

Each Technokids project consists of 6 sessions, which are divided into separate assignments. An assignment is an activity that takes about 20 minutes to complete.



Session 1

Business Survey

In this session, students become entrepreneurs. They organize the startup of their business venture – to own and operate a restaurant. To begin, they are introduced to spreadsheets and gain an understanding of how this tool is used by 'real' professionals. They then survey their classmates to determine the type of cuisine to serve at their restaurant. With this data, students tabulate and chart the results using Microsoft Excel. This information is interpreted and summarized in a report to potential investors in the following session.

Assignment 1: Introduction to Entrepreneur

Assignment 2: The Microsoft Excel Window

Assignment 3: Business Survey

Assignment 4: Business Survey Results

Session 1 Review: Spreadsheet Terms

Session 1 Skill Review: Name That Restaurant

Session 1 Extension Activity: Comparison of Chart Types

For the paperless classroom, each assignment, review, skill review, and extension activity in the Technokids Student Workbooks is also included as a digital file.

Session 1: Business Survey

For every session, the Teacher Guide features:

- ✓ an introduction with a materials list
- ✓ preparation advice
- ✓ teaching strategies
- ✓ lesson plans for each assignment
- ✓ learning objectives for the session

the startup of their business venture
duced to spreadsheets and gain an
They then survey their classmates to
With this data, students tabulate and
creted and summarized in a report to

- Entrepreneur Folder
 - Entrepreneur template
 - My Survey sample file
- Optional Activities
 - Session 1 Review: Spreadsheet Terms
 - Session 1 Skill Review: Name That Restaurant
 - Restaurant Name Survey sample

Teacher Preparation

(Refer to the Preparing to Teach section of this guide for instructions)

- Make the *Entrepreneur* folder available to students.
- Determine a location for students to save their work during this project.
- (Optional) Print the flashcards listed in the materials list for this session.

Teaching Strategy

In this project, students become restaurant entrepreneurs. Explain scenario to students.

In this project, you are going to own and operate a restaurant. The first decision you need to make is which cuisine, or type of food, you would like to feature at your restaurant. The best way to do this is to survey a group of people to find out which cuisine is most popular. If you serve the type of food which people really like, your restaurant will make money and be successful.

In this session, students learn about the role of an entrepreneur. Discuss the following:

What is an entrepreneur? An entrepreneur is an individual who starts his or her own business. Starting a business is a busy time in any entrepreneur's life. Critical steps can be easily overlooked until the process is well underway. The number one criterion for success is having a good plan. Starting and running a business is supposed to be fun. This is a chance to be in charge and live a dream where time is spent doing something you are really passionate about.

You will become an entrepreneur by owning and operating your own specialty restaurant. This is a restaurant that specializes in a particular type of food, such as pizza, hamburgers, tacos, donuts and so on. To begin your business venture you will conduct a survey of your peers to learn about food preferences. The survey results help you to determine the cuisine to server at your restaurant.

Afterwards you will use a spreadsheet program to organize the information from your survey. You will be able to change your results easily into a variety of graphs. These graphs will show, in a very clear pictorial way, which type of restaurant is most popular.

Assignment 1 Introduction to TechnoEntrepreneur

In this assignment, students are introduced to the concept of entrepreneurs and spreadsheets. The assignment helps students understand how useful a spreadsheet program is for a business owner. Before you begin, introduce the following term(s):

- Er
 - Sp
 - P€
- This section for teachers explains each assignment and gives helpful tips.

Assignment 2 The Microsoft Excel Window

In this assignment, students learn the basic parts of a spreadsheet window, how to select cells, and how to enter data. If your students are familiar with spreadsheets, you may use this assignment as review, or simply omit it. Before you begin, introduce the following term(s):

- **Worksheet:** a sheet in a workbook, which contains cells, displayed in rows and columns.
- **Columns:** vertical groups of cells in a worksheet. The shaded area at the top of each column is called a column heading. Column headings are labeled alphabetically.
- **Rows:** horizontal groups of cells in a worksheet.
- **Cells:** a box where a row and column intersect is called a cell. Cells can hold words, numbers, or mathematical formulas. Each cell has a cell reference, which is the unique name or address assigned to that cell. A cell reference is based on its column and row location in the worksheet. For example; the cell reference for the cell that intersects column A and row 1 is A1.

Assignment 3 Business Survey

In this assignment, students prepare to start their restaurant business by conducting a class survey. They poll their classmates in order to find out the most popular type of restaurant cuisine. If you wish to view an example of a completed graph, look at the **My Survey** file in the Session 1 Sample File folder. You may also wish to show the sample file to the students for them to understand what they are going to create. Before you begin, introduce the following term(s):

- *Survey*: a method of collecting data in which people are asked to answer a number of questions related to a specific topic.

Students ask their classmates which food they prefer to eat when dining at a restaurant. Students may add a fifth type of restaurant cuisine in the "Other" box (subject to teacher approval). Results are recorded by placing tally marks (||||) in the appropriate column for each response received. Once each person in the class has been polled, students add up the results and write the total for each cuisine type in the "Total" column.

