Intergrated Curriculum Projects

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Introduction

This *Integrated Curriculum Projects* booklet, which accompanies Glencoe's *iCheck Series Microsoft Office 2007*, contains fourteen projects that offer students additional practice for many of the skills covered in the text. Projects follow a step-by-step approach similar to that used in the student textbook.

Data and Solution Files

Data files for the projects in this booklet are provided for student use at the **Online Learning Center** at **glencoe.com**.

Tips for Using the Projects in Class

You have permission to copy the projects for your students. Because the projects reinforce skills covered in the text, they can be used as tools for assessing student progress. Projects can also be used as a differentiated instruction tool and assigned to advanced students as extra credit work.

If work on a project extends to a second day, have students circle the number of the step they will begin with on the second day. You might want to have students turn in the work they completed the first day. If students turn in their first-day work, have them write their names on the project instruction sheet, print out the work they have completed, and turn these in to you.

Assessment Strategies

Each project has a rubric, which can be used as a self-assessment checklist by the students and as an assessment tool by the teacher. The rubrics include categories of skills students had to perform to complete the project. The student's performance can be ranked in each category as Excellent, Proficient, Developing, or Beginning. The rankings are based on the number of errors in the student's completed project.

Language Arts Projects

NOTES

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Project 1 — The Mighty Paragraph

Solution File

IC_Project_01_SF.docx

Topics Covered

Writing Skills

Identifying characteristics of an effective paragraph

Computer Skills

Creating a new document
Using track changes
Inserting comments

Why Do I Need to Know This?

No matter where you attend high school, chances are you will
have to take a required state exam in order to get your diploma.
Many students find the written portions of these exams challenging
because they fear they will not have anything to write about, will
forget how to properly write an essay, or will not be able to include
enough information. In this project, you will review how to write an
effective response to an essay question on an exam.

Before You Begin

The essay portion of the exam can be easier to complete if you
remember a few things. First, the topic of the essay is already
provided for you in the essay question. Second, the topic of each
paragraph is usually provided for you. And third, the test question
usually provides a simple outline for you to follow.

    To effectively use the information provided in the essay question, you
must know how to properly organize a paragraph. The following
guidelines will help you write well-organized paragraphs.

1. A paragraph must begin with a topic sentence.
2. The rest of the sentences in the paragraph must support the
   topic sentence.
3. A paragraph must focus on one single idea.
4. A paragraph should have enough sentences to complete its
   main thought.
5. When responding to a question, use part of the question to
   create the topic sentence.
6. Always respond to the question as if a "why" statement
   was included. For example, if an essay question asks,

"Do you agree with this ruling?" Simply answering "yes" or "no" will not suffice. You need to explain why you agree or disagree.

Figure 1.1 Topic Sentence and Sample Response

In this example of a test question and answer, the **topic sentence** in the answer is underlined. Notice that part of the question is used to form the topic sentence. The rest of the sentences in the paragraph are **supporting sentences** that explain why the writer agrees or disagrees with the question.

In July 2002, the Supreme Court ruled that drug testing of students who participate in all extra-curricular activities (not just sports) is just. Do you agree with this ruling?

<u>I agree with the Supreme Court ruling of July 2002 that requires students who participate in extra-curricular activities to submit to drug testing like those who participate in sports.</u> Students who participate in extra-curricular activities represent themselves and our school to people in our community. They also have to drive to and from events and driving under the influence of an illegal drug could endanger their lives and the lives of others. It is a logical step to make sure students who participate in extra-curricular activities are safe and not involved in any illegal drug activity that would harm the school or themselves.

Procedure

1. Open a new Word document.

2. Save the file as **IC_Project_01-[first initial and last name].docx**. Ask your teacher where to save the file.

3. Key the following paragraphs:

   a. The Fourth of July is quickly becoming my favorite holiday because our family participates in a number of exciting activities. We usually begin the day with a picnic with relatives. Massive water balloon fights are always a favorite part of the picnic. Then, we all eat the great food everyone brings. This year we will have our picnic at McNaughton Park. After eating, we go to the neighborhood grocery store parking lot where we camp by our cars, waiting in anticipation for the fireworks show. Finally, we return home to light our own fireworks. It is a great day, and everyone, young and old alike, has a great time.

    b. As a second year law enforcement student at the Career Center, I believe we should have a better security plan implemented in our school. Students want to feel safe when they attend school. Cameras should be installed at each entrance so visitors can be detected automatically. Faculty and staff should wear identification tags so students can easily recognize the adults that belong in our building. We will tell parents about our plan by letter. Students also should wear identification tags and should keep their book bags in lockers.

4. Turn on Track Changes before you make changes to this document so your instructor can review all of your work.

5. Insert a comment to highlight and label the topic sentence in each paragraph.

6. Locate a sentence in each paragraph that does not support the topic sentence. Highlight each sentence and change the font style to Strikethrough.

7. Add a comment that explains why the sentence does not belong in the paragraph.

8. Save and close your file.

Memory Check

Each sentence in a paragraph should support the topic sentence.

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:
Content	Paragraphs have been correctly entered.	Paragraphs have been correctly entered except for one error.	Paragraphs have been correctly entered except for two errors.	There are three or more errors in the paragraphs.	
Track Changes	Track changes is turned on, and there were four comments in the correct places in the document.	Track changes is turned on, and there were four comments in document, but one of the comments was either missing or not in the right place.	Track changes is turned on, but two or three comments were either missing or in the wrong place.	Track changes is not turned on, and the comments were either missing or in the wrong place.	
Identifying Elements of the Paragraphs	The topic sentence and the sentence that does not support the topic sentence were correctly identified. The explanation for why that sentence did not belong in the paragraph was well supported.	The topic sentence and the sentence that does not support the topic sentence were correctly identified. However the explanation for why that sentence did not belong in the paragraph was not well supported.	Either the topic sentence or the sentence that does not support the topic sentence was not correctly identified, and/or the explanation for why that sentence did not belong in the paragraph was not well supported.	The topic sentence and the sentence that does not support the topic sentence were not correctly identified.	

Solution File

IC_Project_02_SF.docx

Topics Covered

Writing Skills

Reviewing effective paragraph and essay development techniques
Reviewing techniques for responding to essay questions in tests
Creating an outline for an essay

Computer Skills

Creating an outline numbered list
Specifying style of numbered lists
Changing font size

Why Do I Need to Know This?

An essay question asks you to clearly and succinctly express an idea.
In order to make sure your ideas are clear, you must first gather
your thoughts on what you would like to say. By creating an outline,
you give yourself direction on how you will define and support your
topic. You provide yourself with a "map." If you follow the map you
create, your essay will follow a logical path, and will directly address
the question offered and will support the topic in an orderly way.
In this project you will use Word to create an outline for an essay.

Before You Begin

You are on the Youth Activities Board in your hometown. Your
board makes recommendations to your city council regarding new
activities for the teens in your city. You have been asked to write an
essay proposing the development of a new youth park. You will use
Word to outline your ideas before you write the essay. Make sure
you include the following points in your essay:
- A description of whom the park would serve
- A discussion of the activities that could be offered at the park
- The best location for the park
- Details to make the essay persuasive
- A beginning, middle, and end to your proposal

First, think about the paragraph development activity you completed in Project 1 that taught you how to write a compelling paragraph. Now, take a look at Figure 2.1, which lists the ways paragraph and essay development are similar.

Figure 2.1 Comparing Paragraph and Essay Development

PARAGRAPHS	ESSAYS
1. A paragraph must include a topic sentence. 2. The rest of the sentences in the paragraph must support the topic sentence. 3. A paragraph must focus on one single idea. 4. A paragraph should have enough sentences to complete your thought. 5. When responding to a question, use part of the question to create the topic sentence.	1. An essay must include a thesis statement. 2. The rest of the paragraphs in the essay must support the thesis statement. 3. An essay must focus on one single idea. 4. An essay should have enough paragraphs to complete your thought. 5. When responding to an essay question, use part of the question to create the thesis statement.

Second, note that many essay examination questions provide clues on how to construct an essay. More specifically:

1. The topic of the essay is already provided for you.

2. The topic of each paragraph is usually provided for you.

3. The test question usually provides a simple outline for you to follow.

You are almost ready to begin your outline. Before you do, take a look at the following sample essay question and outline.

Have you ever wondered what America will be like in a hundred years? Suppose you could travel to that time. What do you think would be different and what would be the same?

