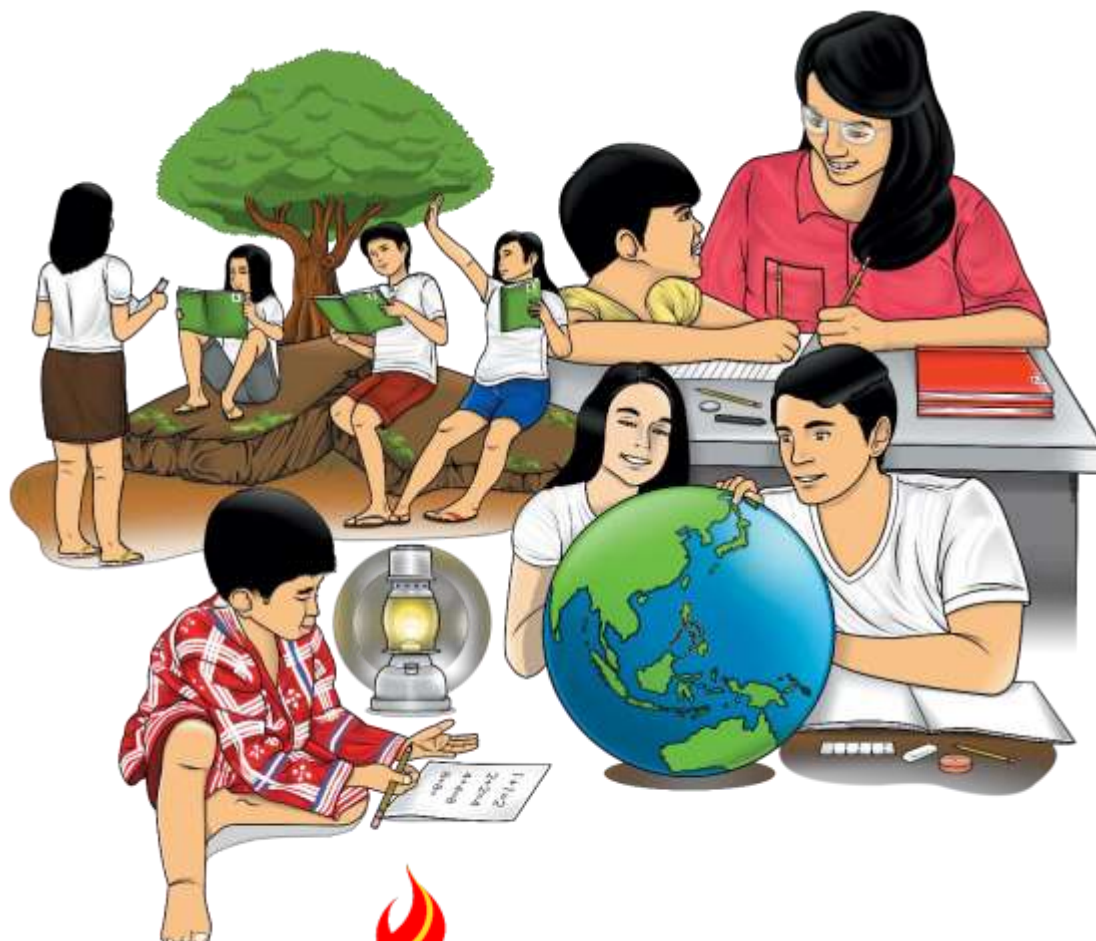# Empowerment Technologies
Quarter 1- Module 6:
Imaging and Design for Visual Message Using Infographics

Empowerment Technologies
Alternative Delivery Mode
Quarter 1- Module 6: Imaging and Design for Visual Message Using Infographics
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Empowerment Technologies
Quarter 1 – Module 6:
Imaging and Design for

Visual Message Using

Infographics

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Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check you're learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.

What I Need to Know

This module was designed and written with you in mind. It is here to help you master the nature of computer. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course. But the order in which you read them can be changed to correspond with the textbook you are now using.

The module mainly focuses on one lesson:

Lesson 1 – Principles of Visual Message Design Using Infographics

Learning Competencies and Codes:
1. Use image manipulation techniques on existing images to change or enhance their current state to communicate a message for a specific purpose. CS_ICT11/12-ICTPT-Ie-f-

After going through this module, you are expected to:

1. understand the infographics or similar graphs and its importance in showing information;
2. identify which infographic or graph is most appropriate for a particular set of information; and
3. create infographics or similar graphs using a spreadsheet application.