Assignment 4 Business Survey Results

In this assignment, students transfer the restaurant cuisine information from their handouts to a Microsoft Excel spreadsheet. Before you begin, introduce the following term(s):

- *Graph*: a picture created from a set of numbers. A graph shows patterns that are harder to recognize by just looking at the numbers themselves. Some kinds of graphs are a line graph, a bar graph, and a pie chart.

You may find it useful to demonstrate how to make a chart to the class as a group. Illustrate how to select multiple cells, or a data series, before clicking *Insert Chart*. In this way, the computer knows which data is being used to generate the graph. Encourage the students to explore the variety of possibilities of graphs discuss the uses and advantages of different types of graphs. Discuss with the class which types of graphs would best fit which kind of numerical information.

For example:

- *Line graphs* are best used to show changes over time.
- *Bar graphs* are best used to compare sets of information to each other.
- *Circle graphs*, or pie charts, are best used to compare the relationship of parts to a whole.

Collect the printed copies of the worksheet from the students at the end of the session. You may wish to start a file folder for each student that contains the printed material from TechnoEntrepreneur. Students will also be printing a letter in Session 2, floor plan in Session 4, and a spreadsheet in Session 5. It is important to keep the printouts because students will need to refer to the information when they create a worksheet to calculate business earnings in Session 5 and a newsletter in Session 6.

Lesson Plan

Assignment 1 - Introduction to TechnoEntrepreneur

- Read to learn about the concept 'entrepreneur'.
- Find out how a spreadsheet program helps an entrepreneur.
- Answer questions about spreadsheets.

Assignment 2 - Spreadsheet Basics

- Open Excel.
- Label the parts of the spreadsheet window.
- Learn basic spreadsheet skills: working with columns, working with rows, working with cells, entering data, and moving from cell to cell.
- Close Excel.

Assignment 3 - Business Survey

- Survey classmates to determine the most popular restaurant cuisine.

Assignment 4 - Business Survey Results

- Open the *Entrepreneur* template.
- Enter the *business survey* results.
- Create a pie chart by selecting the data series, inserting a pie chart, choosing the chart layout, adding a title, and choosing a chart style.
- Move and resize the graph.
- Identify your work by typing your name.
- Save the workbook as **My Survey** in an *Entrepreneur* folder.
- Print the worksheet.
- Close Microsoft Excel.

The Lesson Plan lists the individual steps in each assignment.

Learning Objectives

Below is a list of the learning objectives for this session. Students should be able to complete each task independently.

Content Knowledge:

- conduct a survey to find out about cuisine preference
- recognize the purpose of a spreadsheet program
- understand the purpose of a graph and the situations where it is useful
- understand the purpose of mathematics in the real world

Technical Skills:

Operating Environment

- open and close a program
- open a template
- create a folder
- save a file to a folder
- print a file

Applied Technology

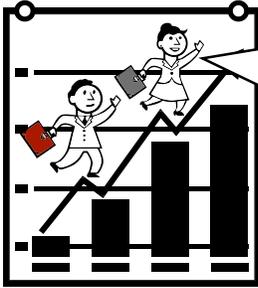
- organize survey data using spreadsheets
- graph data in a pie chart

Spreadsheet

- select a cell using the mouse, enter key, tab key, and name box
- define the terms worksheet, workbook, column, column heading, row, row heading, cell, cell reference, name box, and formula bar
- select columns or rows using the pointer, shift key, and ctrl key
- enter data into a cell by either typing it directly into the box or into the formula bar
- select the data series to be charted
- graph the results of a survey
- position the chart on a worksheet
- resize the chart
- select a chart layout and style
- type a title for the chart

Learning Objectives are specified for each of the six sessions in the project. A checklist of all objectives is provided at the end of the project in Session 7.

Assignment 1: Introduction to TechnoEntrepreneur



You are beginning the project TechnoEntrepreneur.

An entrepreneur is someone who starts and runs his or her own business. In your case, you are going to operate a restaurant.

Read to learn about how Microsoft Excel can help you organize your business.

What is an Entrepreneur?

An *entrepreneur* is a person who starts and runs his or her own business. The business may be a store, restaurant, hair salon, or any other type of money making venture. An entrepreneur is responsible for all aspects of starting up a company. They need to be able to plan their ideas, raise data, financial they

Students begin with an investigation of the concept of Entrepreneurship. Some activities

the financial rk and o, because

How can be completed prior to using computers.

What are spreadsheets?

A spreadsheet is a grid made up of rows and columns that are used to record information. One of the most common types of spreadsheet programs is Microsoft Excel. The great advantage of using a spreadsheet on a computer instead of paper ledger is that it is much easier to add, change, calculate, graph, and analyze data.

How does Microsoft Excel Help an Entrepreneur?

Excel lets an entrepreneur easily:

- Record data: add information into the spreadsheet.
- Calculate data: use formulas to quickly add, subtract, divide, multiply, count, average, and do many other calculations.
- Create graphs: graph the data to make pie, bar, line, and many other types of charts.
- Make data look good: format the text, fill cells with color, or add borderlines to make the information look attractive and easy to read.
- Share information with others: information in a spreadsheet can be printed or copied into other programs like Microsoft Word, making it easy to share information.
- Store data: data is stored in workbooks that contain many worksheets.

