## Microsoft® Office 97, Professional Edition

An all new Office 97 integrates intelligent applications with the power of the Web. Easily insert hyperlinks between Office documents or out to the Internet. Save your documents as HTML and you have an instant Web page. Office 97, Professional Edition includes: Microsoft Excel 97, Word 97, PowerPoint 97, Outlook 97, Access 97, and Microsoft Bookshelf Basics for quick reference to the tools you need most. Standard Edition does not include Access 97 or Bookshelf Basics.
Windows 95; earlier version available for Windows 3.1, MacOS
Estimated Academic Price: $199.00, Professional Edition; $159.00, Standard Edition
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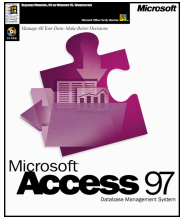
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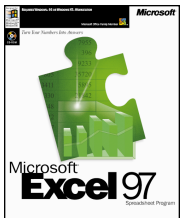
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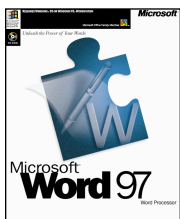
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Windows 95; earlier version available for Windows 3.1, MacOS
Estimated Academic Price: $84.95.
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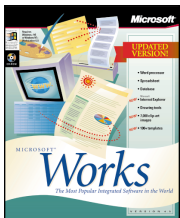
Microsoft® Works 95

Microsoft Works 95 provides a complete, integrated solution for the classroom, including a word processor, database, spreadsheet, communications and drawing tools. *In and Out of the Classroom with Works 95*, a step-by-step teacher activity guide, is included inside the academic product box.
Windows 95; earlier version available for Windows 3.1, MacOS
Estimated Academic Price: $54.95.
www.microsoft.com/works/
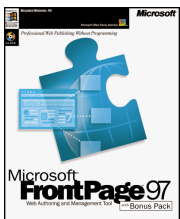
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Windows 95; earlier version available for MacOS
Estimated Academic Price: $69.95.
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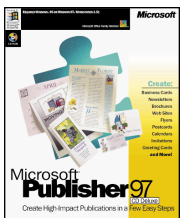
Microsoft® Publisher 97

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Windows 95; earlier version available for Windows 3.1
Estimated Academic Price: $59.95.
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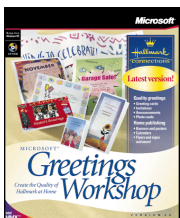
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productivity *in the*

classroom

A <u>curriculum-based workbook</u> designed to integrate computer applications into the classroom

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Acknowledgements

From the Editor of ELECTRONIC LEARNING

Dear Technology Leader:

What's the biggest challenge you face in your job as technology leader for your school or district? Chances are, it's helping teachers integrate applications software into their day-to-day teaching.

Now, thanks to Microsoft, that job has just gotten easier.

This special supplement to *Electronic Learning* is jam-packed with ideas for integrating computer applications into the intermediate, middle school, or high school classroom. You'll find 16 curriculum-based lesson plans with step-by-step instructions for using a variety of applications software from Microsoft including *Microsoft® Office 97, Professional Edition (Microsoft® Excel, Word, PowerPoint* and *Access, Microsoft® Publisher 97, Greetings Workshop and Microsoft® Works 95.*) With these *Office 97* applications, the new Office Assistant provides help on demand to guide teachers and students in making the most of these lessons. Be sure to give it a try!

And, for more detailed step-by-step instructions as well as some additional lesson ideas, check out the following Web site:

www.microsoft.com/education/curric/activity/

Developed by the editors of *Electronic Learning* in partnership with Microsoft, this book is designed to be used in two ways:

> **1.** As a resource for your Professional Development workshops. The lessons make learning about applications software relevant and timely for any teacher.

> **2.** As a resource for classroom teachers. Each lesson includes a Teacher Guide plus a reproducible activity that students can use individually or with other students.

We think you'll find that the lessons in this book can help everyone—from the computer novice to the most experienced user—explore the enhanced teaching and learning opportunities that exist with applications software...and help make one of your most challenging jobs just a little easier.

Sincerely,

Mickey Revenaugh
Editor, Electronic Learning Magazine

P. S. More teacher activity guides for Microsoft products are available online at:

www.microsoft.com/education/resource/default.htm

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productivity *in the*
classroom