Be sure to include:
*   *A description of important people*
*   *Events that occur or ideas people possess*
*   *Advancements in the areas of technology*
*   *Details to make the essay interesting*
*   *A beginning, middle, and end to your essay*

From the information provided in the question, you should first create a simple five-paragraph outline that addresses each aspect of the question. Although the topic of the outline you will create is different than the topic of this sample outline, your outline should be formatted in the same way as the outline shown in Figure 2.2.

Figure 2.2 Sample Outline

In The Year 2110¶

¶

I. → INTRODUCTORY PARAGRAPH¶

II. → LEADERS OF OUR COUNTRY IN 2110¶

> A. → Identify the president, how long he or she has served, etc.¶
>
> B. → Identify our state governor, how long he or she has served, e
>
> C. → Identify local leaders and their functions¶

III. → EVENTS THAT OCCUR IN 2110¶

> A. → A colonized space station orbits our moon.¶
>
> B. → Paper money discontinued; all transactions are electronic.¶
>
> C. → Voting rights extended to high school students.¶

IV. → TECHNOLOGICAL ADVANCEMENTS¶

> A. → New automobile fuels lessen dependence on oil.¶
>
> B. → Androids are used to assist in daily chores.¶
>
> C. → Doctors discover cure for cancer.¶

V. → CONCLUDING PARAGRAPH¶

Callouts:
- Topic of the first paragraph: A description of important people.
- Details make the essay interesting.
- Topic of the second paragraph: Events that occur.
- Topic of the third paragraph: Advances in technology.
- Outline contains a beginning, middle, and end.

Procedure

1. Open a new Word document.

2. Save the file as **IC_Project_02_[first initial and last name].docx**. Ask your teacher where to save your file.

3. Read the essay assignment again, keeping in mind what you have just learned about creating an effective outline.

You are on the Youth Activities Board in your hometown. Your board makes recommendations to your city council regarding new activities for the teens in your city. You have been asked to write an essay proposing the development of a new youth park. Use Word to outline your ideas before you write the essay. Make sure you include the following points:
- A description of who the park would serve
- A discussion of the activities that could be offered at the park
- The best location for the park
- Details to make the essay persuasive
- A beginning, middle and end to your proposal.

4. Choose **Home>Paragraph>Numbering**. In the **Numbering Library** drop-down menu, select the Roman numeral style (first column, second row).

5. Create an outline for an essay you would write for this assignment.

6. Change the font size of your outline to **16 pt**.

7. Save and close your file.

Memory Check

Look at the assigned activity to locate clues about how to organize your essay and create your outline.

Rubric for Project 2

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:
Outline Formatting	Outline uses Roman numerals and auto formatting was applied. Font size is correct.	Outline uses Roman numerals and auto formatting was applied, but there are errors in the formatting. Font size is correct.	Outline uses Roman numerals, but auto formatting was not applied to the entire outline and/or font size is incorrect.	Outline is not correctly numbered and/or auto formatting was not applied to the outline at all. Font size is incorrect.	
Content and Research	The proposed outline addresses all required parts of the activity.	The proposed outline addresses most of the required parts of the activity.	The proposed outline addresses some of the required parts of activity.	The proposed outline consists of information that is primarily irrelevant to the assigned discussion.	
Organization	Outline is very well focused and ordered.	Outline is well focused and ordered.	Outline lacks some focus and order.	Outline lacks focus and order.	
Writing Style	Mature and appropriate to the assignment.	Generally appropriate to the assignment.	Appropriate in places, but elsewhere language is vague.	Vague writing interferes with clarity.	
Mechanics	Writing is free of serious errors.	Writing contains some minor errors.	Writing contains numerous errors.	Writing contains many serious errors.	

Topics Covered

Writing Skills
Brainstorming ideas
Organizing brainstormed ideas
Planning and writing a five-paragraph essay

Computer Skills
Creating bulleted and numbered lists
Inserting graphics
Manipulating graphics
Using the Clip Art gallery

Why Do I Need to Know This?

The ancient Greeks believed in the maxim: "Know thyself." The Greek philosopher Plato took this maxim even further and said, "The life which is unexamined is not worth living." In order for you to have a clear understanding of the type of career you would be best suited for, it is important to have an understanding of who you are and the activities and events that shape your life. What types of classes do you like to take? What activities or hobbies most interest you? The following activity is intended to contribute to your self-knowledge. In this three-part activity, you will use Word to create a list of the important events of your life, to develop a chronological timeline illustrating when each event occurred, and to write a short essay describing an important event of your life and what you learned from it.

Procedure

Part I: Picture It All

1. Open a new Word document.
2. Save the file as **IC_Project_03-[first initial and last name].docx**. Ask your teacher where to save your file.
3. Key a numbered or bulleted list of at least ten of the important events and experiences you have had in your life thus far. The first item on your list should be your birth. See Figure 3.1 for an example.
4. For each event or experience, use the **Clip Art gallery** to select a symbol, graphic, or picture to represent that experience (see Figure 3.1). Place the graphic next to the event it symbolizes.

For example, a stork or a baby bottle could easily represent your own birth, as well as that of a sibling. A football, basketball, or soccer ball could represent your participation in a sporting event.

Figure 3.1 Important Events

Important Events in My Life

- Birth
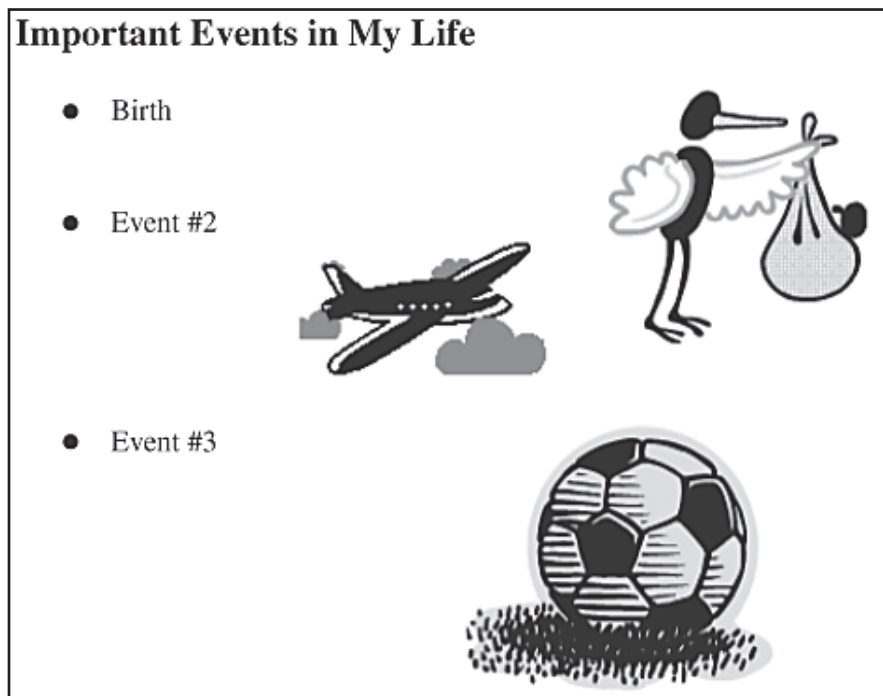
- Event #2

- Event #3

Part II: The Road Map of Your Life

Now put the events you listed in chronological order.

5. Insert a new page in your Project 3 file.

6. Using shapes such as a block arrow or a line, create a timeline that puts the events you listed in the order they occurred in your life. Use the symbols you selected in Step 4 to represent different events in your life. Paste those symbols onto the timeline in order of the occurrence of the events they represent. Now you have a visual "road map" of the events that have shaped your life. **Note:** You may want to change the orientation of your page from portrait to landscape so that your timeline can be longer.

Figure 3.2 Timeline

Timeline
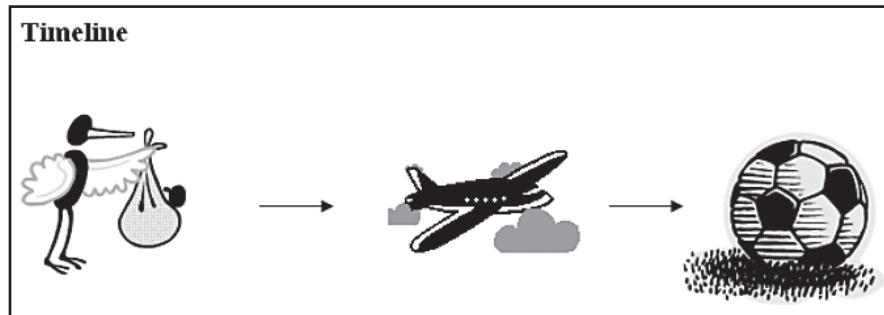
Part III: An Experience of a Lifetime

It has been said, "Experience is our best teacher," and it is true that some of life's most valuable lessons are learned through our own experiences or those of someone very close to us. Write about an experience that taught you a valuable lesson.