1
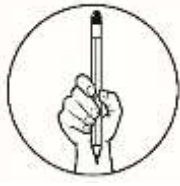
What I Know

Directions: Choose the letter of the best answer. Write the chosen letter on a separate sheet of paper.

1. Which is an example of infographics?
   A. Graphics
   B. Illustration
   C. Pictures
   D. Charts and Graphs

2. Which of the following is considered most important in creating a table in excel?
   A. There must be a data table in excel.
   B. There must be a reason to use infographic.
   C. There must have PowerPoint installed.
   D. There must have an image ready for your infographic.

3. Which of the following is NOT the purpose of infographics in the presentation of data?
   A. It helps people interpret data visually.
   B. It engages audience in your presentation.
   C. It helps the presentation to be more visually attractive.
   D. It improves people understanding in data gathering.

4. Which is the main use of line graph?
   A. To visually present the data.
   B. To see trend of data change.
   C. To compare difference between data.
   D. To show hierarchy between data sets.

5. Which should be done first in making a graph in excel?
   A. In the ribbon, click Insert > Charts.
   B. Press right click then click insert table.
   C. Select the drag cells needed for the chart.
   D. In the Insert tab click, Table then click the desired table.

6. Which chart is best used if you want to visually show the trend your data is suggesting?
   A. Pie Graph.
   B. Line Graph
   C. Bar Graph
   D. Radial Graph

7. You want to visually compare different data group to other data group, which graph should you use?
   A. Pie Graph.
   B. Line Graph
   C. Bar Graph
   D. Radial Graph

8. How do you rename the name of graph into "Graph 1" Microsoft Excel?
   A. Press right click then select rename, a window will appear then type "Graph 1".
   B. Press Ctrl + A then Ctrl + R, rename the chart to "Graph 1"
   C. Double click the name of the chart and type "Graph 1".
   D. Graph names can't be changed as they follow the name from the selected data

9. How do you resize a graph?
    A. Click the graph then click and drag any of the eight handles in the edges of the graph.
    B. Select the table then press right click, a window will appear, select the Width change the value desired then select height change the value desired.
    C. Select the table the press Ctrl + Arrow Keys.
    D. You can't change the size of graphs.

10. What is the best situation to use pie graph?
    A. Comparing value or proportions of a dataset.
    B. When you want to visually present a data with a circle.
    C. If the information you want to present is about ratios.
    D. If the data presented is related to food

11. Which is the best situation to use radial Graphs?
    A. On data that is about geometric radius or radii.
    B. Similar to Forest graph but is present circular visually.
    C. For comparing different numeric value by area occupied.
    D. Radial graph is not an actual graph that can be used.

12. How to drag select cells in Microsoft Excel?
    A. In the formula bar type the range you want to be drag selected.
    B. Click on the first cell then while pressing shift, click the second cell specified.
    C. Press Ctrl + S, then click on the desired cell range.
    D. You can't drag select cells in Microsoft Excel.

13. What is the main advantage in the use infographics in a document?
    A. It will make the presentation more visually appealing.
    B. It makes document shorter and less cluttered
    C. It makes data presentation easier to understand.
    D. It shows that you're professional.

14. What are the steps in creating a chart in Microsoft Excel
    A. In the ribbon click Insert then click the charts you want to use then drag select the cells needed to be presented.
    B. Press right click then click insert table then in the window select the table you want to present.
    C. Select the cells to be presented then press insert in the ribbon then click the desired chart.
    D. Select the table then press right click then press insert chart.

15. What is the main use for bar graph?
    A. To compare different data group from other data group.
    B. To show percentage or rates.
    C. To show rate of change over time of values.
    D. To present relationship of data to other data.

We, humans, highly depend in our sense of sight, that's why it is said that we are 'visual creatures'. Text information can be very detailed but to most people it fails to 'visualize' the message. Showing a table of sales in a year will take time to be fully analyzed but can be easily understood with the smart use of graphics.

There are software that can be used in creating Infographics most requires advance knowledge and skills to make or needs internet connection to use. With the use of a prior application that we discussed earlier, Microsoft Excel, that is effective, practical and easy to learn.

What's In

This module will tackle the use of infographics in improving the presentation of information. The focus will be on what infographics are and how to make them using Microsoft Excel.

Notes to the Teacher

Microsoft Excel will be used in the following activities. You may also use software like Microsoft Office applications or of similar functions, as long as it can be used in creating graphs and charts.