More tips can be found at: www.microsoft.com/education/curric/activity/

productivity *in the*
classroom

Lessons at-a-Glance

LESSON	GRADE LEVELS	TIME ALLOTTED
DON'T TRASH THE EARTH	Intermediate Middle School	Approximately 6 -12 weeks
ALL ABOUT ME	Intermediate	Approximately 1 week
PLANNING A SCHOOL EVENT	Intermediate Middle School	Approximately 2-4 weeks
CELEBRATE THE U.S.A.	Middle School	Approximately 4 weeks
NUTRITION TRACK	Intermediate Middle School	Approximately 2 weeks
CANDY IS DANDY	Middle School	Approximately 2-3 days
FOR THE RECORD	Middle School	Approximately 1-2 weeks
JUST DESSERTS	Middle School	Approximately 5 weeks
UNDERSTANDING POETRY	Middle School	Approximately 1 week
MAKING ENDS MEET	Middle School	Approximately 1 week
ANIMAL LOGIC	Intermediate Middle School	Approximately 1 week
NEWSWORTHY JOURNEY	Middle School High School	Approximately 4 weeks
BUY LOW/SELL HIGH	High School	Approximately 6-12 weeks
BRIDGING THE GENERATION GAP	High School	Approximately 2 weeks
CREATING YOUR OWN WEB SITE	Middle School High School	Approximately 1 week
BUYING A DREAM CAR	High School	Approximately 4 weeks

More tips can be found at: www.microsoft.com/education/curric/activity/

Curriculum Connection Icon Key

Language Arts · Geography · History · Economics · Math · Social Studies · Science · Health

SOFTWARE NEEDED	PAGE	CURRICULUM CONNECTION
Microsoft Excel 97, Microsoft PowerPoint 97, Greetings Workshop or Microsoft Publisher 97	8	(3 icons)
Microsoft Powerpoint 97, Microsoft Word 97	12	(2 icons)
Microsoft Publisher 97 or Greetings Workshop	15	(1 icon)
Microsoft Word 97, Microsoft Excel 97, Microsoft Powerpoint 97, Microsoft Publisher 97	18	(3 icons)
Microsoft Excel 97, Microsoft Word 97, Microsoft Encarta 97 Encyclopedia	22	(2 icons)
Microsoft Word 97, Microsoft Excel 97	25	(3 icons)
Microsoft Access 97	28	(2 icons)
Microsoft Word 97, Microsoft Excel 97	32	(2 icons)
Microsoft Word 97, Microsoft PowerPoint 97, Internet Explorer	36	(1 icon)
Microsoft Word 97, Microsoft Excel 97	39	(3 icons)
Microsoft Excel 97 or Microsoft Works, Microsoft Encarta 97 Encyclopedia, Microsoft Word 97	42	(2 icons)
Microsoft Encarta 97 Encyclopedia, Microsoft Word 97, Microsoft Publisher 97, Internet Explorer	45	(2 icons)
Microsoft Word 97, Microsoft Excel 97, Microsoft PowerPoint 97	48	(2 icons)
Microsoft Word 97, Microsoft Excel 97, Microsoft PowerPoint 97	52	(3 icons)
Microsoft Word 97, Microsoft Publisher 97	56	(1 icon)
Microsoft Excel 97	60	(2 icons)

INTERMEDIATE/
MIDDLE SCHOOL

REQUIRED SOFTWARE
◆ MICROSOFT EXCEL 97
◆ MICROSOFT POWERPOINT 97
◆ GREETINGS WORKSHOP or
MICROSOFT PUBLISHER 97

DON'T TRASH THE EARTH

Teacher Guide

SUMMARY

In a hands-on environmental science project, students learn about recycling as they collect data on their own family's trash production, analyze the data with worksheets, chart the data, and present their findings.

OBJECTIVES

◆ To have students learn how to calculate simple worksheet formulas

◆ To collect and chart data from real-world settings

◆ To shape data into meaningful statements within a broader social context.

PREREQUISITE SKILLS

◆ Knows how to create a *Microsoft® Excel* worksheet and use functions

◆ Can create a slide presentation using *Microsoft® PowerPoint®*

TIME ALLOTTED

Approximately six weeks to three months

HOW TO BEGIN

Ask students how much they know about protecting the Earth's environment. We all know, for example, that pollution threatens resources. But do they know which resources? (The ocean, fresh water, air, etc.) How can over-use also threaten resources? (For example, extensive land development or over-timbering

U.S. TRASH PRODUCTION 1960-1990		
YEAR	**WASTE (million tons/year)**	**POPULATION (millions)**
1960	87	179
1965	104	190
1970	121	203
1975	136	214
1980	150	227
1985	166	238
1990	182	249

can threaten trees, soil, wildlife, and plant life.) In what way does household trash contribute to the problem? (In two ways: Overuse of resources, such as trees/paper; pollution from too much trash, which creates too much landfill; too many "non-biodegradable" products.)

Next, discuss recycling with your class. Why is recycling important and helpful for the future? Ask students to take a guess on how many pounds of trash they personally produce every year and have them share their guesses with the class. Tell students that in this activity they will find out how much

trash they and their families actually produce during a year, how much is recycled, and how much more might be recycled. Explain that in the "Don't Trash the Earth" project, students will weigh and, if possible, separate family trash into waste and recyclables, chart the results for three weeks, and analyze the data.

Send each student home with a copy of the reproducible at the end of this lesson, which explains the "Don't Trash the Earth" project to parents. Sign the bottom of the handouts, and ask each student to write his/her name in the blanks.

