

Math Projects

Project 9 Tiling the Wall

Solution File

Academic_Project_09_SF.docx

Topics Covered

Math Skills

- Representing the idea of a variable as an unknown quantity
- Expressing mathematical relationships using equations
- Finding the area of a rectangle
- Using mathematical models to represent and understand quantitative relationships
- Using graphs, tables, and equations to draw conclusions
- Using the associative, commutative, and the distributive properties of multiplication over addition to simplify computations

Computer Skills

- Creating and formatting tables
- Keying text into tables
- Modifying font, font style, and font color

Why Do I Need to Know This?

Examining and working with number patterns is an important way to understand relationships between numbers. In this project, you will find the area of a pattern of tiles. You will then double, triple, and quadruple the pattern and find the area of the doubled, tripled, and quadrupled versions of the pattern. Performing these calculations will help you become more familiar with the methods for finding area, and will allow you to practice creating algebraic expressions.

Before You Begin

There are three sizes of tiles you will work with to make your patterns:

- Small, square tiles whose length and width measure one unit, dimension = 1×1
- Border tiles whose width, like the small, square tile, is one unit, and whose length, referred to as t , is the same as the large square length, dimension = $t \times 1$
- Large, square tiles whose length and width are referred to as t , dimension = $t \times t$ or t^2

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You can make paper models of the tiles shown in Figure 9.1 and use them to create the patterns below, or you can use algebra tiles to create the patterns.

Figure 9.1

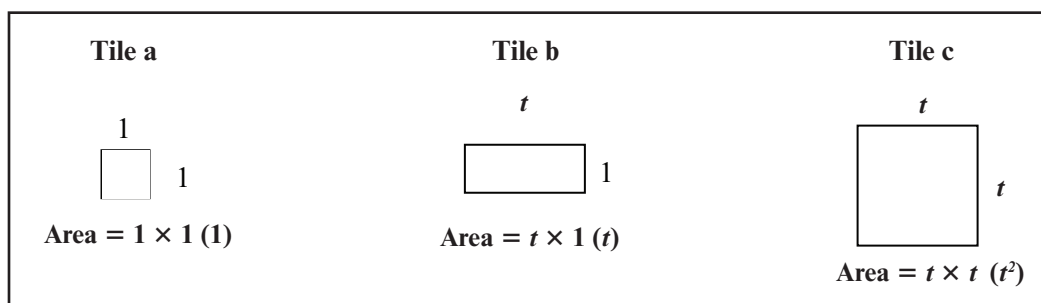
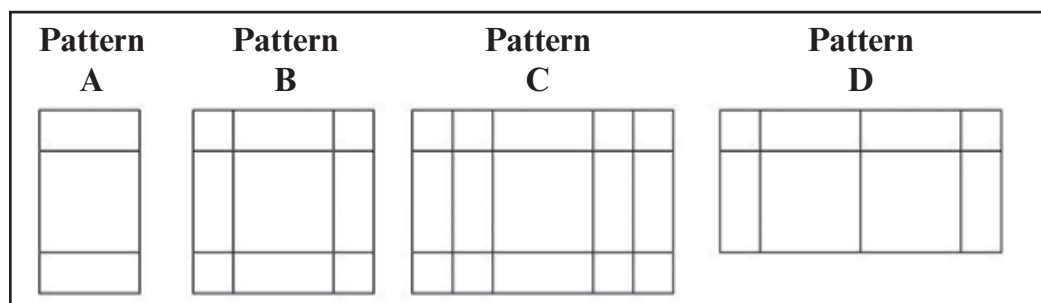


Figure 9.2 Patterns



Procedure

1. Open a new Word document.
2. Save the file as **Academic_Project_09-[first initial and last name].docx**. Ask your teacher where to save your file.
3. Create a table with five rows and five columns.
4. Label the first column in the table **Pattern Style**. Label the subsequent columns **One**, **Two**, **Three**, and **Four**.
5. Under **Pattern Style**, label the rows **A**, **B**, **C**, and **D**.
6. Modify the font, font style, and font color of the text in your table so that the headings are clear and the table is easy to read.

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Figure 9.3 Table to Record Area

Pattern Style	One	Two	Three	Four
A	$t + 2t$			
B				
C				
D				

- Fill in the table with algebraic expressions that represent the area of each pattern style. For example, the area for pattern style A in the One column would be $t + 2t$. To find the area for each pattern style in columns Two, Three, and Four, arrange each pattern style next to itself the number of times listed in the column heading. For example, in row A, column Two, the pattern whose area you calculate should look like Figure 9.4.
- Save and close your file.

Figure 9.4 Sample Pattern

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Project 9 Rubric

Name _____ Period _____ Date _____

Directions: After you have finished your project, determine how well you have completed each Category. Read the criteria under each column—Excellent, Proficient, Developing, and Beginning. Give yourself a score in the right column based on how well you think you met the criteria. Turn in this paper to your teacher along with your project.

Areas of Evaluation and Corresponding Score:	Excellent (4)	Proficient (3)	Developing (2)	Beginning (1)	Score and Comments:
Table Structure and Formatting	The table is drawn and labeled correctly. The table has five columns and five rows. The table is very well formatted.	One heading is missing or is not correctly labeled. The table has five columns and five rows. The table is very well formatted.	Two headings are missing or are not correctly labeled. The table has five columns and five rows. The table could have been formatted better.	More than two headings are missing or are not correctly labeled. The table does not have five columns and five rows. The table is poorly formatted or has no formatting at all.	
Algebraic Expressions	All algebraic expressions in the tables are correct.	One expression is incorrect.	Two expressions are incorrect.	More than two expressions are incorrect.	
Data for Area	There are no errors in the data.	There is one error in the data.	There are two errors in the data.	There are more than two errors in the data.	