What's New

Activity 1.1 Two Pictures, One Word

With each item in the table below, figure out what each pair of images represent. Write your answer on a separate Answer Sheet.

1			3		
2			4		
5					

What is It

Infographics is the portmanteau or combination of the words 'information' and '*Graphics*', meaning, information from graphics. Like what you did with the activity earlier, graphics, pictures and images can convey a lot of information especially when it has context. Infographics can greatly enhance the way you present your information. (see Figure 2.1)

Year	Population
1945	*70,024*
1955	*80,032*
1965	*99,209*
1995	*126,630*
2005	*123,639*
2015	*110,095*
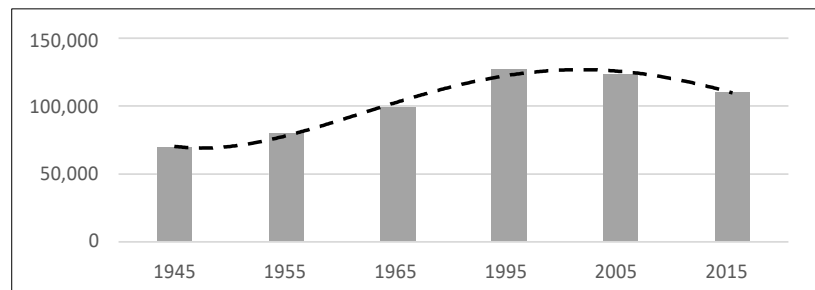
Figure 2.1: Sample Infographic, a Bar Graph

As seen in Figure 2.1, the graph through the use of shapes and lines, gives the reader a visual interpretation of the data. The main purpose of an infographic is to engage and to make understanding easier.   Remember that infographics are not used to make documents more appealing, but the use of graphical elements that will improve how quickly and easily an idea or information is presented.

5

Graphs and Charts as Infographics

Graphs and charts are representation of data (mostly numeric) through graphics. There are many types of charts. Their uses depend on what you want to show or report. The following are some of the charts and their uses.

Bar graphs – These are primarily used in comparing sets of data. They visualize the difference between values in a table and show rate of change over time. (Figure 2.1 is an example of a Bar graph)

Line graphs – These are similar with bar graphs in terms of use, with a difference that line graphs are more suitable in showing trends.

Pie charts – These are circular statistical graphical representation of proportion or percentage.

Forest graphs – These graphs are used to visually represent values within a group and compare them to other groups.

Radial graphs – These are similar to a forest graph in many aspects but are presented using a circle.
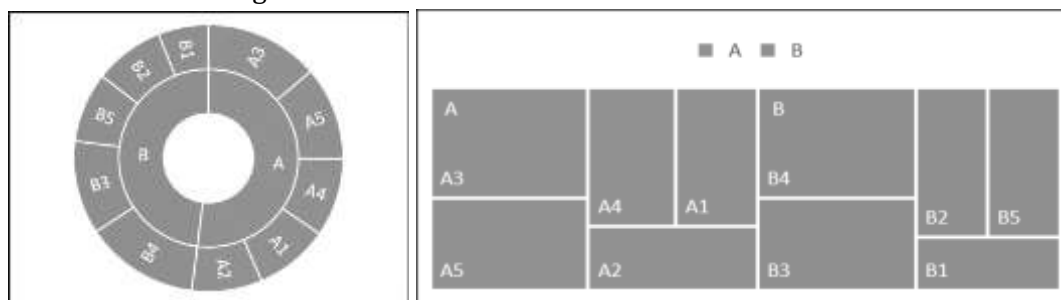

Figure 2.2: Forest and Radial Graph

Creating Infographics using Excel

1. In your desktop, create a document named '*Sales Data'. (*Always remember to save your progress by pressing Ctrl + S.)

◢	A	B	C	D	E	F	G	H	I	J	K	L
1	January	February	March	April	May	June	July	August	September	October	November	December
2	3,000	4,100	4,030	5,200	6,600	9,320	8,560	9,420	7,530	10,190	11,900	13,010

Figure 2.3: Sample Sales Table

2. In your work area, copy the set of data. (see Figure 2.3)

3. Drag select A1 to L2, then in the ribbon press Insert then in the charts section, click the desired chart. For example, click **Insert Column Chart** or Area Chart. (See Figure 2.4)