Spreadsheets and You

1. How do you use a spreadsheet program?

Questions help students build critical thinking skills.

2. What spreadsheet program(s) have you used in the past?

3. Why do you think you will be a good entrepreneur?

SAMPLE

Assignment 2: Spreadsheet Basics



In this assignment, you learn about the Microsoft Excel window. Label the parts of the window below using the descriptions on the next page.

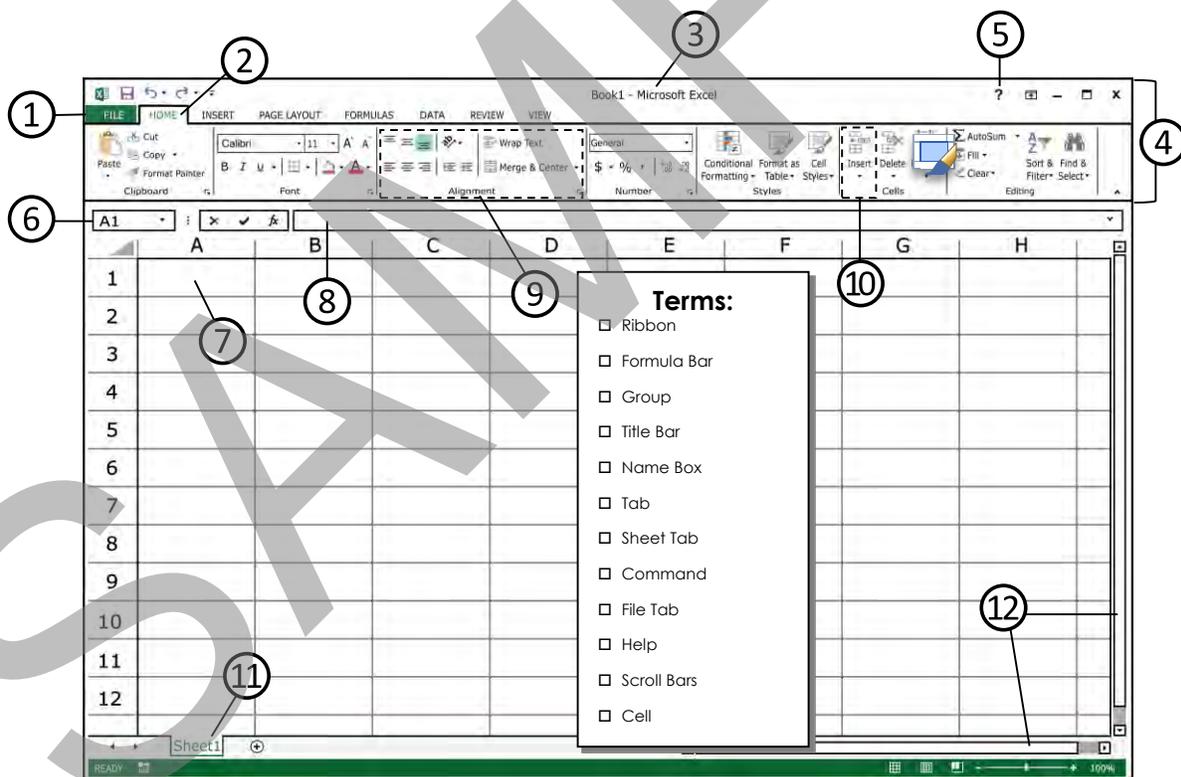
Open Microsoft Excel

- ☞ Open Microsoft Excel.
- ☞ Click *Blank workbook*.



Students are introduced to the Excel window.

Label the Parts of the Microsoft Excel Window



Terms:

- Ribbon
- Formula Bar
- Group
- Title Bar
- Name Box
- Tab
- Sheet Tab
- Command
- File Tab
- Help
- Scroll Bars
- Cell

- | | | |
|---------------------|--------------------|----------------------|
| 1. File Tab | 5. Help | 9. Group |
| 2. Tab | 6. Name Box | 10. Command |
| 3. Title Bar | 7. Cell | 11. Sheet Tab |
| 4. Ribbon | 8. | |

The Teacher Guide includes answers.

Parts of the Microsoft Excel Window:

Title Bar	A bar at the top of the window that shows the name of the document, program name, and the control buttons.
File Tab	Located at the left of the tabs on the ribbon, the File tab opens Backstage View. Backstage View contains commands that affect the document as a whole, or the application itself. Commands found include saving, opening and closing a document, as well as creating a new one, also printing, and changing Excel options. To return to the document, click the Back button or press ESCAPE.
Ribbon	A band along the top of the window that holds the quick access toolbar, title bar, tabs, commands, window controls, and other tools.
Name Box	A box that shows the name of the active cell.
Tab	A part of the ribbon used to organize commands that do similar types of activities. For example, the Insert tab has commands that add objects to the worksheet.
Help	A box at the top right corner of the window that gives help with the program. Answers are listed when a question is entered into the box.
Cell	Found on a worksheet, a cell is a rectangular box that is identified by a unique letter and number combination, for example A1. Type numbers or text into this box.
Group	A collection of commands on a tab that do similar actions. For example, the Alignment group contains commands that change the placement of text in a cell, such as Left, Center, or Right.
Scroll Bars	Bars used to change the part of the worksheet shown in the window. The worksheet can be moved up or down using the vertical scroll bar, or to the left and right using the horizontal scroll bar.
Sheet Tab	A tab at the bottom corner of the window that changes the active worksheet.
Formula Bar	A bar that lets you insert or edit the contents of a cell.
Command	A button, menu, or box that tells the program to do a task. A command often has a picture that shows the action. For example, the Cut command looks like a pair of scissors.

Learn Basic Spreadsheet Skills



An entrepreneur needs to know how to use a spreadsheet program. Follow the instructions to learn basic terminology and functions.

Illustrated, step by step instructions make learning spreadsheet skills fun and easy.

Working with Columns

Columns are vertical (up and down) groups of cells. The shaded area at the top of each column is called a *column heading*. Column headings are labeled alphabetically. The worksheet only shows a few columns, but Microsoft Excel has a total of 16,384 columns.

	A	B	C	D
1			column heading	
2				
3			column	
4				

- ☞ Click on column heading **A**.
- ☞ Click on column heading **C**.
- ☞ Click on column heading **E**.

1. What happens when you click on the column headings?

The individual column is selected when the column heading is clicked.

- ☞ Now, click on column heading **A**, hold down the SHIFT key, and then click the column heading **D**.

2. What happens when you click on the column headings?

Columns A, B, C, and D are all selected.

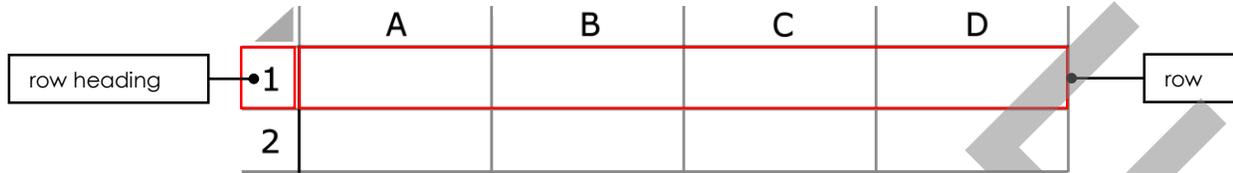
- ☞ Click on column heading **A**, hold down the CTRL key, and then click the column **C** and **E** headings.

3. What happens when you click on the column headings?

Columns A, C, and E only are selected.

Working with Rows

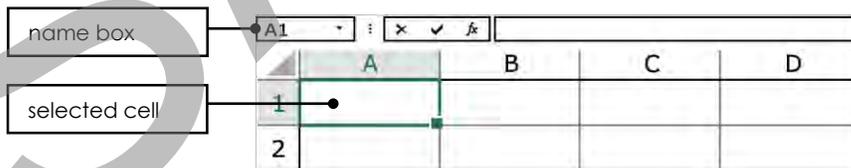
Rows are horizontal (left to right) groups of cells. The shaded area to the left of each row is called the *row heading*. Row headings are labeled numerically. The worksheet only shows a few rows, but there are over a million rows in Microsoft Excel.



- ☞ Click on row heading **5**.
 - ☞ Click on row heading **10**.
 - ☞ Click on row heading **15**.
4. What happens when you click on the row headings?
The individual row is selected when the row heading is clicked.
-
- ☞ Now, click on row heading **5**, hold down the SHIFT key, and then click the row heading **10**.
5. What happens when you click on the row headings?
Rows 5, 6, 7, 8, 9, and 10 are all selected.
-
- ☞ Click on row heading **1**, hold down the CTRL key, and then click the row **5** and **10** headings.
6. What happens when you click on the row headings?
Rows 1, 5, and 10 only are selected.
-

Working with Cells

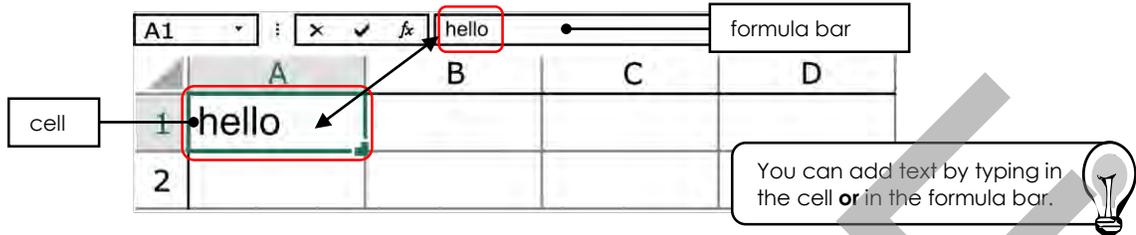
A cell is the location where a row and column meet. Cells can hold words, numbers, or mathematical formulas. Each cell has a name called a *cell reference*. The cell reference is shown in the *name box*. A cell reference is the column and row location. For example, the cell reference for the cell that intersects column **A** and row **1** is **A1**.