Math Projects

Project 10 Comparing the Perimeters and Areas

Solution File

Academic_Project_10_SF

Topics Covered

Math Skills

- Finding the perimeter and area of a square
- Collecting data and drawing conclusions from it
- Comparing perimeters of squares
- Comparing the area of squares

Computer Skills

- Formatting a table
- Keying text into a table
- Applying a pre-defined format to a table

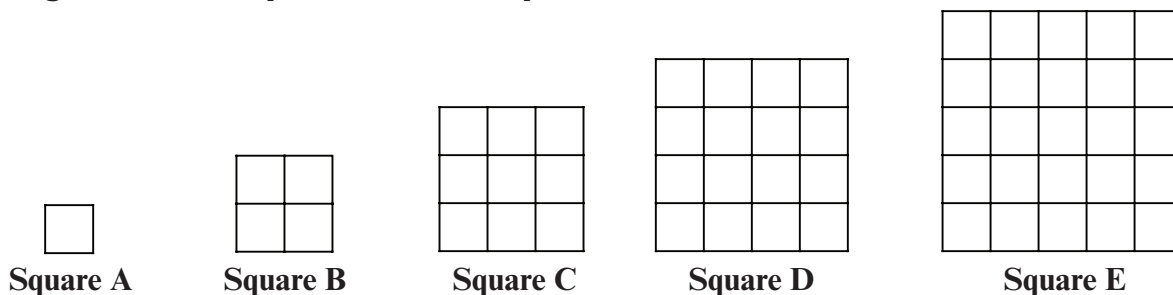
Why Do I Need to Know This?

Collecting data and drawing mathematically sound conclusions based on that data is an important skill to learn. In this project, you will look at five different-sized squares and, using a Word table, you will record the length of each square's side, area, and perimeter. You will then use the data to compare the different squares.

Procedure

While working on this project, you will compare the sizes of the following squares shown in Figure 10.1.

Figure 10.1 Squares to Compare



1. Open a new Word document.
2. Save the file as **Academic_Project_10-[first initial][last name]**. Ask your teacher where to save your file.

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3. Create a table with five columns and six rows.
4. Label the columns from left to right as follows: **Square**, **Length of each side**, **Perimeter**, **Area**, and **Number of sides inside the square**. (See below for an example.)
5. Label the rows under the heading Square as follows: **A**, **B**, **C**, **D**, **E**. See Figure 10.2 for an example.

Figure 10.2 Sample Table

Square	Length of each side	Perimeter	Area	Number of sides inside the square
A	1	4	1	0
B	2	8	4	4
C	3			
D	4			
E	5			

6. Complete the table by inserting the correct data. (Note: The length of each side is provided for you.)
7. Go to the **Design** tab and apply a table style to the table.
8. Create a second table below the first table. It also should have five columns and six rows.
9. Label the columns from left to right as follows: **Ratio of square figures**, **Side length**, **Perimeter**, **Area**, and **Number of sides inside the square**. (See Figure 10.3)

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10. Label the rows under the heading **Ratio of square figures** as follows (also see Figure 10.3):

B, C, D, E, D

A A A A B

Figure 10.3 Ratio Table

Ratio of square figures	Side length	Perimeter	Area	Number of sides inside the square
$\frac{B}{A}$	$\frac{2}{1}$	$\frac{8}{4}$	$\frac{4}{1}$	$\frac{4}{0}$
$\frac{C}{A}$				
$\frac{D}{A}$				
$\frac{E}{A}$				
$\frac{D}{B}$				

11. Complete the table by inserting the correct data.
12. Go to the **Design** tab and apply a table style to the table.
13. Below the second table, key the answers to the following questions. Label each answer with the letter that corresponds to the question you are answering. Look at the table and use the data in it to draw conclusions about the relationship of squares B, C, D, and E to square A.
 - a. Is square B twice as big as square A? Is square E five times as big as square A? How do you know?
 - b. How do the perimeters of squares B, C, D, and E compare to the perimeter of square A?
 - c. How do the areas of squares B, C, D, and E compare to the area of square A?
14. Save and close your file.

Math Projects

Project 10 Rubric

Name _____ Period _____ Date _____

Directions: After you have finished your project, determine how well you have completed each Category. Read the criteria under each column—Excellent, Proficient, Developing, and Beginning. Give yourself a score in the right column based on how well you think you met the criteria. Turn in this paper to your teacher along with your project.

Areas of Evaluation and Corresponding Score:	Excellent (4)	Proficient (3)	Developing (2)	Beginning (1)	Score and Comments:
Design and Formatting of Tables	The columns and rows in the tables are evenly spaced, and the table design enhances the tables' readability. A well-chosen table style has been applied to each table.	The columns and rows in the tables are evenly spaced, and the table design makes the tables easy to read. A table style has been applied to each table.	The columns and rows in the tables are not evenly spaced, or the table design is distracting. Table styles could have been better chosen or a table style was only applied to one table.	The columns and rows in the tables are not evenly spaced, and the table design is distracting. No table styles were applied.	
Data in Tables	The data is recorded without error.	The data is recorded with one error.	The data is recorded with two errors.	The data is recorded with more than two errors.	
Conclusions Based on Table Data	The conclusions are based on the data presented.	The conclusions are partly made from the data recorded.	The conclusions are made from looking at the drawings only.	The conclusions have apparent basis.	