Student Activity

DESCRIPTION

In this activity, you will have the "honor" of taking out the household trash every night for a week. You will record the weight of the trash in a worksheet, chart the results for three weeks, and analyze the data. Finally, you will create a presentation about your findings.

STEP 1

Collecting the Trash

SOFTWARE: None

WHAT TO DO: Begin by telling every family member to "leave the trash! You will take it out."

If possible, set up a temporary Recycling Station at home for (1) glass; (2) metal cans; (3) no-deposit, non-returnable plastic bottles; (4) newspapers and magazines; and (5) returnable bottles. Be sure to have a separate garbage bag or container for each kind of recyclable.

STEP 2

Creating a Worksheet

SOFTWARE: Microsoft Excel

WHAT TO DO: Open *Microsoft Excel* and set up a "Don't Trash the Earth!" worksheet following Example 1. You will use this worksheet to record the weight of each category of trash each night. Print this chart out and post it close to where you keep the trash.

Every time you take out the family trash, you should weigh it and record its weight on the

Example 1: **"Don't Trash the Earth" worksheet created in *Microsoft Excel***

chart. A simple method would be to weigh yourself first, then weigh yourself again while holding a bag of garbage. NOTE: Even if you do not have a bathroom scale, you can figure out the aver-

U.S. TRASH PRODUCTION 1960-1990		
YEAR	**WASTE (million tons/year)**	**POPULATION (millions)**
1960	87	179
1965	104	190
1970	121	203
1975	136	214
1980	150	227
1985	166	238
1990	182	249

age weight of a garbage bag used at home. For example, a large (39 gallon capacity) garbage bag full of trash weighs about 7 pounds. Keep count of how many bags you dispose of each day and enter their total approximate weights on the chart.

At the end of three weeks, after all of your data has been collected, reopen your "Don't Trash the Earth" worksheet in *Microsoft Excel* and type in the data you collected.

STEP 3

Charting Your Data

SOFTWARE: Microsoft Excel

WHAT TO DO: Once your worksheet is complete, decide what data to graph. For example, you might compare your own individual trash production per year to the class average production or to the average U.S. citizen's trash production. You might also show the U.S. trend in trash production using the data in the chart on the previous page.

STEP 4

Presenting Your Research

SOFTWARE: Microsoft Powerpoint

WHAT TO DO: After you have created your charts, work in teams of four to create a presentation in *PowerPoint*. Consider the following areas for inclusion in your presentation:

◆ Research trash disposal and recycling locally and in the U.S. in general. Is recycling mandatory or optional? Is garbage disposed of in landfill? How much

Example 2: **Recycling flyer created in *Greetings Workshop***

does recycling help the environment? What kind of trash is not biodegradable? What happens to non-biodegradible materials in landfills? Can landfills or "dumping" pollute?

◆ Think of all the things that produce household trash. Is there anything we could change in society and in our families to produce less trash?

STEP 5

Start a Recycling Campaign!

SOFTWARE: Greetings Workshop or Publisher 97

WHAT TO DO: Begin a recycling campaign in your school or neighborhood with the title "Reduce, Reuse, Recycle" or come up with a title of your

own. Events surrounding the campaign can include a recycling awareness night or school rally.

Use Greetings Workshop to create invitations for the event and flyers to generate awareness of recycling issues as well as upcoming recycling events (see Example 2). Plan ways to effectively distribute these flyers so that they help people learn more about the issues. ■

SURVEY

Date _____

Dear Parent,

We are about to start on an exciting new project called,
"Don't Trash the Earth!" and we need your help!

All you need to do is to allow _____ to remove all of the trash
STUDENT'S NAME
from your home for the next 3 weeks. No one else should dispose of it, because
_____ needs to weigh the trash before it leaves home. If possible,
allow _____ to set up some "recycling" garbage bags or bins. If
your family doesn't recycle, this trash should be separated at home, but can be
thrown out with other trash after it has been weighed.

"Don't Trash the Earth" is a project that will help teach your child some very
important skills. In a hands-on, real-life setting, students will learn how to apply pre-
calculus math skills and computer graphing skills, and will learn how to use spread-
sheets with Microsoft Excel. In addition, they will investigate environmental science
and learn about recycling.

The project will finish up with class presentations. We hope you will come to see
them!

Sincerely,

_____

P.S. If possible, set up a temporary Recycling Station at home for 1. glass, 2. metal
cans, 3. no-deposit, non-returnable plastic bottles, 4. newspapers and magazines,
and 5. returnable bottles. Preferably, students should have separate garbage bags
or containers for each kind of recyclable.

REQUIRED SOFTWARE

◆ MICROSOFT POWERPOINT 97

◆ MICROSOFT WORD 97

OPTIONAL SOFTWARE

◆ MICROSOFT ENCARTA 97
  ENCYCLOPEDIA

ALL ABOUT ME

Teacher Guide

SUMMARY

In this lesson, students will create and deliver an autobiographical, multimedia presentation.