7. Use Figure 3.2 as a model for the first three items on your timeline.

8. Review your road map.

9. Insert a new page in your Project 3 file.

10. Write an essay about one experience you have had from which you learned a great deal. Use the standard essay format described in Project 2 to structure your essay. The experience you describe could have been a positive experience or a negative experience; a moment of crisis or a moment of victory. For example, you can learn a great deal from all different kinds of experiences, such as a first job or a vocational class, a vacation to a family spot, or a trip to a place never before seen. You can also learn from mistakes in life. Once you pick an experience to write about, close your eyes and visualize yourself at that point in your life again. You might even want to talk to someone else who was there to help you remember the details.

11. Save and close your file.

Memory Check

Your graphics should enhance, not distract from, your content.

Rubric for Project 3

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:
Bulleted/ Numbered List	The list is correctly formatted, and contains at least ten important events.	The list correctly formatted, and contains eight or nine important events.	The list is incorrectly formatted, or it contains fewer than eight important events.	The list is incorrectly formatted, and it contains fewer than seven important events.	
Timeline	The timeline addresses all required parts of the activity.	The timeline addresses most of the required parts of activity.	The timeline addresses most of the required parts of the activity, but the order of events is unclear.	The timeline does not address the required parts of the activity and the order of events is not clear.	
Essay Content and Organization	Essay is very well focused and ordered.	Essay is well focused and ordered.	Essay lacks some focus and order.	Essay lacks focus and order. The overall structure is ineffective.	
Essay Writing Style	Mature and appropriate to the assignment.	Generally appropriate to the assignment.	Appropriate in places, but elsewhere language is vague and/or inappropriate.	Inappropriate and vague writing interferes with the development and clarity of the main points.	
Mechanics	Writing is free of serious errors.	Writing contains some generally minor errors.	Writing contains numerous errors.	Writing contains many serious errors.	

Topics Covered

Writing Skills
Writing a personal narrative
Selecting appropriate titles for stories
Using formatting to make a story visually appealing

Computer Skills
Creating a two-page newsletter
Selecting and modifying a template
Selecting and inserting graphics
Using the Thesaurus
Using the Spell Check function
Preparing a document for Web publishing

Why Do I Need to Know This?
It is very important to understand different types of literary styles, including how to address different audiences and how to clearly express yourself. The personal narrative requires you to display your understanding of these aspects of communication. It is the type of writing style used in autobiographical writing (a story an author writes about himself or herself).

In this project, you have been selected to interview for a summer job, and have been told that you should be prepared to tell a little about yourself in a written document. In order to prepare, you will create a personal narrative in a unique format: a newsletter. Businesses and organizations use newsletters to keep their customers and members informed of upcoming events, sales, and other important information. By creating a newsletter, you tell your personal narrative in a visually appealing format and are then prepared to easily share your narrative online with all interested parties through a type of Web page called an "e-zine" (short for electronic magazine).

Before You Begin

First, take a look at this sample newsletter and note its components:

Figure 4.1 Sample E-zine

The Title or Nameplate: Includes the title and contact information of the person or organization that created the newsletter.

Graphic: You can select appropriate graphics to complement the contents of your newsletter.

Logo: A picture or graphic that has been selected to represent your individual style.

Headlines: Brief phrases introducing each story.

Highlights: Short descriptions of stories contained inside.

Table of Contents: A brief list of the stories contained in the newsletter.

Procedure

1. Start Word and select a newsletter template. If necessary, you can find templates on Microsoft Office online, with your teacher's permission. The template should reflect your individual style and be appropriate to this task (remember to consider your audience).

2. Save the file as **IC_Project_04-[first initial and last name].docx**. Ask your teacher where to save your file.

3. Key an interesting and attention-getting title for your newsletter. Since you are also going to save this as a Web page, you might want to include your e-mail address.

4. Think of some of the activities you did over the last year that you would like to include in your newsletter. Write a brief story about each activity. Remember to include the appropriate elements of a personal narrative for each story: who, what, when, where, why, and how. Since this is a personal narrative, you should use first-person pronouns such as I, we, and us.

5. Select and insert graphics that will complement the information contained in your stories.

6. Write short headlines for each story in your newsletter.

7. Create a table of contents to let your readers know what is contained in your newsletter.

8. Write a short "Highlights" section identifying stories on page 2.

9. Check your document for spelling and grammar errors.

10. Use the Thesaurus to find a wide variety of words to use in your newsletter stories.

11. Save your newsletter as a Word document.

12. Preview your newsletter as a Web page.

13. Save your file as a Web page.

14. Close your file.

Memory Check

Your newsletter should be visually appealing and should be error free. You should use highly descriptive language to give your reader a sense of experiencing your activities in the way you did.

Rubric for Project 4

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:
Template Selection and Formatting	Template selected is appropriate and enhances the content of the newsletter. Components are very well formatted.	Template selected is appropriate and does not detract from the content of the newsletter. Components are well formatted.	Template selected is either not quite appropriate or it somewhat detracts from the content of the newsletter. Components could have been better formatted.	Template selected is not appropriate and it detracts from the content of the newsletter. Components are poorly formatted.	
Content and Research	The newsletter stories include all required parts.	The newsletter stories include most of the required parts.	The newsletter stories include some of the required parts.	The newsletter stories consist of information that is primarily irrelevant and is missing most of the required parts.	
Organization	Newsletter stories are very well focused and ordered.	Newsletter stories are well focused and ordered.	Newsletter stories somewhat lack focus and order.	Newsletter stories somewhat lack focus and order.	
Writing Style	Mature and appropriate to the assignment.	Generally appropriate to the assignment.	Appropriate in places, but some language is vague.	Inappropriate and vague writing interferes with the clarity of the main points.	
Mechanics	Writing is free of serious errors.	Writing contains some generally minor errors.	Writing contains numerous errors.	Writing contains numerous errors.	

Topics Covered

Writing Skills
Researching and summarizing information
Practicing descriptive writing

Computer Skills
Selecting a template
Selecting and inserting graphics
Creating a chart using Excel
Integrating an Excel chart into a Word document
Using the Thesaurus
Using the Spell Check function

Why Do I Need to Know This?
No matter where your life takes you after high school, you will have
to demonstrate your ability to communicate by using descriptive
writing. For this project you will take a break from the day-to-day
grind of high school life and take a virtual visit to an exciting desti-
nation and create a travel brochure for that destination. Creating
this brochure will help you learn and understand the elements of
descriptive writing and what makes it effective. A brochure provides
a simple and effective format to organize a lot of information. It is
formatted to be easy to read and understand.

Before You Begin
First, take a look at this sample brochure and note its components.
Note the information presented on the inside panels of this sample
travel brochure:

Panel 1: A greeting
Panel 2: A list of local restaurants and attractions
Panel 3: Weather information

When you create your brochure, you will need to prepare enough
information to fill six panels.

Figure 5.1 Sample Brochure

WELCOME TO
SAVANNAH, GEORGIA!

Welcome to the warm, sunny beaches of the Atlantic Ocean. Read a book or sip a cold, sweet iced tea while the waves and sand gently engulf your feet. Savannah, Georgia has it all!

POINTS OF INTEREST

RESTAURANTS

Ye Olde Savannah Grill

Fresh seafood dishes fill the menu at this local favorite dining establishment.

The Palm Frond

This upscale eatery is housed in one of the oldest buildings in Savannah. Enjoy the wonderful surf and turf fare while listening to nightly musical entertainment. The Palm Frond also offers an extensive Sunday brunch.

ATTRACTIONS

The Savannah History Museum

Get a taste of the rich history of Georgia's first city. The museum houses many items from the early days of Savannah.
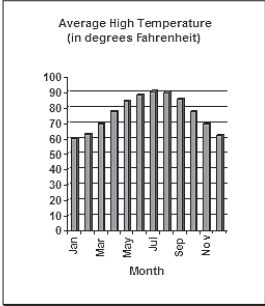
The City Market

Come watch as artisans weave baskets by hand at the City Market. Locally grown produce and souvenirs are also available.