Math Projects

Project 11 Bridging the Gap

Solution File

Academic_Project_11_SF

Topics Covered

Math Skills

- Collecting data
- Calculating results

Computer Skills

- Inserting a table
- Formatting a table

Why Do I Need to Know This?

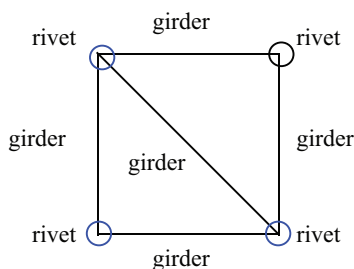
Collecting and analyzing data is an important math skill that is often used in everyday life. In this project, you will assume the role of a construction superintendent. You will examine a type of bridge and the materials needed to create the bridge. You will look at what happens to the amount of materials needed as you make the bridge longer. You will also use a specific shape to create the bridge. Certain shapes can hold much more weight than others. The strongest shape to hold the weight of a bridge appears to be the triangle. You will base your work on a shape that is made up of triangle.

Before You Begin

In this project, you will create and then compare bridges of different lengths. You will design these bridges using girders and rivets. A girder is a beam that is used as a support in buildings and bridges. A rivet is a bolt that holds girders together.

Since triangles are the strongest shapes, the shape you use will be made up of triangles. The shape is a square with a diagonal so that the figure is composed of two triangles. This shape is made of five girders and has four rivets. See Figure 11.1.

Figure 11.1 Girders and Rivets



You will make a table to show the increase in the number of girders and rivets used when you double, triple, quadruple, and quintuple this shape to make a bridge.

Math Projects

Project 11

Procedure

1. Open a new Word document.
2. Save the file as **Academic_Project_11-[first initial][last name]**. Ask your teacher where to save your file.
3. Create a table with three columns and seven rows. (See below for an example.)
4. Title the first column **Number of Shapes**, title the second column **Number of Girders**, and title the third column **Number of Rivets**.
5. Complete the table (see the partially completed example below).

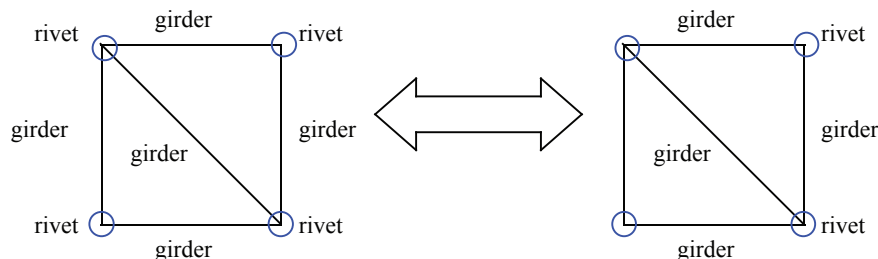
Figure 11.2 Example of Table

Number of Shapes	Number of Girders	Number of Rivets
1	5	4
2	9	6
3		
4		
5		
6		

Note what happens when you double the shapes: the two shapes share a girder and two rivets. The configuration below has 9 girders and 6 rivets. Keep this in mind as you calculate the remaining configurations.

6. Save and close your file.

Figure 11.3 Girders and Rivets Doubled



Memory Check

If necessary, draw out each scenario and then count the number of girders and rivets.

Math Projects

Project 11 Rubric

Name _____ Period _____ Date _____

Directions: After you have finished your project, determine how well you have completed each Category. Read the criteria under each column—Excellent, Proficient, Developing, and Beginning. Give yourself a score in the right column based on how well you think you met the criteria. Turn in this paper to your teacher along with your project.

Areas of Evaluation and Corresponding Score:	Excellent (4)	Proficient (3)	Developing (2)	Beginning (1)	Score and Comments:
Table formatting	The table has the correct number of columns and rows, the columns and rows are evenly spaced, and the table is easy to read.	The table has the correct number of columns and rows and is readable.	The table has the correct number of columns and rows but it is not evenly spaced or is not easy to read.	The table does not have the correct number of columns and rows.	
Table data	All of the data has been keyed into the table and is correct.	One of the calculations is incorrect.	Two of the calculations are incorrect.	More than two of the calculations are incorrect.	

Math Projects

Project 12 Solving Inequalities

Solution File

Academic_Project_12_SF

Topics Covered

Math Skills

- Solving inequalities involving addition, subtraction, multiplication, and division

Computer Skills

- Adding text to a slide
- Applying a design template to a slide
- Applying a slide animation scheme
- Moving among slides in a slide show
- Saving a presentation
- Printing a presentation

Why Do I Need to Know This?

A mathematical inequality is a comparison of two expressions using greater than ($>$) or less than ($<$) signs. Solving inequalities is an algebraic process that requires many steps to finalize an answer. PowerPoint presentations provide an efficient way to present ideas, particularly when you want to explain the steps in a process. Create a PowerPoint presentation that shows the steps for solving different mathematical inequalities.

Procedure

1. Open a new PowerPoint presentation.
2. Save the file as **Academic_Project_12-[first initial][last name]**. Ask your teacher where to save the file.
3. Throughout your presentation, use fonts, font sizes, and font styles to make your slides as readable as possible.
4. Choose the **Title Slide** layout for the first slide.
5. On the first slide, title your project **Solving Inequalities**.
6. Go to the **Design** tab and choose an appropriate theme for your presentation.
7. Select an animation and/or transition for the title slide.
8. Create a new slide and choose the **Title and Content** layout.