OBJECTIVES

◆ To introduce students to the concept of multimedia communication

◆ To practice public speaking, and to introduce the technology that facilitates a public presentation

PREREQUISITE SKILLS

◆ Knows how to create an electronic slide presentation using *Microsoft® PowerPoint®*

◆ Is familiar with the features in *Microsoft® Word*

TIME ALLOTTED

Approximately one week

HOW TO BEGIN

Ask students if they can think of a way we can "talk" to other people without using words at all. One good answer is through sign language. Discuss other ways to communicate through sounds, gestures, mime, pictures, music, or video. Explain that "multimedia" means communicating to people through visual images, sounds, and written words. And because multimedia presentations use a variety of media, the information is more clear, more interesting, and more exciting. Then tell students that they are going to create
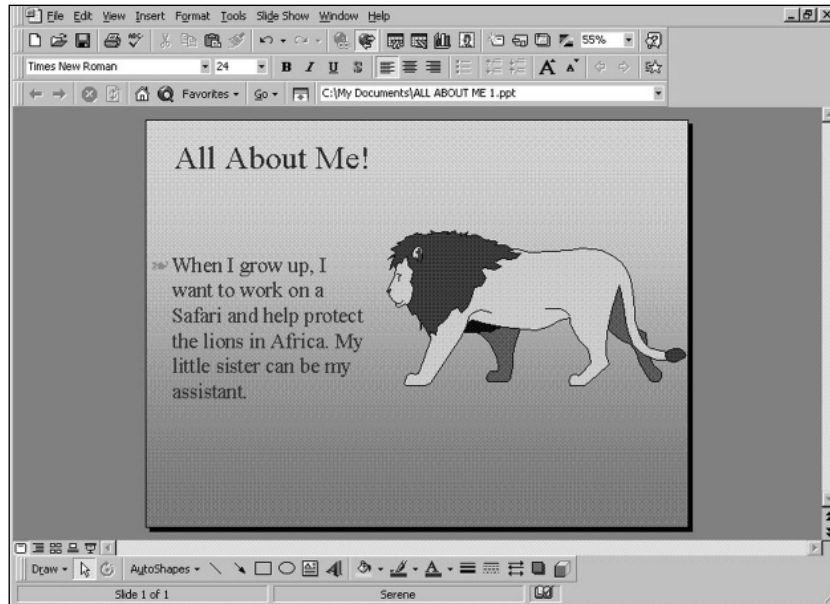
"All About Me" slide created in *Microsoft Powerpoint*

an autobiographical multimedia slide show called "All About Me." It will include images, written words, sounds, music, and even their own voices!

TIP! To help students gets started, develop your own "All About Me" worksheet and turn it into *PowerPoint* slides while the class watches.

TIP! There should be very little written text on a slide. If your students want to write more, encourage them to use notes. To create speaker notes in *PowerPoint*, have students switch to Note Page View by by choosing Notes Page from the view menu. Click in the text box at the bottom of the screen and begin typing.

Extension Activities

◆ Some students may wish to present a biography of someone famous. Invite these students to research their subject using *Internet Explorer* or *Microsoft Encarta 97*.

◆ Students may also do a biography of a friend or relative. Encourage them to prepare an interview questionnaire on *Microsoft Word*. You may wish to preview students' questions to be sure they are appropriate and not personally invasive.

Student Activity

DESCRIPTION

In this activity, you will use *PowerPoint* to create a multimedia presentation called "All About Me."

STEP 1

Planning the Content

SOFTWARE: None

WHAT TO DO: Think about all of the things you would like to include in your presentation and jot them down on a piece of paper. Include information such as where you live, how many people are in your family, and what your hobbies are. You might also include your favorite foods, what you want to be when you grow up and the funniest thing that ever happened to you.

Divide this information into different categories. These categories will become your slides in your *PowerPoint* presentation. Now think about the design and layout for each slide. What words do you want to include on each slide? What artwork or charts do you want to include?

STEP 2

Creating an Outline

SOFTWARE: Microsoft PowerPoint

WHAT TO DO: To outline your presentation using PowerPoint, follow these steps:

◆ Open PowerPoint.
◆ Click Blank Presentation.
◆ Choose Title Slide layout (top left hand corner of row 1).
◆ Click in "Click to add title" text box, then type "All About Me."
◆ Click in "Click to Add Subtitle" text box, then type your name.
◆ Switch to Outline View to organize your thoughts for your presentation. Choose Outline from the View Menu (see Eample 1.)
◆ To add text to this slide, press ENTER, and then press TAB to indent the text beneath the heading. Type your text.
◆ To add another slide to the
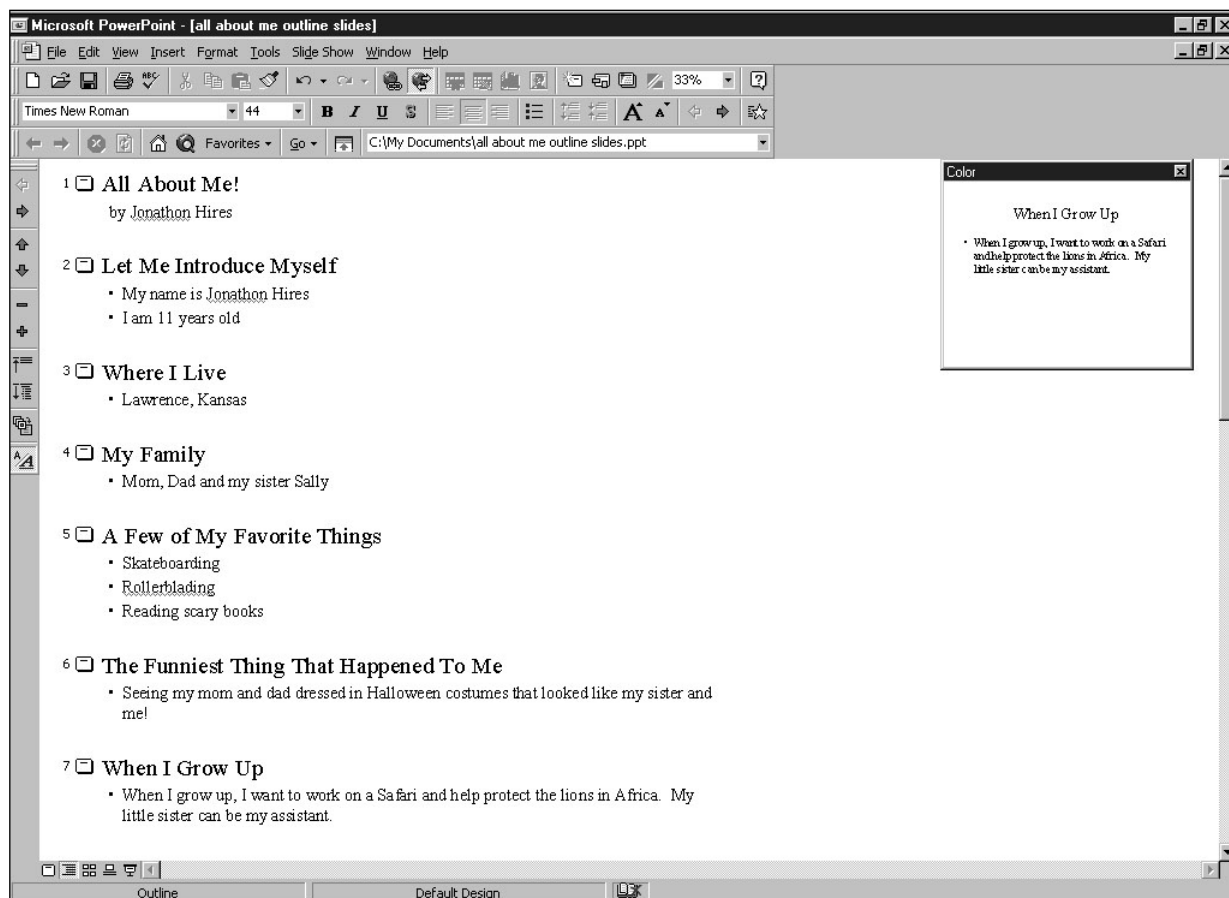
Example 1: **Presentation outline using Outline View in *Microsoft PowerPoint***

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presentation, press ENTER at the end of slide 1 in the outline, type your second category heading, and press ENTER. You may need to click the Demote button to change this text to a slide rather than text below slide #2.

TIP! To learn more about working in Outline view, ask the Office Assistant about "Outline View."

STEP 3

Creating the Slides

SOFTWARE: Microsoft PowerPoint

WHAT TO DO: Here are a few extra tips to consider when creating a slide presentation in *PowerPoint*:

◆ **Slide Order:** To rearrange the order of your slides, choose Slide Sorter from the View menu. Just click and drag a slide where you want it to go.

◆ **Slide Transitions:** To apply transitions between your slides choose Slide Transition from the Slide Show menu. Click the dropdown arrow next to "No Transition," scroll down to bottom of list and choose Random Transition. If you want to add sound effects to your slide transitions, click Sound, then select a sound option (note: you may want to use sounds on only a few slides).

◆ **Graphics:** Choose Picture from the Insert menu, then choose ClipArt, From File or From Scanner.