LOCAL CLIMATE

Average High Temperature (in degrees Fahrenheit)

Savannah boasts an average high temperature of 76° Fahrenheit year round. Spend the day in the City Market, take a tour of Old Savannah, or hop on a ferry to historic Jekyll Island. There are many activities to choose from in the local Savannah area. You can swim with sea turtles or watch dolphins frolic in the surf. You can also spend the afternoon shopping, riding bikes, or taking in the sun on the uncrowded shores of Georgia. Bask in the sun and soak up some history in beautiful Savannah!

Procedure

1. Start Word and select a bi-fold (or two-fold) brochure template (this type of brochure is two pages long and has six panels). With your teacher's permission, you can access brochure templates on Microsoft Office online. The template should reflect your individual style and be appropriate to this task (remember to consider your audience).

2. Save the file as **IC_Project_05-[first initial and last name].docx**. Ask your teacher where to save the file.

3. Select a destination for which you would like to create a brochure.

4. Using available resources, find information on your selected destination that would be of interest to travelers, such as:
   • Local restaurants and their menus
   • Things to do like museums, amusement parks, and other points of interest
   • Local hotels and their average room rates

You must find the average weather and climate information for each month of the year for the destination you select. You will fill one of the panels in your brochure with information about the weather.

5. You will write a short description for each point of information you choose to include in your brochure. You should include a minimum of four different types of information about your destination to include in your brochure. The brochure needs to contain the following:
   - The first panel should have a title with the destination's name.
   - Fill the next five panels with information you found about the destination (**Note:** One of those panels will be devoted to the average weather and climate of the destination).

   Try to devote each panel to one aspect of the information you found on your destination.

6. Think about how you will organize the information you want to include in your brochure, and then key appropriate titles for the information you will present in each panel.

7. Key the descriptions of the information you have chosen to include in your brochure.

8. Select and insert graphics that will complement the information contained in each panel.

9. Save your file.

10. Open a new Excel workbook.

11. Create a worksheet containing data on the average monthly high temperatures for your selected destination. Use this worksheet to create a chart. Make certain that the chart is appropriately labeled.

12. Insert your chart into the appropriate panel of your brochure.

13. Use the Spell Check function to check your document for spelling and grammar errors.

14. Use the Thesaurus to find a wide variety of words to use.

15. Print and fold your brochure accordingly.

16. Save and close your Excel and your Word file.

Memory Check

Your brochure should be visually appealing and error free. You should use highly persuasive and descriptive language to encourage your reader to visit your destination.

Rubric for Project 5

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:
Content and Research	Brochure includes more than four appropriate points of interest.	Brochure includes four appropriate points of interest.	Brochure includes two or three appropriate points of interest.	Brochure includes points of interest that are not appropriate for this activity.	
Weather Chart	Chart shows pertinent weather information and is clearly labeled.	Chart shows pertinent weather information and is relatively clear.	Chart shows some pertinent weather information and is relatively clear.	Chart is not clear and is missing information.	
Organization	Writing is very well ordered. Transitions are very clear and effective.	Writing is well ordered. Transitions are generally clear and effective.	Writing is not well organized. Paragraphs often lack transitions.	Writing has multiple organization problems organization. Most paragraphs lack transitions.	
Writing Style	Mature and appropriate to the assignment.	Generally appropriate to the assignment.	Appropriate in places, but elsewhere language is vague.	Inappropriate and vague writing interferes with the clarity of the main points.	
Mechanics	Writing is free of errors.	Writing contains some minor errors.	Writing contains many minor errors.	Writing contains many serious and minor errors.	
Brochure Layout	A bi-fold brochure has been created. Use of fonts and graphics is very effective.	A bi-fold brochure has been created. Use of fonts and graphics is effective.	A brochure has been created, but it is not a bi-fold. Use of fonts and graphics is somewhat effective.	The brochure layout is incorrect. Use of fonts and graphics is not effective.	

Topics Covered

Writing Skills
Writing a business letter

Computer Skills
Formatting a business letter
Performing a mail merge
Creating a data source
Using the Thesaurus
Using the Spell Check function

Why Do I Need to Know This?

Business letters can open several doors of opportunity. However, the way they are written has a great deal to do with whether or not those doors open. Your written correspondence will be the first impression someone will have of you. It has to be a good one. In this project, you will examine proper business letter format and you will perform a mail merge. At times, you may find the need to submit your résumé to several employers at once. By using the mail merge function in Word you can streamline this process to create several personalized letters in a matter of minutes.

Before You Begin

First, take a look at the sample cover letter shown in Figure 6.1 and note its components.

Style Concerns

- Block format (paragraphs are aligned left and are not indented) is most widely used for business letter writing
- Justify the body for an even edge on both sides.
- Make sure that there is no spacing before or after lines.
- Use single spacing and leave a blank line between each paragraph. Do not indent paragraphs in this format.
- Remember to be concise and brief.

Figure 6.1 Sample Business Letter

Michelle E. Carver
1871 Samson Road
Apartment 2A
Phoenix, AZ 54578

September 17, 2009

Marsha Bass, CEO
The Write Words by Bass
8235 Hwy. 17 West, Suite 300
Tucson, AZ 55508

← **Inside Address**

Dear Ms. Bass: ← **Greeting line, also called Salutation**

Please accept this letter as an application to the Assistant Web Designer position listed in the Sunday, September 16, 2009 edition of the *Tucson Sun*.

My enclosed résumé reflects the following qualifications:

• Two years experience as a Graphic Design intern with Tucson Graphics, Inc.
• Certification in multiple desktop publishing and Web design software programs.
• Head Web designer for Hoover High School Web site.

I would like to meet with you to further discuss my qualifications. I may be reached at (555) 123-4567 anytime after 4:00 p.m. during the week and all day on weekends. If given the opportunity, I'll prove to be an asset to your organization. Thank you for your consideration.

Sincerely, ← **Closing**

Body is justified.

Michelle E. Carver ← **Name of Sender**

Enclosure: résumé ← **Enclosures**

Procedure

1. Take a look at the jobs section of the classified section of your local newspaper (or search an online job database) and note down the contact information (name, title, and address of person in charge of hiring) of five jobs that interest you. For this exercise, you will use the same name for the position title to which you are applying and the same information concerning how you learned of the available position in the opening paragraph (for example, Web Designer position listed in the Sunday, September 16, 2009 edition of the *Tucson Sun*).

2. Open a new Word document.

3. Save the file as **IC_Project_06-[first initial and last name].docx**. Ask your teacher where to save your file.

4. Set your margins to 1.0 inch for top and bottom and 1.25 inches for left and right. Key your return address or use appropriate personal letterhead that includes your full address. Press return four times. Key the date. Press return eight times.

5. Key the body of your letter. Use the following guidelines for each paragraph:
   - In the first paragraph, include the name of the position for which you are applying and indicate how you learned of the opening.
   - In the second paragraph, include a summary of your qualifications. You can use a bulleted list if you have three or more qualifications specific to the job.
   - In the third paragraph, include a request for an interview and your phone number and the times when you can be reached.

6. Key your closing, name and Enclosure line using the spacing indicated on Figure 6.1.

7. To start the mail merge, choose **Mailings>Start Mail Merge> Step by Step Mail Merge Wizard**.

8. In Step 1, under **Select document type**, make certain **Letters** is selected. Advance to Step 2.

9. In Step 2, under **Select starting document**, make certain **Use the current document** is selected. Advance to Step 3.

10. In Step 3, under **Select recipients**, select **Type a new list**. Click **Create**.

11. Key a new entry for each of the five jobs. Include as much information as you can for each employer. Be sure to include the name, title, and address of the person who will be receiving your cover letter and résumé. You may need to do some research to find out this information.

12. Click **OK** and save your address database as **IC_Project_06_ [first initial and last name].accdb**.

13. Advance to Step 4 of the mail merge process. In your letter, click on the fourth line below the date. In the Mail Merge task pane, click **Address block**. Click **OK**.

14. In your letter, click on the second line below the **Address block**. Click **Greeting line**. Make certain that the Greeting line ends with a colon (:). Click **OK**.

15. Advance to Step 5 of the mail merge process to preview each letter. Check the address and greeting line of each letter to be sure that they are accurate. Spell check and proofread your letter and make any necessary corrections.

16. Save and close your Word file.

Memory Check

Your letters should be easy to read and error free. Make sure you include a request for an interview in the third paragraph.