Math Projects

Project 12

9. Title this slide **Using Addition or Subtraction**.
10. In the text box on the slide, key the following text:

Example 1

$$\begin{aligned} a + 4 &< 14 \text{ (Inequality)} \\ - 4 &- 4 \text{ (Subtract 4 from both sides)} \\ a &< 10 \text{ (Final answer)} \end{aligned}$$

11. Create a new slide and choose the **Blank text** layout.
12. Create a text box and key in the following:

Example 2

$$\begin{aligned} 9k - 12 &> 80 + 8k \text{ (Inequality)} \\ - 8k &\quad - 8k \text{ (Subtract } 8k \text{ from both sides)} \\ k - 12 &> 80 \text{ (Result of subtraction)} \\ + 12 &+ 12 \text{ (Add 12 to both sides)} \\ k &> 92 \text{ (Final Answer)} \end{aligned}$$

13. Select an animation and/or transition for this slide.
14. Create a new slide and choose the **Blank text** layout.
15. Create a text box and key in the following:

Example 3

$$\begin{aligned} 6y &> 14 - 2 + 7y \text{ (Inequality)} \\ - 6y &\quad - 6y \text{ (Subtract } 6y \text{ from both sides)} \\ 0 &> 14 - 2 + y \text{ (Result of subtraction)} \\ 0 &> 12 + y \text{ (Combine like terms)} \\ - 12 &\quad - 12 \text{ (Subtract 12 from both sides)} \\ - 12 &> y \text{ (Result of subtraction and final answer)} \end{aligned}$$

Math Projects

Project 12

16. Select an animation and/or transition for this slide.
17. Create a new slide and choose the **Title and Content** layout.
18. Title this slide: **Using Multiplication or Division**.
19. Key the following text into the text box on the slide:

Example 4

$$4x < 24 \quad (\text{Inequality})$$
$$\frac{4x}{4} < \frac{24}{4} \quad (\text{Divide both sides by 4})$$
$$x < 6 \quad (\text{Final answer})$$

20. Select an animation and/or transition for this slide.
21. Create a new slide and choose the **Blank text** layout.
22. Create a text box and key in the following:

Example 5

$$-9k > 21 \quad (\text{Inequality})$$
$$\frac{-9k}{-9} < \frac{21}{-9} \quad (\text{Divide both sides by } -9)$$
$$k < \frac{-7}{3} \quad (\text{Reverse the inequality sign in the final answer})$$

23. Select the animation and/or transition for this slide.
24. Create a new slide and choose the **Blank** layout.
25. Create a text box and key in the following:

Example 6

$$-3v + 3 < -21 \quad (\text{Inequality})$$
$$-3v - 3 < -21 - 3 \quad (\text{Subtract 3 from both sides of the inequality})$$
$$-3v < -24 \quad (\text{Result of subtraction})$$
$$\frac{-3v}{-3} > \frac{-24}{-3} \quad (\text{Divide by } -3)$$
$$v > 8 \quad (\text{Reverse the inequality sign in the final answer})$$

Math Projects

Project 12

26. Select an animation and/or transition for this slide.
27. Create a new slide and choose the **Blank text** layout.
28. Create a text box and key in the following:

Example 7

$$\begin{array}{ll} \frac{x}{7} + 1 > -5 & \text{(Inequality)} \\ \frac{x}{7} - 1 & - 1 \quad \text{(Subtract 1 from both sides)} \\ \frac{x}{7} > -6 & \text{(Result of subtraction)} \\ (7)\underline{x} > -6(7) & \text{(Multiply both sides by 7)} \\ x > -42 & \text{(Final answer)} \end{array}$$

29. Select an animation and/or transition for this slide.
30. Play your presentation and make sure that it easily moves from slide to slide.
31. With your teacher's permission, print your presentation. Save and close your file.

Memory Check

Your PowerPoint presentation should be as eye-catching and readable as possible.

Math Projects

Project 12 Rubric

Name _____ Period _____ Date _____

Directions: After you have finished your project, determine how well you have completed each Category. Read the criteria under each column—Excellent, Proficient, Developing, and Beginning. Give yourself a score in the right column based on how well you think you met the criteria. Turn in this paper to your teacher along with your project.

Areas of Evaluation and Corresponding Score:	Excellent (4)	Proficient (3)	Developing (2)	Beginning (1)	Score and Comments:
Slide Design and Animation	The design, animation, and transitions are very effective.	The design, animation, and transitions are effective.	The design, animation, and transitions are somewhat effective.	The design, animation, and transitions are not effective.	
Formatting and Layout of Sample Problems	The problems are very readable.	The problems are readable.	The problems are somewhat readable.	The problems are not readable.	
Slide Show	The slide show is engaging and moves easily from slide to slide.	The slide show is acceptable and moves from slide to slide with only one problem.	The slide show is average, with two problems moving from slide to slide.	The slide show is distracting, with more than two problems moving from slide to slide.	
Hard copy	The hard copy contains all of the slides in correct order, with no errors in the text.	The hard copy contains all of the slides in correct order, with no more than one error in the text.	The hard copy contains all of the slides in correct order, with no more than two errors in the text.	The hard copy does not contain all of the slides in correct order, with more than two errors in the text.	

