

Activity 1: Discovering Mathematics with the TI-73 (activity 11)
Exploring Probability with M&M's®

1. Create a list on the TI-73 Explorer named COLOR
 - a. Press **[LIST]**.
 - b. Move the cursor to the header of the 1st list by using the **☐!∇#** keys and then press **/** until all named lists are gone.
 - c. To name the list COLOR, while the cursor is in the header of the first column press **[2nd][TEXT]** and use the arrow keys to spell Color, pressing **[ENTER]** after each letter.
 - d. When finished select **Done** and press **[ENTER]**
 - e. Press **[ENTER]** again and the list will be named.
2. Press the **☐** to get COLOR (1)=
3. Enter the colors of the M&M's® into the list
 - a. To make this a categorical list enclose the first element in quotation marks when you enter it (example: "BROWN")
 - b. Press **[2nd][TEXT]** and use the arrow keys to spell BROWN pressing **[ENTER]** after each letter
 - c. Press the **☐** to move to **Done** and press **[ENTER]**
4. Press **[ENTER]** again and BROWN will be pasted on the calculate screen under the list named COLOR.
5. Continue this process until you have entered all the colors. [six letter word limit]
6. Now you are ready to enter the data
7. Using the arrow keys move to the top of the next column for a new list to be named DATA. Use the text editor just as before. When finished, press the **☐** key to get to the first element in the DATA list. [the number of brown M's]
8. Enter the number of each color in this list, pressing **[ENTER]** after each number.

Activity 2: Creating a Circle Graph (Continuation of activity one)

1. Press **[2nd][PLOT]** to get the STAT PLOTS screen.
2. Select Plot 1 with your cursor and press **[ENTER]**
3. Press **[ENTER]** to highlight On. This turns the plot on.
4. Press **☐▶** to move to the circle graph and press **[ENTER]** to select it.
5. For *CategList*, choose the COLOR list. Press **[2nd][STAT]** and use the arrow to move down to color and press **[ENTER]**
6. Do the same for *Datalist* but this time select the list named DATA.

Before graphing you must turn plots on or off.
Press **&** and move up to the Plot names and press **[ENTER]** to turn plots on or off. [Dark is ON]
Press **[GRAPH]** to see the circle graph
Press **[TRACE]** use the arrow keys to explore your circle graph

Activity 3: Fractions, Decimals and Percents

1. To enter a fraction in stacked format, enter the numerator then press $\boxed{\frac{\square}{\square}}$ then type in the denominator.
2. To add another fraction to what you have entered press $\boxed{+}$ and select \therefore .
3. Following the steps in step 1, type in the second fraction and then press $\boxed{\text{ENTER}}$.
4. If you have a mixed number, type in the whole number and then press $\boxed{\text{UNIT}}$
5. Type in the fraction part using the $\boxed{\frac{\square}{\square}}$ key.
6. Change the fraction from an improper fraction to a mixed number or mixed number to improper fraction using the $\boxed{A\frac{b}{c}\leftrightarrow d\frac{e}{f}}$ $\boxed{\text{ENTER}}$
7. Change the fraction to a decimal using the $\boxed{F\leftrightarrow D}$ $\boxed{\text{ENTER}}$
8. If the number is a percent pressing $\boxed{\%}$ $\boxed{\text{ENTER}}$ will convert it into a decimal.
9. Simplify a fraction by pressing $\boxed{\text{SIMP}}$ $\boxed{\text{ENTER}}$

Activity 4: Preparing for a Party (extension of activity 3)

1. Use the recipe below. Tell your students that they are in charge of making 100 cookies for the school party.
2. Using your TI-73 Explorer™ and knowledge about fractions make the changes to the recipe so that you have enough dough to make 100 cookies.

Peanut Butter Chocolate Chunk Cookies

Recipe makes 2 dozen

Ingredients:

1 cup butter

1 cup peanut butter

$\frac{2}{3}$ cup white sugar

$\frac{2}{3}$ cup brown sugar

2 eggs

1 teaspoon salt

1 teaspoon vanilla

1 teaspoon baking soda

2 cups flour

12 ounce package of chocolate chips

Recipe makes 100 cookies

Ingredients:

Activity 5: Discovering Mathematics with the TI-73 (Activity 2)

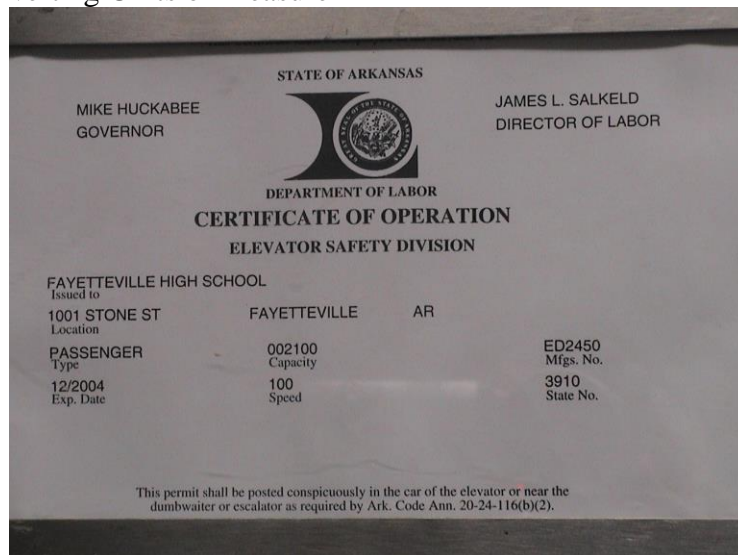
Finding the Greatest Common Factor

Prework: Write some fractions on the board or use examples from a textbook.