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:
Formatting	The letter is correctly formatted with no errors.	There are one or two formatting errors.	There are three or four formatting errors.	There are more than four formatting errors.	
Content	The letter includes a concise opening paragraph and body paragraphs, a bulleted list of qualifications, and a well-written closing paragraph.	The letter includes an opening paragraph, body paragraphs, a bulleted list of qualifications, and a closing paragraph.	The letter contains body paragraphs. The letter is missing an opening paragraph, a bulleted list of qualifications, or a closing paragraph.	The body is poorly developed. The letter is missing more than one of the following: an opening paragraph, a bulleted list of qualifications, a closing paragraph.	
Organization	The writing is very well ordered. Transitions are very clear and effective.	The writing is well ordered. Transitions are generally clear and effective.	The writing has several problems with organization. Paragraphs often lack transitions.	The writing has multiple problems with organization. Most paragraphs lack transitions.	
Writing Style	Mature and appropriate to the assignment.	Generally appropriate to the assignment.	Appropriate in places, but elsewhere language is vague.	Vague writing interferes with the clarity of the main points.	
Mechanics	Writing is free of serious errors.	Writing contains some generally minor errors.	Writing contains numerous errors.	Writing contains many serious and minor errors.	
Mail Merge	Addresses and Greeting Lines correct and correctly spaced.	Addresses and Greeting Lines correct, but minor problems with spacing.	Addresses and Greeting Lines contain errors, spacing is incorrect.	Addresses and Greeting Lines incomplete or missing. Spacing is incorrect.	

Topics Covered

Writing Skills
Researching a topic
Evaluating how well a source supports your thesis
Summarizing the information found in a source

Computer Skills
Creating a database in Access
Using the Thesaurus
Using the Spell Check function

Why Do I Need to Know This?

You have been assigned a research project on the history of some aspect of information technology networking. As part of your research report, you have to create an easy and efficient way to organize the resources you will use in the development of your paper. *Plagiarism* is using someone else's words or ideas without crediting the original author. In order to avoid this very serious writing offense when writing this research report, you need to cite the sources of ideas or quotations that you include in your paper. An easy way to keep track of these sources is to create an annotated bibliography. In addition to keeping track of sources, annotated bibliographies can help you determine which resources will be the best to use in your research report. An annotated bibliography is made up of two components: 1) a list of the sources that you will use in your research report, and 2) a notation for each source summarizing how useful you find the source. Notations are usually about 50 words long and help you determine whether or not a source will be valuable in the development of your topic.

In this project you will use Access to create an electronic annotated bibliography. You will include the following information in your bibliography entries: a brief summary of the information found in the source, an explanation of how the information supports your topic, and an evaluation of how effective the information is in comparison to the other resources you have located. Usually, annotated bibliographies contain more references than you will actually use in a research paper.

Before You Begin

First, take a look at the information that you will need to collect from each of the sources. Note that not all information will apply to each source. Figure 7.1 shows information related to an article found on a Web site.

Figure 7.1 Annotated Bibliography Information

Author	Gorman, John
Title of Book:	N/A
Title of Article:	Wireless Networking Primer
Title of Periodical:	N/A
Volume:	N/A
Publication location:	N/A
Publisher:	N/A
Publication Date:	N/A
Page Numbers:	N/A
URL:	http://softwarecommunity.intel.com/articles/eng/1239.htm
Date Web Site Accessed:	10 October 2007
Annotation:	This article focuses on the different types of wireless networking technologies currently available. It supports my thesis by emphasizing the short-comings of current Wi-Fi technology and the need for a variety of integrated technologies to meet the end-user's needs. The brief discussions of each major technology are the best I have located to date.

Procedure

1. Open a new Access database.

2. Save the file as **IC_Project_07-[first initial and last name].accdb**. Ask your teacher where to save your file.

3. Create a table in **Design View**. Key the following names under **Field Name** and format the data types as indicated in the brackets:

   Author: [text]
   Title of Book: [text]
   Title of Article: [text]
   Title of Periodical: [text]
   Volume: [text]
   Publication Location: [text]
   Publisher: [text]
   Publication Date: [date/time]
   Page numbers: [text]
   URL: [hyperlink]
   Date Web site accessed: [date/time]
   Annotation: [text]

4. Research available resources to find 10 articles, books, or Web sites you could use in the development of a research project on the history of some aspect of information technology. You should limit your use of Web sites to no more than three.

5. From the sources you found in the previous step, note for each source the information needed to complete the fields in your database.

6. Key the appropriate information into its respective field in your database. Keep the following in mind when completing this task:

Key an author's last name before his or her first name. (For example: Austen, Jane.)

Key **N/A** into fields for information that is not relevant. (For example, you would key **N/A** in the **Title of Periodical** field for a Web site resource.)

7. In the **Annotation** field, write a short paragraph that addresses the following questions:

What is the focus of the information presented in this source? How does the information support your intended thesis? How effective is this source compared to the other sources you have found?

8. Use the Spell Check function to check your document for spelling and grammar errors.

9. Sort your database by author's last name.

10. Save and close your database.

Memory Check

You should use complete sentences in your annotations. Your writing should be free from spelling and mechanical errors. This will be a helpful resource if you make a database that is complete.

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:
Content	The bibliography contains ten appropriate resources.	The bibliography contains seven to nine appropriate resources.	The bibliography contains less than seven appropriate resources.	The bibliography contains resources that are not appropriate.	
Annotations	Each annotation includes all three required components. Each written summary effectively describes how the source supports the proposed thesis.	Most annotations include all three required components. Most summaries effectively describe how the source supports the proposed thesis.	Some annotations include all three required components. Some summaries effectively describe how the source supports the proposed thesis.	Annotations are incomplete. Summaries do not describe how the source supports the proposed thesis.	
Organization	All entries are in alphabetical order by author's last name.	Most entries are in alphabetical order by author's last name.	Some entries are in alphabetical order by author's last name.	Order of entries cannot be determined.	
Writing Style	Mature and appropriate to the assignment.	Generally appropriate to the assignment.	Appropriate in places, but elsewhere language is vague.	Inappropriate and vague writing interferes with the clarity of the main points.	
Mechanics	Writing is free of serious errors.	Writing contains some generally minor errors.	Writing contains numerous errors.	Writing contains many serious and minor errors.	

Topics Covered

Writing Skills
Developing a portfolio

Computer Skills
Adding text and graphics to a slide
Applying a design theme to slides
Applying animation and transitions to slides

Why Do I Need to Know This?
A career portfolio is a collection of materials used to give a prospective employer an idea of your ability to perform a job. When interviewing for a job, a portfolio allows your record to speak for itself and gives you an advantage over the other candidates who appear without one.

This project involves a twist to the traditional method of creating a portfolio. You will create a portfolio in PowerPoint. This portfolio will not only demonstrate your ability to succeed at a job, but it will also show your mastery of PowerPoint. It is one thing to tell a potential employer that you know how to use PowerPoint, but imagine how impressive it is to display your skills and abilities in an actual presentation!

Procedure
1. Review the files you have created in this class. Decide which ones represent your best work, and then select a minimum of seven to ten projects to display in your portfolio. Make sure that the documents you select were not all created in the same application. You want to display samples that were created in Word, Excel, Access, and PowerPoint.
2. Open a new PowerPoint presentation.
3. Save the file as **IC_Project_08-[first initial and last name].pptx**. Ask your teacher where to save your file.
4. Each document you have selected for this presentation will be displayed on a slide. Each slide should contain the following:

   Headline: An appropriate headline for the slide
   Display: A graphic of the first page of the document
   Analysis: A brief paragraph describing the graphic and its importance. The analysis paragraph should contain the following:

a. An opening statement describing the document featured in the slide.

b. A statement of your qualifications based on your completion of the document.

c. A sentence explaining why this knowledge is important. See Figure 8.1 for an example.

Figure 8.1 Sample Portfolio Slide

5. Press **[Alt]+[Print Screen]** to create a screen shot of each of the documents you selected in step 1. Paste the screen shot into a PowerPoint slide. You may need to crop the screen shot to show just the document.

6. Go to the **Design** tab and apply a theme to your presentation. Select appropriate font styles and background colors for the slides. Be sure that your choice of colors does not make the text on your slides difficult to read.