Math Projects

Project 13 Flipping Coins

Solution File

Academic_Project_13_SF

Topics Covered

Math Skills

- Predicting probability

Computer Skills

- Creating new slides
- Adding text to slides
- Applying a design template to slides
- Applying animation to slides
- Creating an organizational diagram in a slide

Why Do I Need to Know This?

Probability and odds are used to predict the likelihood that a specific result will occur. If you were given a choice of three different outcomes after flipping a coin four times, which one would you choose? Choices for the outcomes are:

1. Getting all heads or all tails after four flips
2. Getting two heads or two tails in any order after four flips
3. Getting three of one side of the coin and one of the other (for example, heads-heads-tails-heads).

Would you be able to select the outcome with the highest probability? In this project, you will create a chart in PowerPoint to help you determine the answer to this question.

Procedure

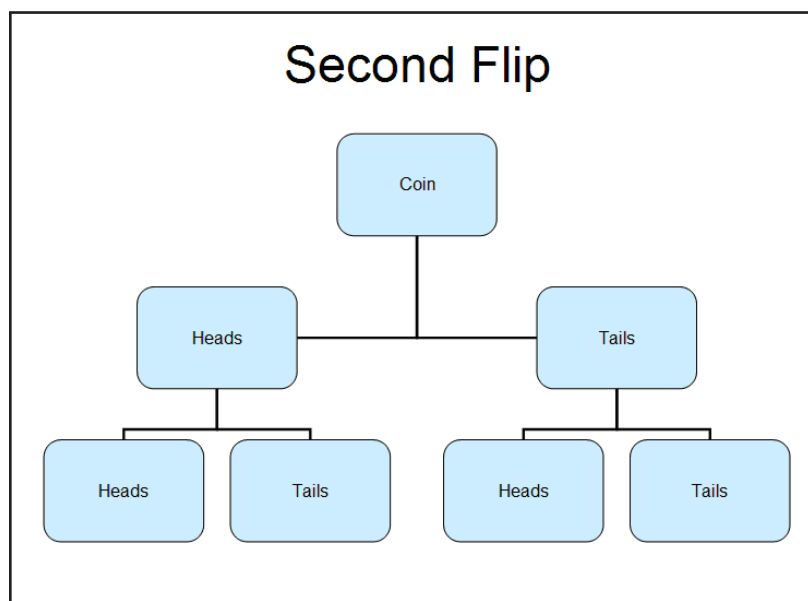
1. Open a new PowerPoint presentation.
2. Save the file as **Academic_Project_13-[first initial][last name]**. Ask your teacher where to save the file.
3. Choose a design theme and/or color scheme for your presentation. Your first slide should be in **Title Slide** format. Title the slide **Coin Flip Probability**. In the subtitle box key: **Heads or Tails?** Add Clip Art of a coin below the subtitle.
4. Create a new slide. Choose the **Title and Content** layout for this slide.

Math Projects

Project 13

5. Title the slide **First Flip**.
6. Click in the **Content** box. Choose **Insert>Illustrations>SmartArt**. In the **Choose a SmartArt Graphic** dialog box, click **Hierarchy** and click **OK**.
7. In the top shape of the chart, key the word **Coin**.
8. Delete all three shapes in the third tier of the chart.
9. Key the letter **H**, for **Heads**, in the left shape and the letter **T**, for **Tails**, in the right shape. Change the background color of the Tails shape.
10. Create a new slide, choosing the **Title and Content** layout again.
11. Title the slide **Second Flip**.
12. Repeat steps 6 and 7.
13. Right-click the last shape in the bottom row, click **Add Shape**, and then click **Add Shape After**.
14. Label the shapes as shown in Figure 13.1.
15. Change the background color of all the **Tails** shapes. (See Figure 13.1 below for an example.)

Figure 13.1 Second Flip



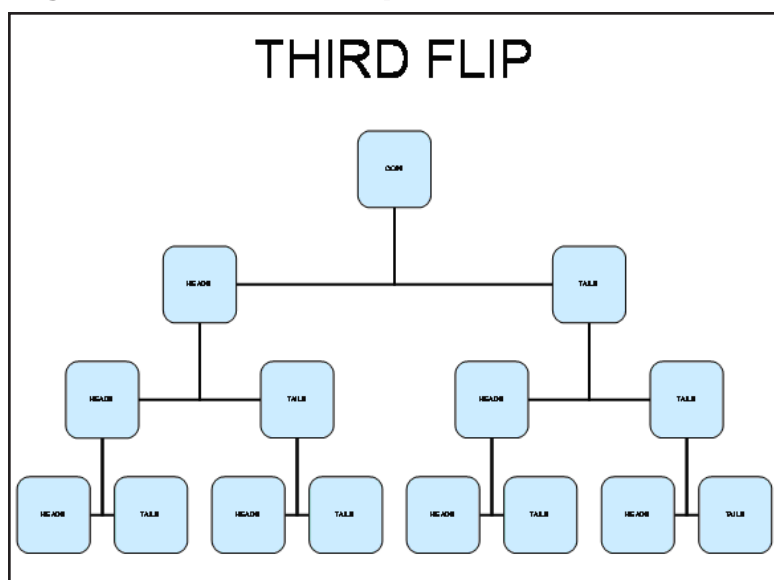
16. Create a new slide, choosing the **Title and Content** layout again.
17. Title this slide **Third Flip**.