Example: $\frac{18}{24}$

1. Press **[MODE]**, use the arrow keys to move down and over to **[b/c]** press **[ENTER]**
2. Now move the cursor to *Mansimp* (manually simplify) and press **[ENTER][MODE]**
3. Press **[2nd][QUIT]** to return to the Home Screen.
4. Have students enter the fractions you have given them.
 - a. Type the numerator and press **[b/c]**, type the denominator and press **[ENTER]**
5. Ask the students to figure out if the fraction is simplified. If not, what number could you divide into both parts to get a simplified answer?
6. Press **[SIMP][ENTER]**. The calculator displays the new fraction and the lowest prime factor of the numerator and denominator
7. Continue the **[SIMP][ENTER]** process until the fraction is in lowest terms
8. Remind students of the definition of GCF.
9. To reinforce this concept have the students type in the fraction they started with then **[SIMP]** then type the GCF answer and **[ENTER]**.

Activity 8: Converting Units of Measure



1. Enter 100 on your Home Screen since the speed of this elevator is 100.
2. Press **[2nd][UNIT]** (to access the CONVERT feature)
3. Select 7: Speed
4. Using the arrow keys scroll down to some starting unit like 3: mi/hr press **[ENTER]**.
5. Using the up arrow key press **[ENTER]** on a second unit like 2: m/s to convert to.
6. Press **[ENTER]** to see the answer
7. Repeat this several times using different units until you think you know the units of the speed of the elevator.
8. Write an explanation for your unit selection.

Activity 10: Who Won?

Have your students put the following information into a list. Convert the information into a bar chart to see what 2000 Olympic team took home the most medals.

Olympic Statistics came from: <http://www.darmoni.net/>

1. Refer to Activity 1 for directions on how to enter data into a list.

Country (Coun)	Gold	Silver (Silve)	Bronze (Bronz)
Australia (Aus)	16	25	17
China	28	16	15
Germany (Ger)	14	17	25
Russia (Rus)	32	27	17
United States (USA)	39	25	32

Creating a Bar Graph

2. Press **[2nd][PLOT]**
3. Select Plot 1 and press **[ENTER]**
4. Press **[ENTER]** to highlight On
5. Press **#** **[>]** **[>]** **[>]** to move to the bar graph and press **[ENTER]** to select it
6. For *CatgList*, choose COUN. To get this list press **[2nd][STAT]** and use the arrow to move down to word and press **[ENTER]**
7. Do the same for *Datalist* but this time press GOLD for list 1, SILVE for list 2 and BRONZ for list three.
8. Press **[ENTER]** to select Vert and using the arrow keys highlight 3 and press **[ENTER]**

Before graphing you must turn plots on or off.

Press **&** and move up to the Plot names and press **[ENTER]** to turn plots on or off. [Dark is ON]

Press **[GRAPH]** to see the bar graph

Press **[TRACE]** use the arrow keys to find who earned the most medals

To delete previous lists, press **[2nd][MEM]**.

To delete text from the list press **[DEL]**.

Activity 11: Exploring Area

1. Turn on your TI-73 Explorer and press **[APPS]**.
2. Scroll down to find *AreaForm* and press **[ENTER]**
3. Press any key to go through the beginning screens.
4. On the Select a Mode screen press **[ENTER]** on number 1: Definitions and Formulas
5. Use this tutorial to define and learn the formulas of each shape

Example: To find a shapes formula:

- a. From the Definition page
- b. Press **[WINDOW]** (the soft key under Area)

To see an example of finding the area:

- a. Press **[ZOOM]** (the soft key under Example)

To get back to a previous screen press **[2nd][QUIT]** or the **[Y=]** (the soft key for Menu)

Activity 12: Area Quiz

It's your turn to find the area of a shape on your own!

1. Turn on your TI-73 Explorer and press **[APPS]**.
2. Scroll down to find *AreaForm* and press **[ENTER]**
3. Press any key to go through the beginning screens.
4. On the Select a Mode screen press **[ENTER]** on number 2: Area Quiz
5. Select your level by using the **[▲▼]** and press **[ENTER]**
6. Use pencil and paper to figure out the correct answer and use **[WINDOW][ZOOM][TRACE][GRAPH]** to select A, B, C or D.

Activity 13: Probability Simplified

1. Turn on your TI-73 Explorer and press **[APPS]**.
2. Scroll down to find *Prob Sim* and press **[ENTER]**
3. Press any key to go through the beginning screen.
4. Use the arrow keys to scroll down to Spin Spinner and press **[ENTER]**
5. Press **[WINDOW]** to spin the spinner once.
6. Press **[ZOOM]** to spin the spinner 10 times
7. To find out how many times the spinner landed on 3 in the 11 spins press **[Y=][GRAPH]**
8. Look at your graph and count up the number of times you landed on the number 3.
9. What is the probability you will land on 4?