7. Apply animation and slide transitions to your presentation.

8. Use the **Spell Check** function to check your presentation for spelling and grammar errors.

Memory Check

Double and triple check your spelling and grammar. Remember, if a potential employer catches a grammar or spelling error, it could cost you the job!
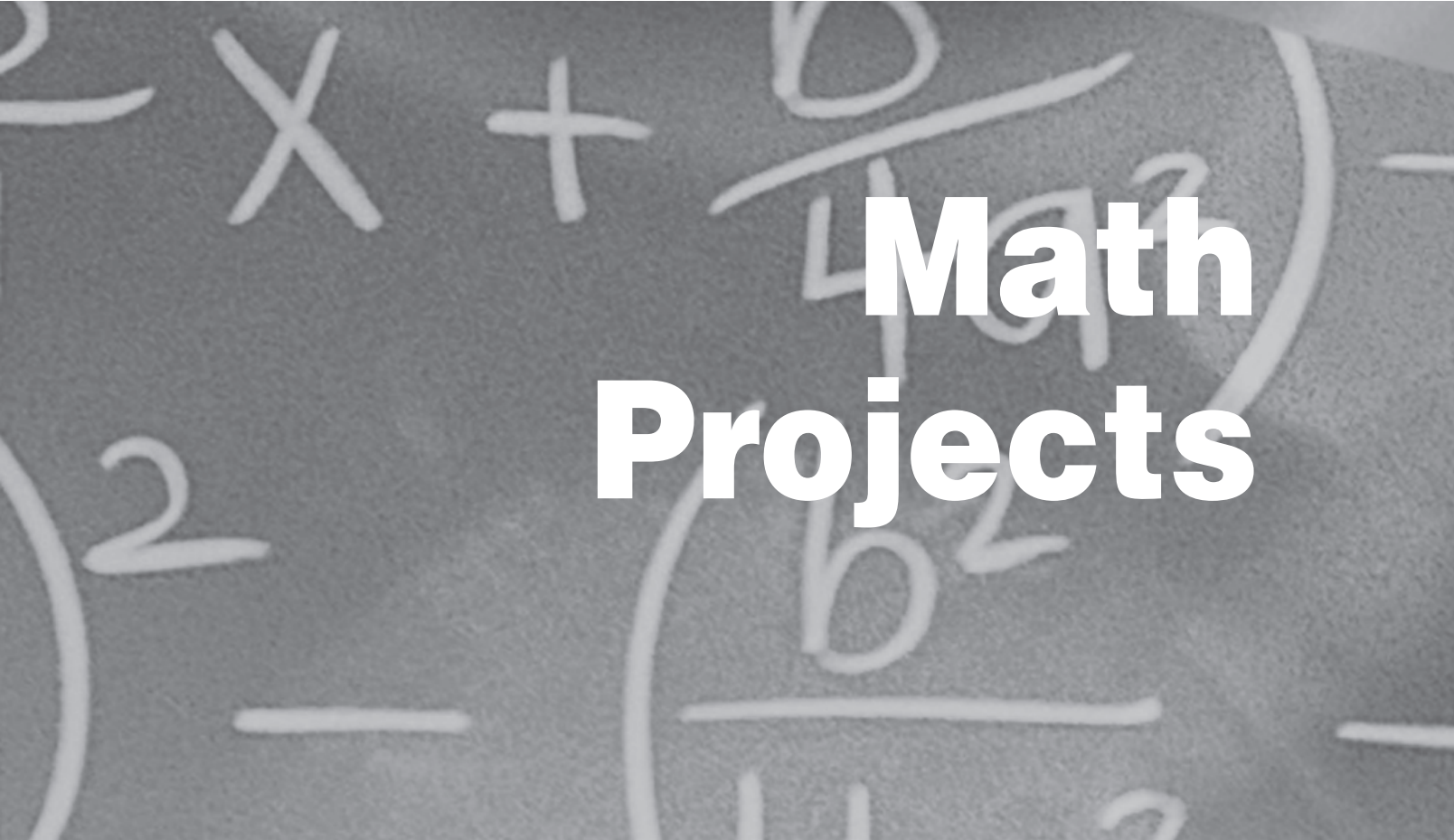
Rubric for Project 8

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:
Content and Research	The portfolio includes ten appropriate slides.	The portfolio includes seven to nine appropriate slides.	The portfolio includes less than seven appropriate slides.	The portfolio includes less than five slides and/or the slides are not appropriate.	
Writing Style	Mature and appropriate to the assignment.	Generally appropriate to the assignment.	Appropriate in places, but elsewhere language is vague.	Vague writing interferes with clarity.	
Mechanics	Writing is free of serious errors.	Writing contains some generally minor errors.	Writing contains numerous errors.	Writing contains many serious and minor errors.	
Font and Graphics Selection	Fonts are easy to read and graphics are very effective.	Some fonts are easy to read and graphics are effective.	Overall readability is difficult due to font selection, graphics are somewhat effective.	The text is extremely difficult to read due to font selection, graphics are not effective.	
Slide Design and Layout	The design and layout are very effective.	The design and layout are effective.	The design and layout are somewhat effective.	The design and layout are not effective.	
Animations and Transitions	Animations and transitions are very effective.	Animations and transitions are effective.	Animations and transitions are somewhat effective.	Animations and transitions are not effective or were not used.	

Math
Projects

Project 9 — Tiling the Wall

Solution File
IC_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:

a. Small, square tiles whose length and width measure one unit,
  dimension = 1×1

b. 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 = $t \times 1$

c. Large, square tiles whose length and width are referred to as t,
  dimension = $t \times t$ or t^2

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
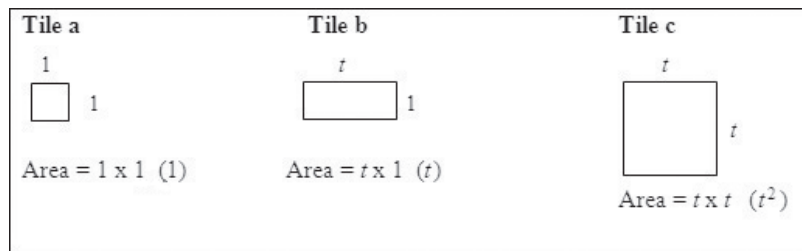
Figure 9.2 Patterns
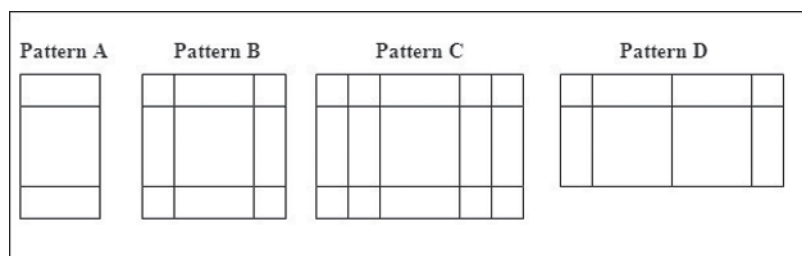
Procedure

1. Open a new Word document.

2. Save the file as **IC_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.

Figure 9.3 Table to Record Area

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

7. 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 $t^2 + 2t$. 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.

8. Save and close your file.

Figure 9.4 Sample Pattern

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.

Category	Excellent (4)	Proficient (3)	Developing (2)	Beginning (1)	Score
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 well formatted.	Two headings are missing or are not correctly labeled. The table has five columns and five rows. The table could have been better formatted.	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 table 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.	

Solution File

IC_Project_10_SF.docx

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

Creating and formatting tables
Keying text into tables
Applying table styles to tables

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
squares shown in Figure 10.1.

Figure 10.1 Squares to Compare

Square A   Square B   Square C   Square D   Square E
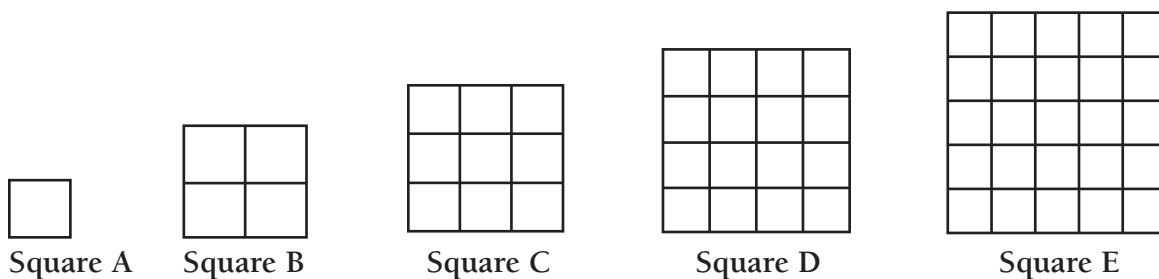
1. Open a new Word document.
2. Save the file as **IC_Project_10-[first initial and last name].docx**. Ask your teacher where to save your file.
3. Create a table with five columns and six rows.

4. Label the columns from left to right as follows: **Square**, **Length of each side**, **Perimeter**, **Area**, and **Number of sides inside the square.**

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 a 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.)