Math Projects

Project 13

18. Create a chart having the same structure as the one shown in Figure 13.2.
19. Label the shapes as shown in Figure 13.2. Change the background color of all the Tails shapes.

Figure 13.2 Third Flip

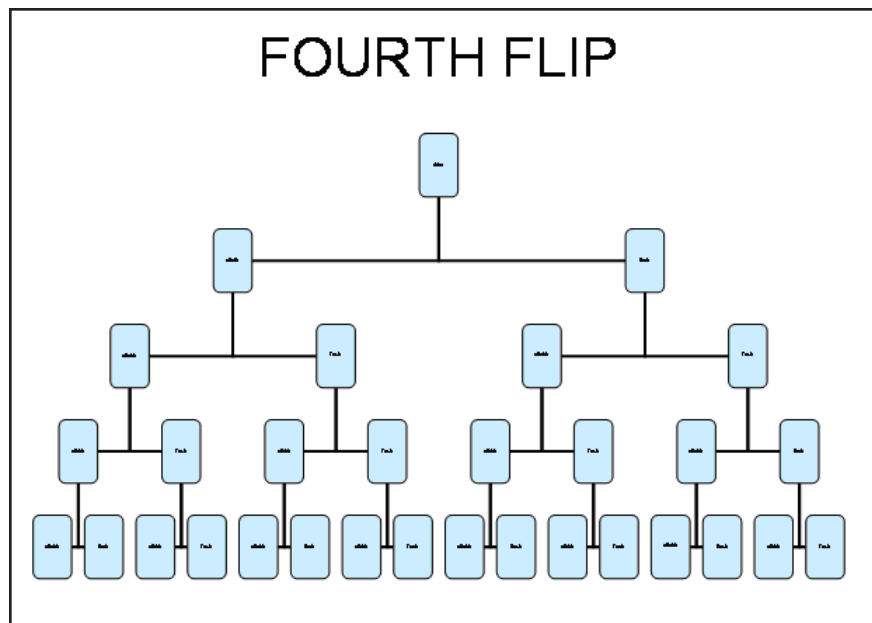


20. Create a new slide, choosing the **Title and Content** layout again.
21. Title the slide **Fourth Flip**.
22. Create a chart like the chart on the **Third Flip** slide.
23. Create two subordinate shapes for each of the shapes on the bottom row of the chart. Title the new subordinate shapes Heads or Tails, as appropriate. You should have 31 shapes all together. Change the background color of the Tails shapes. (See Figure 13.3 for an example.)

Math Projects

Project 13

Figure 13.3 Fourth Flip



24. Create a new slide, choosing the **Blank** layout.
25. Create a text box and then key in the following questions, as well as answers to these questions:
 - a. How many paths are possible after four flips? _____
 - b. How many paths are possible with all heads or all tails? _____
 - c. How many paths are possible with two heads and two tails? (The order of the heads or tails does not matter.) _____
 - d. How many paths are possible with three heads and one tail or three tails and one heads? (The order of the heads or tails does not matter.) _____
 - e. Which type of path is most likely? _____
26. Apply an animation scheme and/or a transition to the each slide.
27. Play your presentation to make sure that it easily moves from slide to slide.
28. With your teacher's permission, print your presentation. Save and close your file.

Memory Check

You can calculate the ratio of possible outcomes by dividing the number of paths that lead to each outcome by the total number of paths.

Math Projects

Project 13 Rubric

Name _____ Period _____ Date _____

Directions: After you have finished your project, determine how well you have completed each Category. Read the criteria under each column—Excellent, Proficient, Developing, and Beginning. Give yourself a score in the right column based on how well you think you met the criteria. Turn in this paper to your teacher along with your project.

Areas of Evaluation and Corresponding Score:	Excellent (4)	Proficient (3)	Developing (2)	Beginning (1)	Score and Comments:
Slide Design, Animation, and Transitions	The design, animation, and transitions enhance the overall presentation.	The design, animation, and transitions do not detract from the presentation.	The design, animation, and transitions do not detract from the presentation but are not pleasing to the eye.	The design, animation, and transitions divert attention from content in the presentation.	
Organizational charts	The charts on each slide are drawn correctly.	There is one error in the charts.	There are two errors in the charts.	There are more than two errors in the charts.	
Probability questions	There are no errors in the responses to the probability questions.	There is one error in the responses to the probability questions.	There are two errors in the responses to the probability questions.	There are more than two errors in the responses to the probability questions.	

Math Projects

Project 14 Looking at Medals

Solution File

Academic_Project_14_SF

Topics Covered

Math Skills

- Comparing data
- Creating bar graphs

Computer Skills

- Adding text to a slide
- Creating a chart
- Applying a design template
- Applying an animation scheme

Why Do I Need to Know This?

Professional sports are big business in the United States and around the world. The National Football League (NFL) consists of 32 teams divided into two conferences. Its season culminates with the Super Bowl, an event watched by hundreds of millions. NFL games provide large revenues for their home cities, teams, players, owners, advertisers, and many other professionals.

Because of the intense interest in professional football, fans closely watch the performances of teams and individual players. In this project, you will create a PowerPoint presentation containing charts that compare two teams with an intense ongoing rivalry: the Chicago Bears and the Green Bay Packers. First, you will create a chart showing each team's total regular season wins for a ten-year period. Then you will create a chart showing each team's total season touchdowns during this same period.