◆ **Custom Animation:** You can add interesting animations on each slide in your slide show. Go to the slide you want to
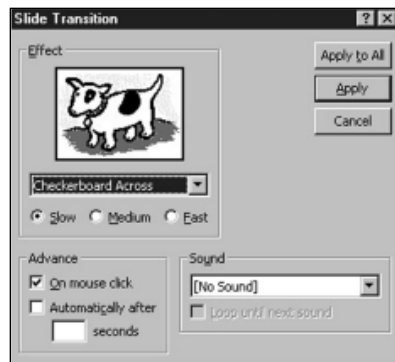
Slide Transitions dialog box in *Microsoft PowerPoint*
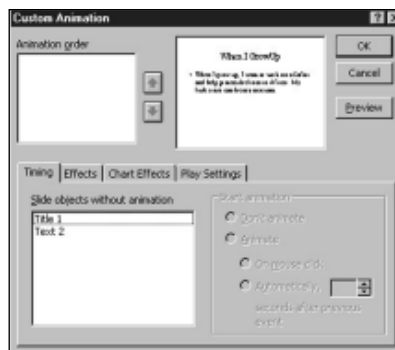
Custom Animation dialog box in *Microsoft PowerPoint*
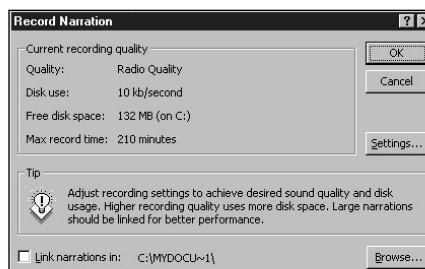
Record Narration dialog box in *Microsoft PowerPoint*

animate. Choose Custom Animation from the Slide Show menu. For step-by-step instructions on how to create a custom animation, ask the Office Assistant about "animated slides."

◆ **Record Narration:** You might want to add narration to your slide show. With *PowerPoint 97*, you can do that! Choose Record Narration from the Slide Show menu. For help, ask the Office Assistant how to "record narration."

◆ **Speaker Notes:** To remember key points during your presen-

tation, you may want to create speaker notes. Choose Speaker Notes from the View menu. Type your notes in the dialog box. These notes are added to your notes page. Ask the Office Assistant about "speaker notes."

◆ **Rehearse Timings:** Time your presentation by choosing Rehearse Timings from the Slide Show menu. Run through each slide of your presentation. Click the right arrow to go to the next slide. You can view the timings in the Slide Sorter View. ■

PLANNING A SCHOOL EVENT

Teacher Guide

SUMMARY

In this lesson, students will improve their writing skills while learning the fundamentals of pitching a publicity campaign for a school-wide event. By creating announcements, flyers, invitations, special calendars, and banner advertisements, students become more personally in-volved in this activity, and will have an opportunity to showcase their creative writing talents.

OBJECTIVES

◆ To encourage students to use written language in creative, new ways

◆ To explore ways of developing an effective publicity campaign

◆ To motivate artistic expression and diverse thinking

PREREQUISITE SKILLS

◆ Has basic skills for using a computer

◆ Is familiar with navigating around design programs such as *Microsoft® Publisher 97* and *Microsoft® Greetings Workshop*

◆ Is familiar with the World Wide Web

TIME ALLOTED

Approximately 2-4 weeks
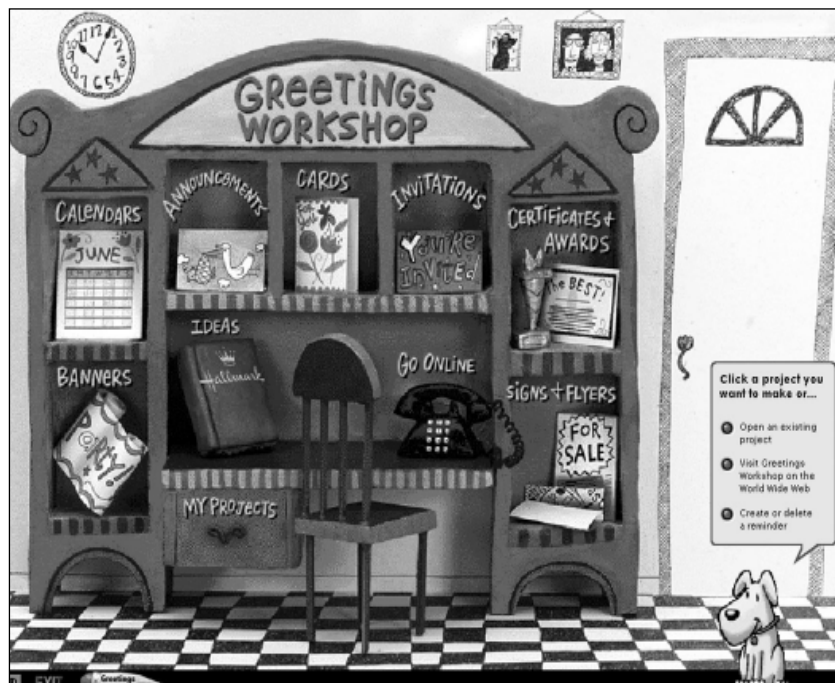
Opening screen from *Microsoft Greetings Workshop*

HOW TO BEGIN

Explain to students that they will be planning a school event and that the success of any event requires effective promotional materials and advertisements. Ask students to bring in their favorite magazine advertisements and discuss what they like about these ads. Why do they think the ads are so effective? Encourage them to talk about the importance of color, layout, message, type style, and illustrations in overall design.