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
$\dfrac{B}{A}$	$\dfrac{2}{1}$	$\dfrac{8}{4}$	$\dfrac{4}{1}$	$\dfrac{4}{0}$
$\dfrac{C}{A}$				
$\dfrac{D}{A}$				
$\dfrac{E}{A}$				
$\dfrac{D}{B}$				

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 does the area of squares B, C, D, and E compare to the area of square A?

14. Save and close your file.

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.

Category	Excellent (4)	Proficient (3)	Developing (2)	Beginning (1)	Score
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 no apparent basis.	

Solution File

IC_Project_11_SF.docx

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 triangles.

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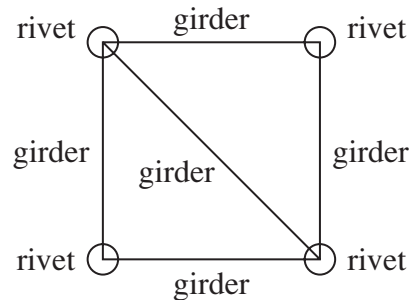
You will make a table to show the increase in the number of girders and rivets used when you double, triple, quadruple, and quintuple this shape to make a bridge.

Procedure

1. Open a new Word document.

2. Save the file as **IC_Project_11-[first initial and last name].docx**. 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
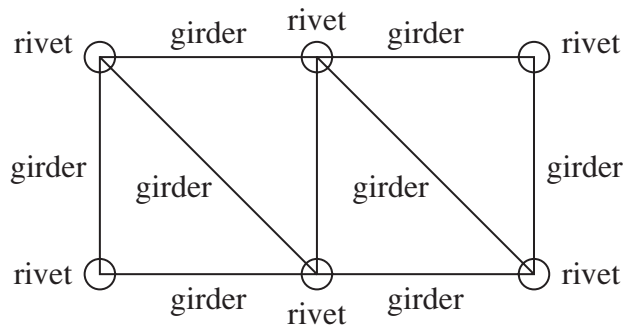
Memory Check

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

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.

Category	Excellent (4)	Proficient (3)	Developing (2)	Beginning (1)	Score
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.	

Solution File

IC_Project_12_SF.pptx

Topics Covered

Math Skills

Solving inequalities involving addition, subtraction, multiplication, and division

Computer Skills

Applying a design theme to a slide presentation
Adding text to a slide
Applying animations and transitions to slides
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 **IC_Project_12-[first initial and last name].pptx**. 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.

9. Title this slide Using Addition or Subtraction.

10. In the text box on the slide, key the following text:

Example 1

$a + 4 < 14$ (Inequality)

$-4 \quad -4$ (Subtract 4 from both sides)

$a < 10$ (Final answer)

11. Create a new slide and choose the **Blank** text layout.

12. Create a text box and key in the following:

Example 2

$9k - 12 > 80 + 8k$ (Inequality)

$-8k \qquad -8k$ (Subtract 8k from both sides)

$k - 12 > 80$ (Result of subtraction)

$+12 +12$ (Add 12 to both sides)

$k \qquad > 92$ (Final Answer)

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

$6y > 14 - 2 + 7y$ (Inequality)

$-6y \qquad - 6y$ (Subtract 6y from both sides)

$0 > 14 - 2 + y$ (Result of subtraction)

$0 > \qquad 12 + y$ (Combine like terms)

$-12 \qquad -12$ (Subtract 12 from both sides)

$-12 > \qquad y$ (Result of subtraction and final answer)

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

$4x < 24$ (Inequality)

$\dfrac{4x}{4} \quad \dfrac{24}{4}$ (Divide both sides by 4)

$x < 6$ (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

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

Note that the inequality sign in the final answer changes from greater than to less than. When you divide by a negative number, the inequality is "flipped" to the opposite direction.

23. Select an 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

$$-3v + 3 < -12 \quad \text{(Inequality)}$$
$$ - 3 \quad - 3 \quad \text{(Subtract 3 from both sides of the inequality)}$$
$$-3v < -15 \quad \text{(Result of subtraction)}$$
$$\frac{-3v}{-3} < \frac{-15}{-3} \quad \text{(Divide by } -3\text{)}$$
$$v > 5 \quad \text{(Reverse the inequality sign in the final answer)}$$

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

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

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 read-able as possible.

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.

Category	Excellent (4)	Proficient (3)	Developing (2)	Beginning (1)	Score
Slide Design, Animation, and Transitions	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.	

Project **13** Flipping Coins

Solution File

IC_Project_13_SF.pptx

Topics Covered

Math Skills

Predicting probability

Computer Skills

Applying a design theme to a presentation
Creating new slides
Adding text to slides
Applying animation and transitions to slides
Creating an organizational diagram on 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? The possible outcomes are:

1. Getting all heads or all tails after four flips.

2. Getting two heads and 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 **IC_Project_13-[first initial and last name].pptx**. 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.

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.)
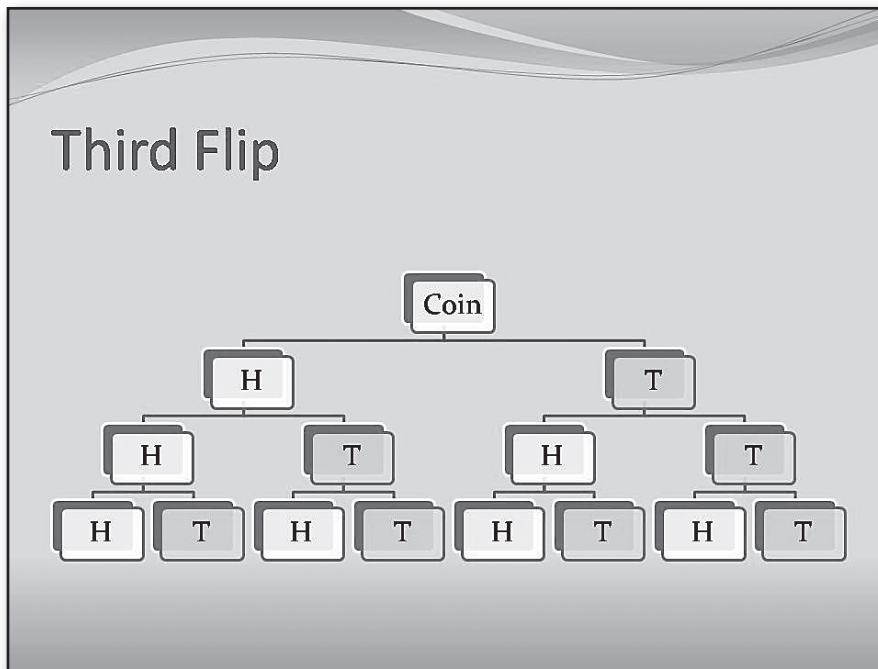
Figure 13.1 Second Flip
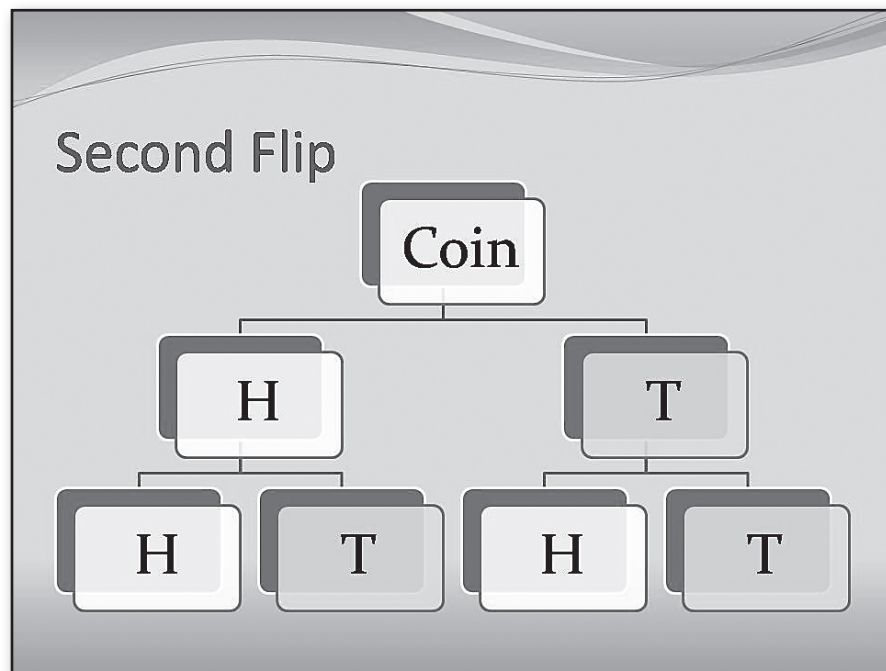
16. Create a new slide, choosing the **Title and Content** layout again.