Procedure

1. Open a new PowerPoint presentation.
2. Save the file as **Academic_Project_14-[first initial][last name]**. Ask your teacher where to save your file.
3. Go to the **Design** tab and choose a theme for your presentation. You also may wish to change the background color of your slides.
4. Title the first slide **Comparing Two National Football League Teams**. Key: **The Chicago Bears Versus the Green Bay Packers** into the subtitle text box.

Math Projects

Project 14

5. Create a new slide that uses the **Title and Content** slide layout.
6. Key in the title **Wins: Bears Versus Packers**.
7. To create your chart, click **Insert Chart** in the **Content** box. In the **Insert Chart** dialog box, double-click **Clustered Column** (first column, first row).
8. Key the data in Figure 14.1 into the datasheet. The Bears total wins are listed first while the Packers wins are listed second. Enter the data into the datasheet as shown in Figure 14.2.

Figure 14.1 Bears and Packers Regular Season Wins

Year	Bears	Packers
2000	5	9
2001	13	12
2002	4	12
2003	7	10
2004	5	10
2005	11	4
2006	13	8
2007	7	13
2008	9	6
2009	11	7

Figure 14.2 Sample Datasheet for Bears and Packers Wins

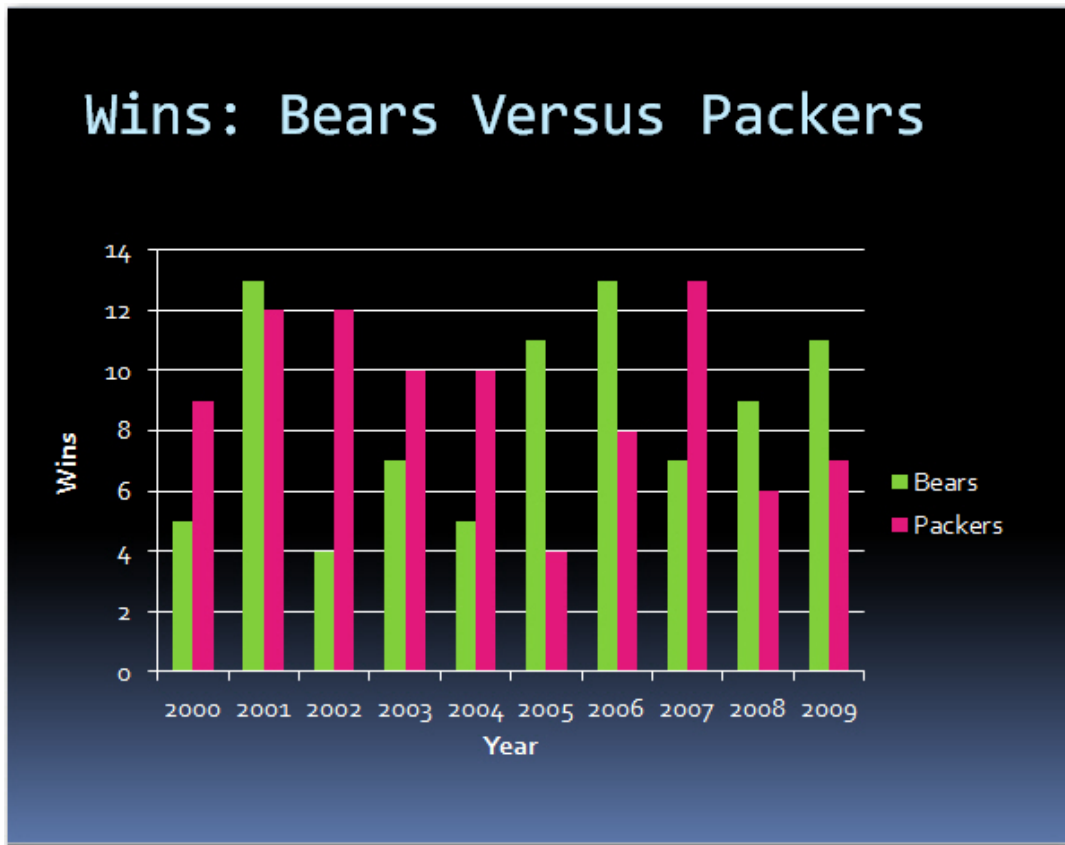
	A	B	C
1		Bears	Packers
2	2000	5	9
3	2001	13	12
4	2002	4	12
5	2003	7	10
6	2004	5	10
7	2005	11	4

9. Label both the vertical and horizontal axes of your chart.
10. When all of the data are entered, your chart should look similar to Figure 14.3.

Math Projects

Project 14

Figure 14.3 Chart Comparing Bears and Packers Wins



11. Create a third slide that uses **Title and Content** slide layout.
12. Key in the title **Touchdowns: Bears Versus Packers**.
13. To create the chart, click **Insert Chart** in the **Content** box. In the **Insert Chart** dialog box, double-click **Clustered Column** (first column, first row).
14. Key the data in Figure 14.4 into the datasheet. The total touchdowns for the Bears are listed first while the touchdowns for the Packers are listed second. Be sure to enter the data into the chart so that the dates appear along the vertical axis of the chart. Your chart should look similar to Figure 14.5.