> **NOTE:**
> ### Drag Selection
> You drag select by clicking on the first cell then while pressing shift, click the second cell specified. Particularly in this example, click on **A1** then press shift and **L2**.
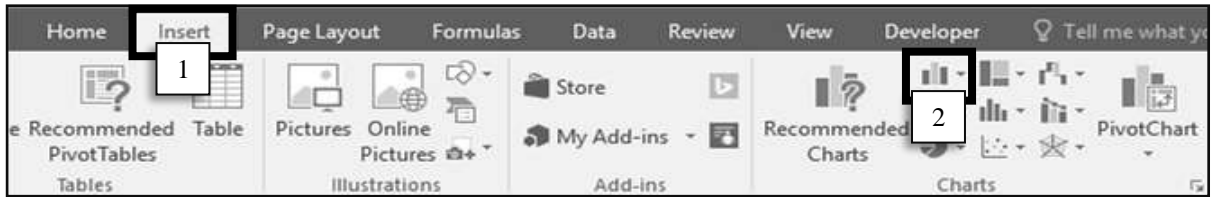
Figure 2.4: Inserting a Chart

4. A dropdown window will appear as seen in Figure 2.5, in the 2-D Column section, select Clustered Column. It will create a graph as seen in Figure 2.6.

5. To rename, double click the name of the graph then type the "Sale Rending Graph" (Steps 5 to 7 are already tackled in earlier modules. You may refer to Module 2.2 **"Working with Spreadsheets"** for more detailed instructions)

6. To resize, click the graph then click and drag any of the eight handles in the edges of the graph.

7. To reposition the graph, click and drag the graph to the desired position.

Figure 2.5: Line Graph Selection

8. You can copy and paste the graph to other Microsoft Office application. To copy press Ctrl + C then press Ctrl + V to paste.
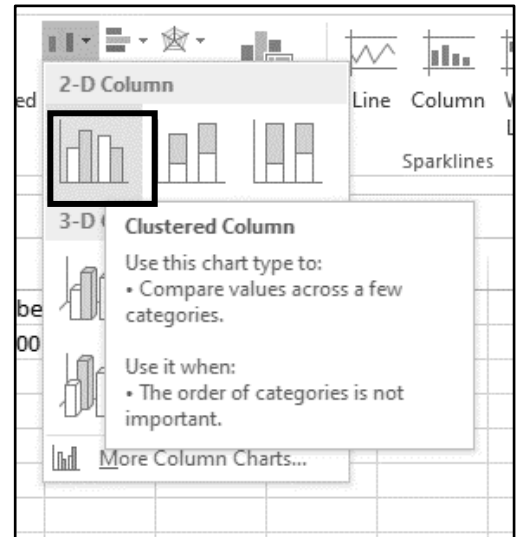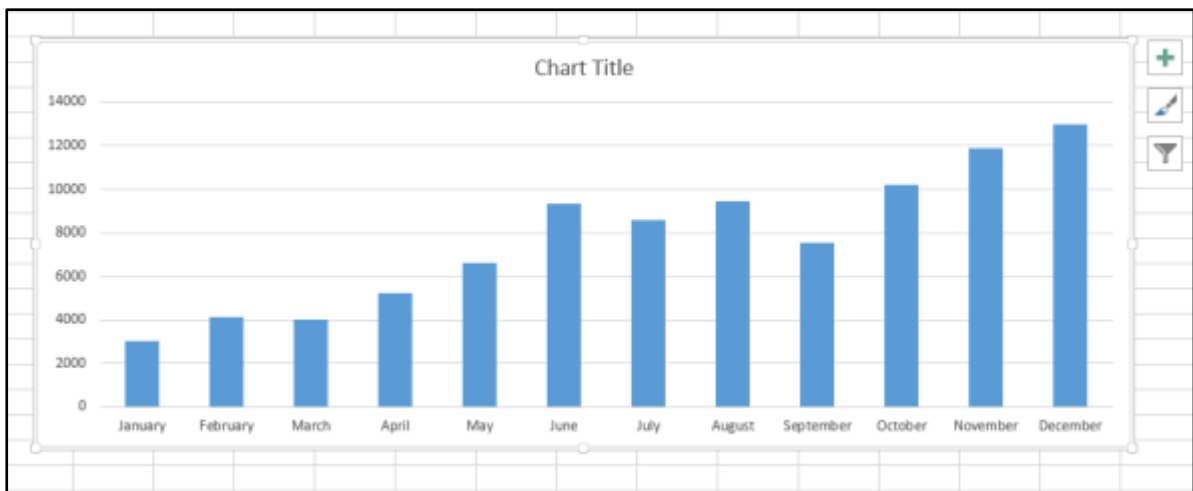

Figure 2.6: Sample Column Chart

Infographic Image and Graphical Formatting

The visual preference of people when it comes to gathering data must not be discounted. When making an infographic specifically a graph, it is necessary it is tailored to our target audience. In MS excel there are options in editing, manipulating and formatting visual elements in our graph.