- ☞ With the mouse, click in cell **A1** to select it.
 - ☞ Move the mouse to column **D**, then count down 2 rows. Click to select the cell.
7. Look in the name box. What is the cell reference?
D3
-

How to Enter Text

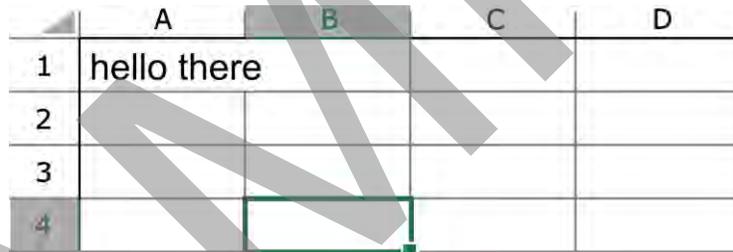
- ☞ Select cell **A1**, type **hello**.



- ☞ Click the mouse at the end of the word **hello** in the Formula bar.
- ☞ Press the SPACEBAR once and then type the word **there**.

Move from Cell to Cell

- ☞ Press the ENTER key to move from cell **A1** to cell **A2**.
- ☞ Press the TAB key to move from cell **A2** to cell **B2**.
- ☞ Use the mouse to move to cell **C3**.
- ☞ Highlight **C3** in the Name box. Type **B4**, and then press enter to select cell **B4**.



8. List the different ways you can move from cell to cell.

1) Click the cell directly with the mouse.

2) Use the ENTER key.

3) Use the TAB key.

4) Type the cell reference into the name box.

Close Excel

- ☞ Click the Clos
- ☞ Do not save t

For the paperless classroom, students can answer the questions in their digital workbooks using the latest version of Adobe Reader.

Excel and You

9. Have you used Microsoft Excel before? If yes, what did you use it for?

Students are challenged to reflect on their new knowledge about Microsoft Excel.

10. Microsoft Excel can be used to organize, graph, and calculate information. Identify a career that would use Microsoft Excel.

11. How is Microsoft Excel similar to other programs you have used before?

12. In this project, you are going to plan a new restaurant. What skills do you have that will make you good at designing, promoting, and running a business?



Assignment 3: Business Survey

To organize the startup of your restaurant business venture, you must survey your classmates to find out the type of food or "cuisine" they like to eat when at a restaurant. The results of the survey will be put into a spreadsheet using Microsoft Excel. The information will be used later to create a report to try to raise money to start the company.

To begin the survey, ask your classmates what food they like to eat when dining out. Place a tally mark (|||| = 5) in the appropriate column for each response received. Once each person in the class has been polled, students add up the results and write the total for each cuisine type in the "Total" column.



Conduct a Business Survey

Cuisine	Tally (= 5)	Total
Italian		
Steakhouse		
Mexican		
Seafood		
Other:		

In TechnoEntrepreneur, students solve an authentic, real world challenge - opening a restaurant. They start by conducting a survey about food preferences.

Assignment 4: Business Survey Results

Now that you have discovered which type of food your classmates prefer, you are going to put this information into a spreadsheet. In a few easy steps you can create a clear picture, or graph, of the results.



Open the Entrepreneur Template

- ☞ Open the *Entrepreneur* folder.
- ☞ Double click the *entrepreneur* file.

Enter Business Survey Results

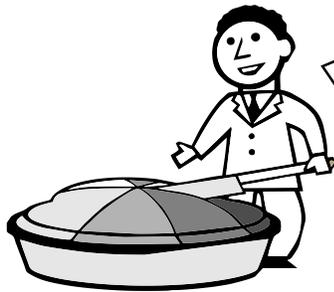
- ☞ Select cell **C5** on the *Business Survey* worksheet
- ☞ Using the information from the *Business Survey* assignment, type the **total number of people for Italian cuisine**.

Type of Restaurant Cuisine	Total Number of People
Italian	4
Steakhouse	
Mexican	
Seafood	

- ☞ Press ENTER.
- ☞ Continue adding survey results using the information from the *Business Survey* assignment.
- ☞ If you added a fifth cuisine, be sure to list it in the **Type of Restaurant Cuisine** column.

Using a template, survey results are entered into a spreadsheet to create a graph.

Create a Pie Chart



A graph or chart is a picture or diagram that shows numerical information in a clear, understandable way.

Use this activity to make a pie chart from the numbers and words you entered in the spreadsheet.

Select the Data Series

- ☞ Click to select cell **B5**.
- ☞ Hold the mouse button down and drag to include cell **C9**.

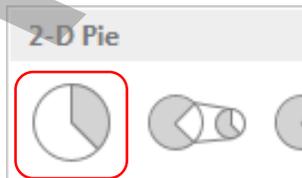
Business Survey	
Type of Restaurant Cuisine	Total Number of People
Italian	4
Steakhouse	3
Mexican	7
Seafood	2
Pizza	8

Cell **B5** contains the first bit of data.

Cell **C9** contains the last bit of data.