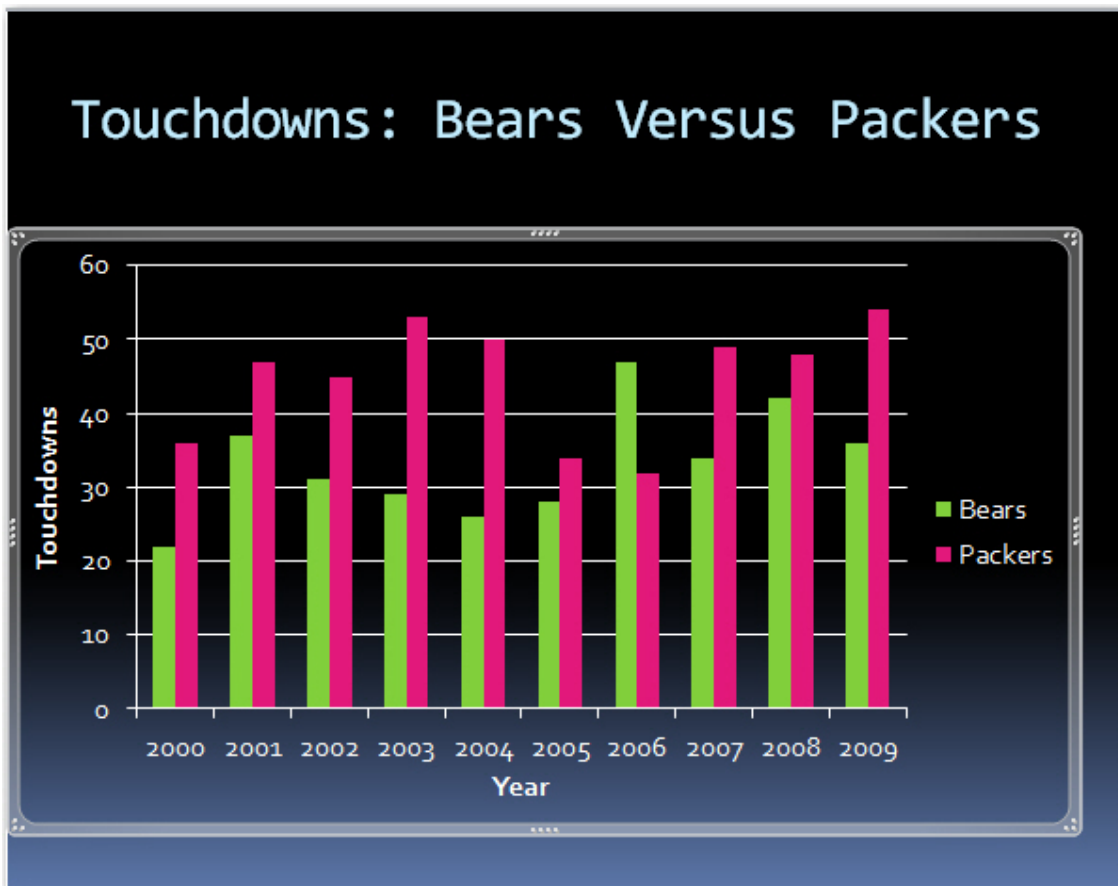
Math Projects

Project 14

Figure 14.4 Bears and Packers Regular Season Touchdowns

Year	Bears	Packers
2000	22	36
2001	37	47
2002	31	45
2003	29	53
2004	26	50
2005	28	34
2006	47	32
2007	34	49
2008	42	48
2009	36	54

Figure 14.5 Chart Comparing Bears and Packers Touchdowns



Math Projects

Project 14

15. Label both the vertical and the horizontal axes of your chart.
16. Apply appropriate animations and/or transitions to each slide.
17. View your presentation to make certain that it works properly and is error-free.
18. With your teacher's permission, print your presentation. Save and close your file.

Memory Check

When you are done creating a chart, always take a minute to look at the “big picture.” Will the reader find the chart easy to understand? Do the data make sense? By doing this, you can make your chart easier for people to grasp.

Source for data in Figures 4.1 and 4.4:

NFL: Standings. NFL Enterprises LLC. 8 October 2007 <<http://www.nfl.com/standings>>.

Math Projects

Project 14 Rubric

Name _____ Period _____ Date _____

Directions: After you have finished your project, determine how well you have completed each Category. Read the criteria under each column—Excellent, Proficient, Developing, and Beginning. Give yourself a score in the right column based on how well you think you met the criteria. Turn in this paper to your teacher along with your project.

Areas of Evaluation and Corresponding Score:	Excellent (4)	Proficient (3)	Developing (2)	Beginning (1)	Score and Comments:
Slide Design	The slide design enhances a slide's readability.	The design is easy to read and consistent from slide to slide.	The design is consistent from slide to slide but distracts somewhat from slide content.	The design is not consistent and is a distraction.	
Slide Animations and Transitions	The animations and transitions enhances the presentation.	The animations and transitions do not distract viewers from slide content.	The animations and transitions somewhat distract viewers from slide content.	The animations and transitions are not effective and distract viewers from slide content.	
Accuracy of Bar Graph Data	The graphs contain all of the data. All entries are correct.	The graphs contain all of the data. Less than three entries are incorrect.	The graphs contain all of the data. More than three entries are incorrect.	The graphs do not contain all of the data. More than three entries are incorrect.	
Bar Graph Appearance	The x- and y-axes of the graphs are correctly labeled, the key is correctly labeled, and the data are easy to read.	The x- and y-axes of the graphs are correctly labeled, the key is correctly labeled, but the data are too close.	The x- and y-axes of the graphs are correctly labeled, the key is not correctly labeled, and the data are too close.	The x- and y-axes of the graphs are not correctly labeled, the key is not correctly labeled, and the data are too close.	