17. Title this slide **Third Flip**.

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.)

Figure 13.3 Fourth Flip
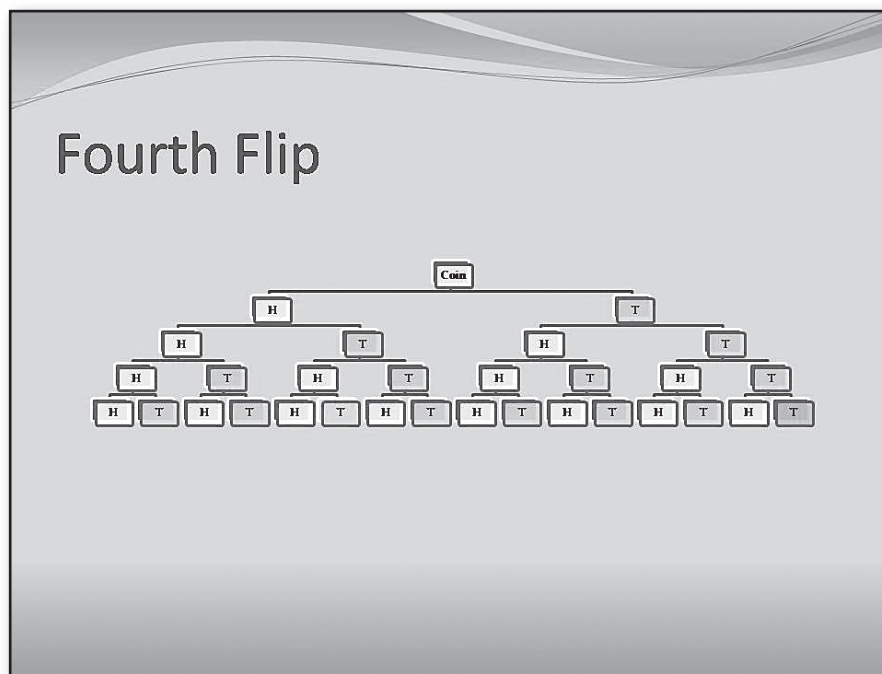
24. Create a new slide, choosing the **Blank** layout.

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.

Rubric for Project 13

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.

Category	Excellent (4)	Proficient (3)	Developing (2)	Beginning (1)	Score
Slide Design, Animations, and Transitions	The slide design, animations, and transitions enhance the overall presentation.	The slide design, animations, and transitions do not detract from the presentation.	The slide design, animations, and transitions do not detract from the presentation but are not pleasing to the eye.	The design, animations, and transitions divert viewers' 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.	

Solution File

IC_Project_14_SF.pptx

Topics Covered

Math Skills

Comparing data
Creating bar graphs

Computer Skills

Applying a design theme to a presentation
Adding text to a slide
Creating charts
Applying animation schemes and transitions to slides

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 **IC_Project_14-[first initial and last name].pptx**.
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.
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
1997	4	13
1998	4	11
1999	6	8
2000	5	9
2001	13	12
2002	4	12
2003	7	10
2004	5	10
2005	11	4
2006	13	8

Figure 14.2 Sample Datasheet for Bears and Packers Wins

	A	B	C
1		Bears	Packers
2	1997	4	13
3	1998	4	11
4	1999	6	8
5	2000	5	9
6	2001	13	12
7	2002	4	12

9. Label both the vertical and the horizontal axes of your chart.

10. When all of the data are entered, your chart should look similar to Figure 14.3.

**Figure 14.3 Chart Comparing Bears and Packers Wins**
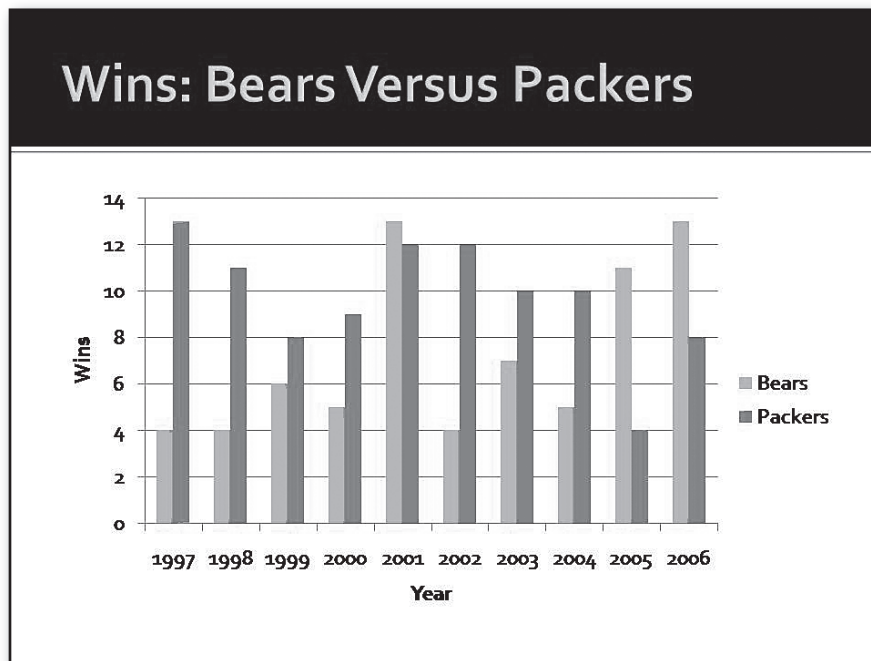
11. Create a third slide that uses **Title and Content** slide layout.

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.

Figure 14.4 Bears and Packers Regular Season Touchdowns

Year	Bears	Packers
1997	28	50
1998	30	46
1999	31	40
2000	22	36
2001	37	47
2002	31	45
2003	29	53
2004	26	50
2005	28	34
2006	47	32

Figure 14.5 Chart Comparing Bears and Packers Touchdowns

Touchdowns: Bears Versus Packers
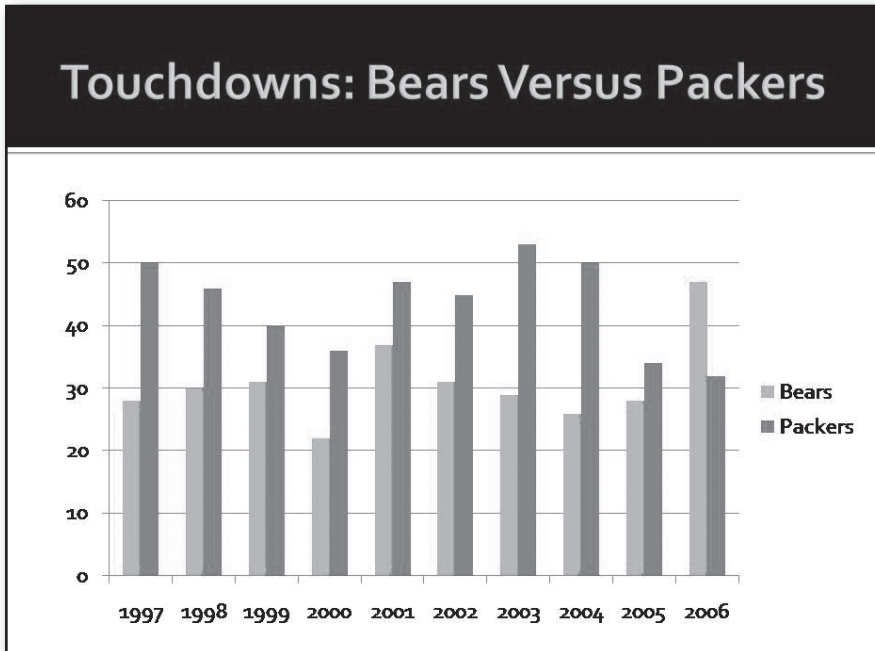
15. Label both the vertical and the horizontal axes of your chart.

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>.

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.

Category	Excellent (4)	Proficient (3)	Developing (2)	Beginning (1)	Score
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 enhance 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 horizontal and vertical axes of the graphs are correctly labeled, the key is correctly labeled, and the data are easy to read.	The horizontal and vertical axes of the graphs are correctly labeled, the key is correctly labeled, but the data are too close.	The horizontal and vertical axes of the graphs are correctly labeled, the key is not correctly labeled, and the data are too close.	The horizontal and vertical axes of the graphs are not correctly labeled, the key is not correctly labeled, and the data are too close.	