Insert a Pie Chart

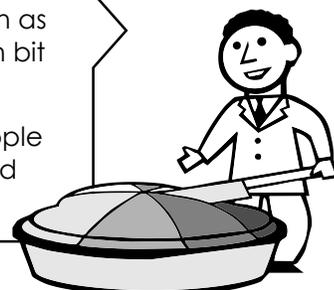
- ☞ Click the *Insert* tab.
- ☞ In the **Charts** group, click *Insert Pie or Doughnut Chart*.
- ☞ Select *Pie*, the first choice in the 2-D section.



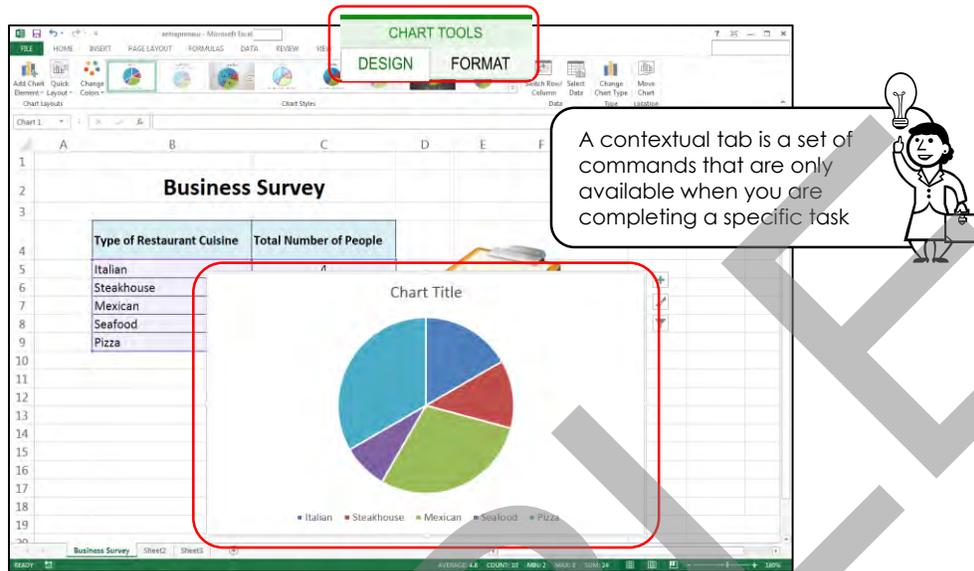
Illustrated, step by step instructions include tool icons, sample window views, and helpful tips.

A pie graph is a chart that divides a circle into parts. The circle is like a "pie". Each piece of data is shown as a slice of the pie where the whole pie is 100%. Each bit of data is shown as a fraction of the whole pie.

The size of each piece depends on how many people liked the cuisine type. The more people liking a food type, the bigger the piece.



- A chart appears in the document. Chart Tools tabs are added to the ribbon. Chart Tools include the Design and Format contextual tabs.

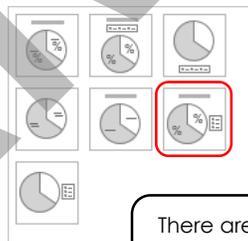


Creating a graph comparing food preferences helps student entrepreneurs to decide what type of restaurant to start.

when the chart is selected. If not, click on

out to expand the gallery of layouts.

display each layout name.

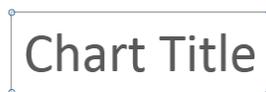


There are many layouts. Layout 6 makes the graph easy to understand.



Add a Title

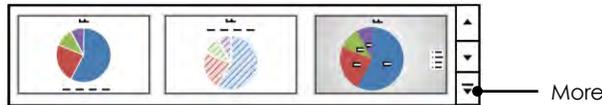
- ☞ Click the chart title to select it.



- ☞ Triple click the mouse inside the box to select all the text.
- ☞ Type **Restaurant Cuisine Preferences**.

Choose a Chart Style

- Click the frame of the chart. In the *Chart Styles* group of the *Chart Tools Design* tab, click the *More* arrow to expand the gallery.



- Click to select a style.

Making the chart clear is very important. The main purpose of the pie graph is to inform people about the results of your survey. Here are some tips to make the chart look great.

Avoid a black background:
You are going to print this page. A solid black (or dark) background looks great on the screen but uses a lot of printer ink.

Display the Chart Tools:
If you do not see the Chart Tools in the ribbon, click anywhere on the graph to make them appear.

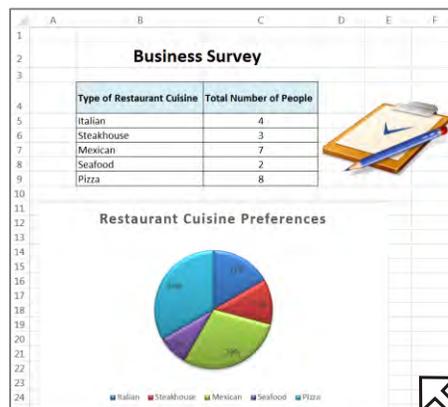


Move the Graph

- Click on the graph.
- Hold the mouse over the graph border. Click and drag it below the survey data.

