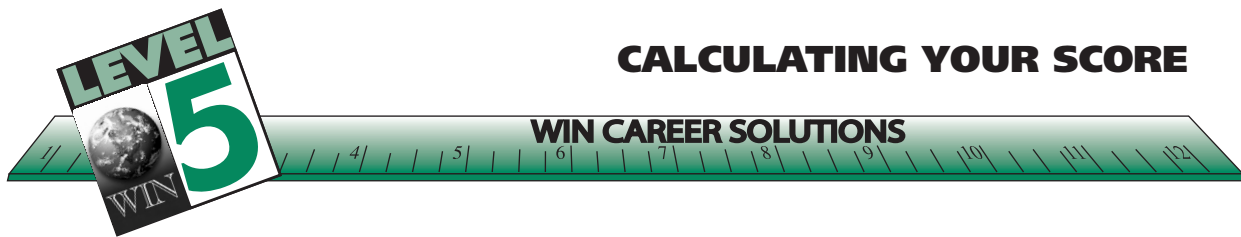




**20. What relationships can be shown when using multiple graphics with either positive or negative numbers? Name at least three.**

*Answer: Any three of the following:*

- *One graphic can amplify an aspect of another.*
- *They can compare aspects of similar components.*
- *One can extract information from another and present it in different forms.*
- *They can present information about the same subject at different points in time.*
- *One can contain general information that can be used to take action on more specific requirements in another graphic.*



## CALCULATING YOUR SCORE

Calculate your score counting the number of questions you answered correctly. If a problem asked you to list several items or steps and you missed one or more, count the question as answered incorrectly. Divide the number of your correct answers by 20. Change the decimal answer to a percentage by moving the decimal two places to the right.

**Example: If you got 18 out of the 20 questions correct**

$$\begin{array}{r}
 .90 \\
 \hline
 20 \overline{) 18.0} \\
 \underline{18.0} \\
 00
 \end{array}$$

Number of correct answers

$$.90 = 90\% \quad \text{Looking good!}$$



## SUMMARY

### WIN CAREER SOLUTIONS



Well, how did you do on the Posttest? If you scored 95% or higher, you have a reasonable chance to pass Level 5 of the ACT WorkKeys® *Locating Information* assessment. Remember the basic steps for reading graphics, take your time and think about each question, and you will do fine. But, you may want to complete Level 6 with me before you take the Assessment. Hope to see you there!

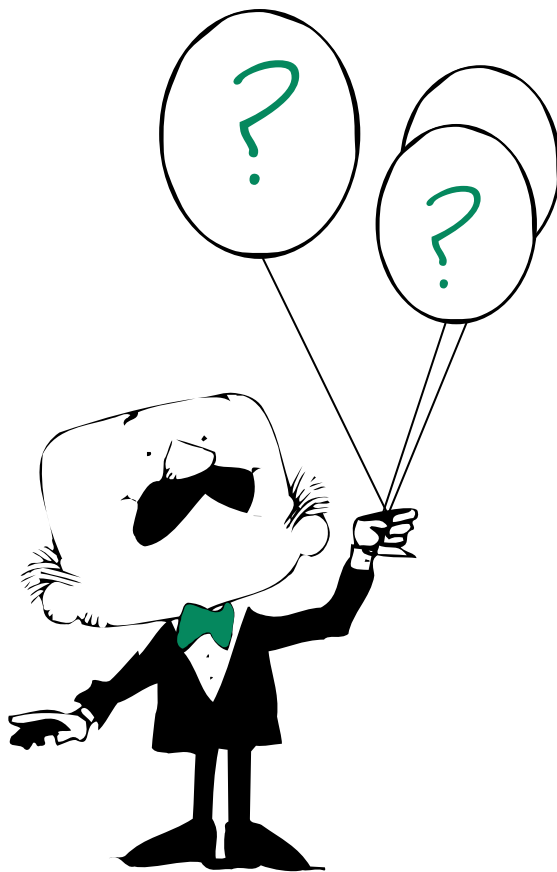
Now don't be discouraged if you scored below 95%. There is a lot of information to remember. Practice the exercises in this course. You can do it! And, your enhanced work skills will pay off in the long run. Practice makes perfect.

**RESOURCE LIST:**

ACT, INC. (1997). *WorkKeys® Targets for Instruction: Locating Information*.  
Iowa City, IA : ACT

**ANSWERS TO POP QUIZ QUESTIONS:**

1. Page 13 – Flowchart
2. Page 39 – Nonrepresentational
3. Page 52 – True





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