Design Tools

1. To access the Chart Tools where Design and Format Menu tools can be found you must first select any Graph that you want to edit. In the ribbon. The said Menu tools will be available as seen on figure 2.7
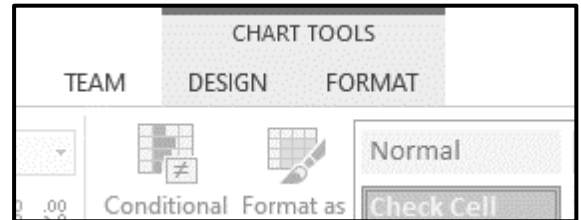

Figure 2.7: *Chart Tools*

2. Click on Design, In the Chart Styles section click More (as seen on figure 2.8). It will expand and display multiple Chart Styles options as seen on Figure 2.9.
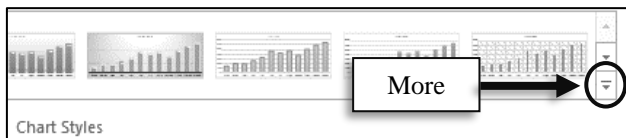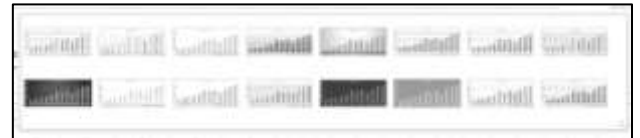

Figure 2.8: *More button*

Figure 2.9: *Multiple Chart Styles Option*

3. In the Multiple Chart Styles you can choose different types of styles that can accommodate different styles requirements or preference. Click and explore any of each to see their differences. For the purpose of demonstration, click Style 14 as seen on figure 2.10.
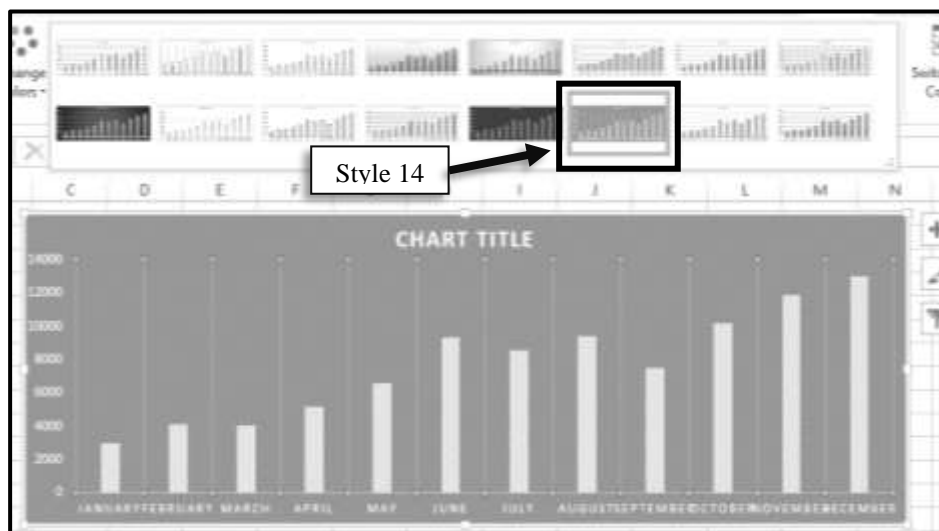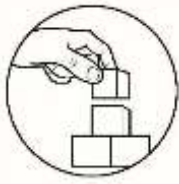

Figure 2.10: *Multiple Chart Styles Option*

What's More

Activity 1.2 Graph the Data

With a group of five (5) students, create an excel document and name it "ICT in the Philippines Data". Create two tabs. Name the first one as *Line Graph*, the second one as *Pie Graph*. In the Bar Graph tab, create a bar graph using the data in Population Data below. In the Pie Graph tab, create a bar graph using the data in Percentage Data.

Population Data

Year	Population
2006	5,028,346
2009	5,028,346
2010	23,259,726
2016	44,478,808

Percentage Data

Category	Percentage
With Internet	5,028,346
No Internet	5,028,346

What I Have Learned

1. What are the importance of infographics in presenting data or information?

2. Which graph works best in showing change over time? Compare the graphs used.

What I Can Do

Activity 1.3 Survey Graphing

Survey at least 25 people on which color from red, yellow, blue, green, violet and orange do they prefer. Record the result of your survey.