Resize the Graph

- Move the mouse pointer over the bottom right selection handle on the graph.
- Click and drag the corner handle to change the chart to the desired size.
 - drag inwards to make it smaller
 - drag outwards to make it larger



The mouse pointer changes into a two headed arrow over the sizing handle.

Spreadsheet skills learned in this session:

- ✓ select cells, columns, and rows
- ✓ enter data into cells
- ✓ select a data series to be charted
- ✓ select a chart layout and style
- ✓ position and resize the chart on the worksheet
- ✓ type a title for the chart

☞ Click **Open**.

☞ Name the file **My Survey**.

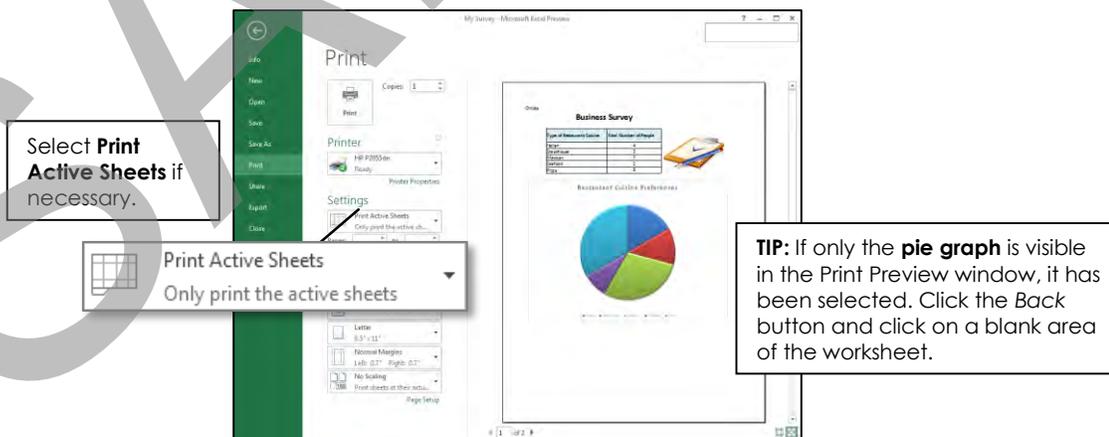


☞ Click **Save**.

Print the Survey

☞ Click on a blank area of the worksheet.

☞ Click the **File** tab and choose **Print**.



☞ Click **Print**.



☞ Give the printed survey to your teacher.



You will be using this research information and the graph in the next session.

Now that you know the type of food the majority of people prefer, you will need to write a letter to borrow money for your restaurant.

Including this spreadsheet information in your letter will make it look professional and convincing.

Close Excel

Click Close.



Think About Pie Graphs

1. For which of the following tasks, would a pie graph be the best way to display the data? More than one answer may be correct.
 - a) Tracking the amount of money you make each week delivering newspapers
 - b) Comparing the ways of getting to school: bus, car, bicycle, or walk**
 - c) Noting the daily temperature over a four week period of time
 - d) Surveying kids' favorite after school activities**

2.
 - a) Your teacher would like to find out what game is the class favorite for Physical Education class. List the games you would use to survey your classmates.

 - b) If you place the results into a spreadsheet and then make a pie graph, what game do you predict would be the largest slice of pie?

 - c) What game do you predict would be the smallest slice of pie?

Students reflect on the purpose, value, and application of spreadsheets.

Session 1 Review: Spreadsheet Terms

Use the words from the list to answer the questions below.

Review lessons at the end of sessions provide activities to check and reinforce newly learned skills, concepts, and terminology.

1. A computer program that organizes and displays data is called a...
spreadsheet
2. A single page of a spreadsheet workbook is called a...
worksheet
3. A picture created from a set of numbers is a...
graph
4. The box where a row and a column meet is called a...
cell
5. A method of collecting data in which people are asked to answer a number of questions related to a specific topic is known as a...
survey
6. A vertical line of cells in a worksheet is known as a...
column
7. A person who organizes and operates his or her own business is known as an...
entrepreneur
8. A horizontal line of cells in a worksheet is known as a...
row
9. The labels that signify the name of a row or column is called a...
header
10. The alpha-numeric name given to a cell is called the...
cell reference

/10

Session 1 Skill Review: Name That Restaurant

The name of your restaurant is very important. If the name is popular, clear, and easy to remember, you will attract more customers, your business will grow, and you will be a success. Follow these guidelines for naming your restaurant. For a variety of names, see the results.

Skill Reviews are activities for students to practice the technical skills learned in the previous session.



1. Make up Names

Use your imagination to name your new restaurant. Here are a few guidelines:

- the name should make it clear that the business is a restaurant
- the name should indicate the type of food that you serve
- the name should be catchy and something that a customer can easily remember

2. Survey Your Classmates

Show the names of your restaurant to your classmates. Ask them to choose their favorite one. Keep a tally list of the favorites. Ask as many classmates as you can for their opinions.