In addition, brainstorm various elements that should be included in the creation of a poster or flyer promoting a special event such as: the name of the event, date and time, location, admission fee (if any), and eye catching graphics. Then have students decide on the type of event they would like to plan. Divide the class into teams and assign each one a special publicity task – such as designing a flyer or creating invitations – that will help make the event a reality.

Student Activity

DESCRIPTION

In this activity, you will work with classmates to develop promotional materials for a school-wide event.

STEP 1

Designing a Flyer

SOFTWARE: Microsoft Publisher or Greetings Workshop

WHAT TO DO: Creating promotional materials for any event is simple with *Publisher 97* or *Greetings Workshop*!

One or more teams should design a flyer or sign advertising the event. Keep in mind that the name of the event should occupy a central position. Text should be in large type size and specify date, time, and location.

From the opening screen menus in *Publisher 97* click the Flyers PageWizard. In *Greetings Workshop*, click Signs and Flyers Project. There will be a number of templates to choose from, or you can create your own. Give your flyer visual appeal by including some graphic elements from the Clip Gallery in *Publisher 97* or *Greetings Workshop*.

Simplicity is the key to effective advertising. When creating your flyers or any other promotional materials, be sure that they are straightforward, uncluttered, and easy for your audience to read. Now place a copy of your completed flyers on every school bulletin board (the more the better!)

STEP 2

Creating a Calendar

SOFTWARE: Microsoft Publisher or Greetings Workshop

WHAT TO DO: A one-month calendar can be a great way to highlight the date for the big event. Use the *Publisher* Calendar PageWizard or the *Greetings Workshop* Calendar project to create an upbeat One-Month calendar. *Greetings Workshop* has several calendar styles (see Example 1) which can be customized to suit any need.

If these styles don't quite fit the bill, choose the Blank calendar option. You can add text, pictures, and other graphic items selected from the program's clip art collection. When

Example 1: **Book Fair calendar created in *Greetings Workshop***

More tips can be found at: www.microsoft.com/education/curric/activity/
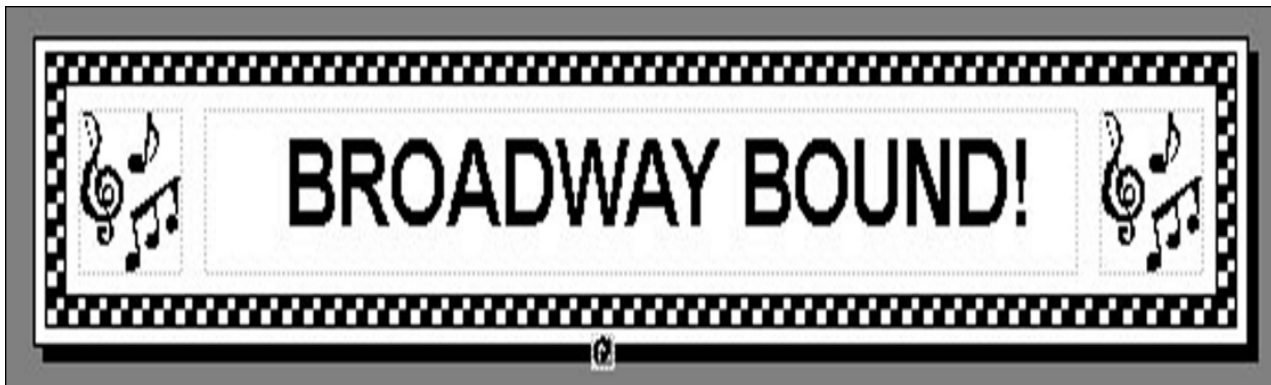
Example 2: **Broadway Bound banner created in *Microsoft Publisher 97***

finished, distribute the calendar to family and friends.

STEP 3

Creating Banners

SOFTWARE: Microsoft Publisher or Greetings Workshop

WHAT TO DO: Design one or more banners for wall decoration at the event. Banners can contain text as well as graphics and the Banner PageWizard in *Publisher 97* or the Banner Project in Greetings Workshop makes it fun and easy to create a banner for every need.

The text message should be compelling and reflective of the spirit of the event. The banner "Broadway Bound" (see Example 2) was created in *Publisher* and was the perfect headline for a banner created to publicize a local school musical. The same banner can be created in Greetings Workshop.

STEP 4

Designing Invitations

SOFTWARE: Greetings Workshop or Publisher 97

WHAT TO DO: Create special greeting-card style invitations for the event using the Greeting Card option in *Greetings Workshop* or

Publisher 97 and send them to members of the community. Consider inviting the School Superintendent as well as representatives from local businesses.

With *Greetings Workshop* or *Publisher 97* you can also prepare thank you notes to parents, teachers, staff or students in other classes who helped with planning the event.

STEP 5

Creating a Web Page

SOFTWARE: Publisher 97, Internet Explorer,

WHAT TO DO: Once all of your promotional materials are complete, consider promoting your event in cyberspace!