Create an excel document and name it "Color Survey Data and Graph". Create two tabs. Name the first one as *Data,* the second one as *Graph*. In the Data tab create a table following the format below and write the results in your table. In the Graph tab, create a Bar Graph based on the data from the Data tab.

Color	Red	Yellow	Blue	Green	Violet	Orange
Favoring Respondents						

Assessment

Multiple Choice. Choose the letter of the best answer. Write the chosen letter on a separate sheet of paper.

1. Which of the following is NOT the purpose of infographics in the presentation of data?
    A. It helps people interpret data visually.
    B. It engages audience in your presentation.
    C. It helps the presentation to be more visually attractive.
    D. It improves people understanding in data gathering.

2. Which is an example of infographics?
    A. Graphics   C. Pictures
    B. Illustration   D. Charts and Graphs

3. Which of the following is considered the most important in creating a table in excel?
    A. There must be a data table in excel.
    B. There must be a reason to use infographic. C.
    There must have PowerPoint installed.
    D. There must have an image ready for your infographic.

4. Which is the main use of line graph?
    A. To visually present the data.
    B. To see trend of data change.
    C. To compare difference between data.
    D. To show hierarchy between data sets.

5. Which should be done first in making a graph in excel?
    A. In the ribbon, click Insert > Charts.
    B. Press right click then click insert table.
    C. Select the drag cells needed for the chart.
    D. In the Insert tab click Table then click the desired table.

6. How do you resize a column or width?
    A. Select the cell the press right click, select format cell then change height and width values.
    B. In the Formula bar type (h[value]:w[value]).
    C. Click the cell then in the ribbon select format cell then change height and width values.
    D. Click and drag the column or row heading.

7. What is the formula that will add the contents of the cells C1 and C10?
    A. C1 + C10   C. C1 + C10 =
    B. = C1 + C10   D. SUM (C1:C3)

8. How do you resize a graph?
    A. Click the graph then click and drag any of the eight handles in the edges of the graph.
    B. Select the table then press right click, a window will appear, select the Width change the value desired then select height change the value desired.
    C. Select the table the press Ctrl + Arrow Keys.
    D. You can't change the size of graphs.

9. How do you rename a graph into "First Data" in Microsoft Excel?
    A. Press right click then select rename, a window will appear then type "First Data".
    B. Press Ctrl + A then Ctrl + R, rename the chart to "First Data"
    C. Double click the name of the chart and type "First Data".
    D. Graph names can't be changed as they follow the name from the selected data.

10. What is the purpose of the Formula Bar?
    A. It allows an easy to see input box for formula in a cell
    B. It is a selection of shortcuts different formula in Microsoft Excel
    C. It is the formula that allows computation of values from different cells.
    D. The Formula Bar is a label below the cell that indicates the result of a formula

11. Which Ribbon Menu is needed to be selected to change the font?
    A. Home   C. Page Layout
    B. Insert   D. Cell Formatting

12. How do you assign which cell the formula = (A1 + A2) + A3 will be displayed on?
    A. On the formula bar type cell address
    B. Press right click then select Cell Format then click on the Formula tab, type which cell you want that formula will be displayed
    C. In the ribbon click Cell Formatting then select the formula then type where it will displayed.
    D. Type the formula where you want it to be displayed on.

13. Which Ribbon Menu is needed to add a Chart?
    A. Home   C. Page Layout
    B. Insert   D. Cell Formatting

14. With this formula **= *Expense!C12*,** what does the **Expense!** part means?
    A. It a variable that allows quick reference of a value.
    B. It is formula label, allowing the user to manage all the formula.
    C. It indicates that the c12 to be displayed is on the sheet Expense
    D. This is not a proper use of the formula.

15. How do you change formula style in a sheet?
    A. Click Insert > Cell Formatting > Table Format > Table Style
    B. Click Home > Format as Table > Table Style
    C. Click Cell Formatting > Format Table > Table Style
    D. You have to select each cell then add cell borders to each of them

Additional Activities

Graphing the Graph

Following the instruction for Survey *Graphing activity*. Make a line graph with the same data used in the previous activity. Show both graphs to at least 10 people then ask which graph is best used in comparing data. Record the result then make a Pie Graph. Create a Word document and named it "***Graph Survey***". Copy and paste your graph with a brief description regarding your findings.