Name of Restaurant	Tally (= 5)

3. Create a Spreadsheet

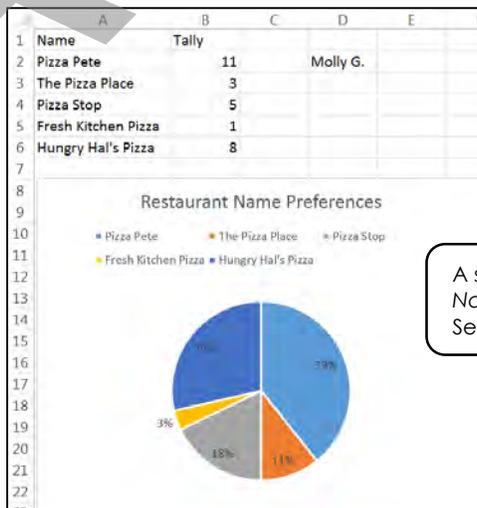
- Open Excel.  Click *Blank workbook*.
- Label one column **Name** and the next column **Number**.
- Write the possible names of your restaurant in the *Name* column.

- d. Write the total number of tallies for each name in the second column.
- e. Adjust the width of the *Name* column by double clicking between the column headings.

	A	B
1	Name	Tally
2	Pizza Pete	11
3	The Pizza Place	3
4	Pizza Stop	5
5	Fresh Kitchen Pizza	1
6	Hungry Hal's Pizza	8

4. Make a Graph

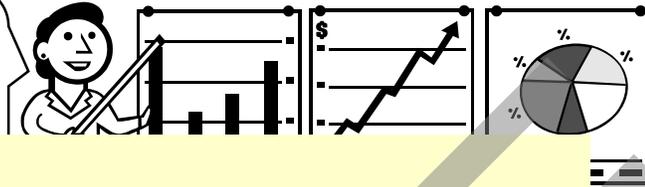
- a. Select the names and the totals:
Click to select the first name. Press and hold the SHIFT key and click to select the last number.
- b. Click the *Insert* tab and choose **Pie** from the *Charts* group. 
- c. Choose a chart layout style that includes a title, legend, and percentages. 
- d. Type an appropriate title.
- e. Move and resize the graph to place it under the spreadsheet data.
- f. Add your name.
- g. Save the document as **Restaurant Name Survey**.
- h. Print your work to show which restaurant name was selected by the majority of people.



A sample of the *Restaurant Name Survey* is available in the Session 1 Skill Review folder. 

Session 1 Extension Activity: Comparison of Chart Types

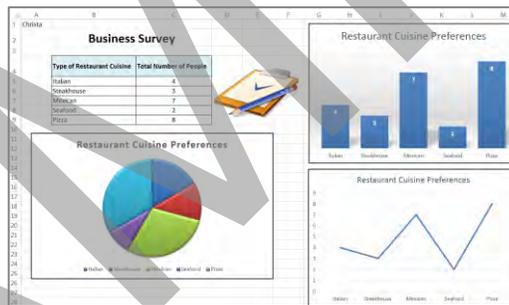
Spreadsheet information can be displayed in a variety of graphs. However, certain types of charts show numerical information more clearly than others.



Extension Activities at the end of sessions provide optional enrichment challenges.

Exploring Types

- Open the file.
- Click on the first worksheet tab at the bottom called *Business Survey*, if necessary.
- Select the 5 cuisines and totals and click the Insert tab to make a graph.
- Make a **2-D** or **3-D** column chart. 
- Make a **2-D line** chart to add to the column and pie charts. 
- Select and delete the 'series' legend on the graphs.



Questions

- Which type of graph do you think shows the restaurant cuisine most clearly? Why?

- Which type of graph do you think shows the favorite cuisine poorly? Why?

Save Your Work

- Click the *File* tab and choose *Save as*.
- Save this document as **Comparing Graphs**.

Which is the Best Fit?

- a. Fill in the blanks with the best type of graph for the data. You may wish to have the My Survey file open to make samples of the charts. Choose from the following types of graphs.

Column	A column graph is made of bars. Each bar is a piece of data. This type of graph is used to compare values.
Line	Data is represented in a line graph as points that are connected together with a line. This type of graph is used to show how something changes over time.
Area	An area graph is points that are connected, with the space between the points and x-axis filled with color. Each point is a piece of data. This type of graph is used to show changes in values in distance or time.
Pie	A pie graph is a circle that is divided into slices. Each slice of pie is a piece of data. This type of graph is used to show how one whole thing is divided into smaller segments.

3. You are planning how to spend your allowance. You have broken it down into categories: long term savings, entertainment, clothing, food, and video games. You are creating a graph comparing how much of your money is spent in each area. Which type of graph would best show this data?
-

4. You are working on a science assignment on weather. You are comparing the average January temperature of 5 major cities in your country. Which type of graph would best show this information?
-

5. In another part of your science project, you would like to display the changes in temperature in your home town each month over the period of a year. You use a spreadsheet and choose which type of graph?
-

6. You are planning a bike trip over hilly terrain. You would like to calculate and graphically show the altitude changes. You research the altitudes at each checkpoint. Which type of graph would you use to plot them?
-