With Publisher, you can create a Web page for any existing Publisher document, including calendars, greeting cards, and flyers. To create a Web page, open the publication that will serve as the basis for this new Web page, choose Create Web Site from Current Publication under the File menu, then follow on-screen prompts to run the Design Checker. Publisher will scan your document looking for design and layout elements not suited to publication on the World Wide

Web. It can also test to see if your publication will download quickly when a visitor accesses it through a Web browser.

You can publish your Web site directly to the Web, or publish to a folder. When you publish to a folder, you can then import this folder to a new or existing *FrontPage 97* (or later version) Web site.

To give your Web site more appeal, use *Internet Explorer* to browse the Microsoft Clip Gallery Live Web site and choose from over 1,000 clip art images that can be downloaded. These images will provide the perfect finishing touch to any Web sites

Recommended Web Site

◆ **Microsoft Clip Gallery Live**
www.microsoft.com/
clipgallerylive/

◆ **Greetings Workshop**
greetingsworkshop.msn.com

◆ **Microsoft Publisher**
www.microsoft.com/
publisher/

◆ **In & Out of the Classroom with Microsoft Publisher 97 or Greetings Workshop**
www.microsoft.com/
education/resource/
default.htm ■

CELEBRATE THE USA!

Teacher Guide

SUMMARY

Working in teams of four, students will take on the role of marketers hired to promote one state in the U.S.A. Each team will research their state, create a brochure highlighting its most intriguing features, and give a 25 minute presentation that will entice people to want to move to, or visit that state.

OBJECTIVES

◆ To introduce students to the business of marketing and promotion

◆ To guide students in the process of creating effective presentations and promotional materials

◆ To increase awareness of the diversity of the United States

◆ To build persuasive writing skills

PREREQUISITE SKILLS

◆ Knows the basic features of *Microsoft® Word 97,* including the Office Assistant

◆ Is familiar with *Microsoft® Excel* and its charting functions

◆ Has a basic knowledge of how to use *Microsoft® Internet Explorer* to gather research

◆ Can create a slide presentation using *Microsoft® PowerPoint®*

◆ Knows how to use the Page-Wizard in *Microsoft® Publisher 97*
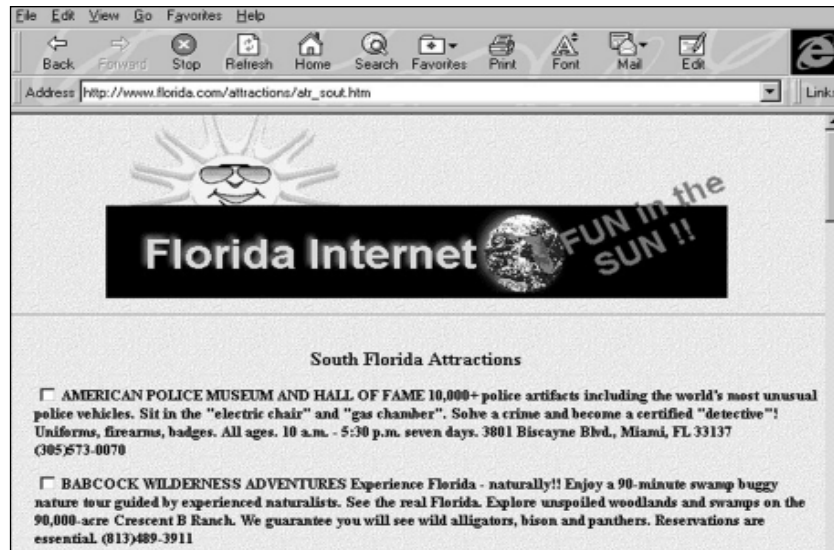
State of Florida Web page from *Internet Explorer*

TIME ALLOTTED

Approximately 4 weeks

HOW TO BEGIN

Have a general discussion with students about the business of marketing and promotion. Explain the importance of knowing who your "target market" or audience is in order to create effective marketing and promotional materials that appeal to that group.

Instruct students that in this activity they have just been hired as marketers by the Governor's office to convince a specific target market to move to, or visit "their" state. Then divide the class into teams of four and assign each team a state from a different region in the United States. Each team must keep in mind the market they are targeting as they research their state, prepare a comprehensive and persuasive presentation about that state, and create a compelling brochure highlighting the state's most attractive features.

Extension Activity

◆ Have students create their own Web site for the state they are promoting. The Web Site PageWizard in *Publisher 97* will allow them to select a one-page or multiple-page Web site which can be customized with text, pictures and hyperlinks. Web pages can also be created with *Microsoft Word 97* or *Microsoft FrontPage*.

Student Activity

DESCRIPTION

In this activity, you and three other students will work together as marketers hired to promote one state in the USA. The objective is to prepare a slide presentation and promotional brochure designed to entice a specific target market to want to move to, or visit your state.

STEP 1

Gathering Research

SOFTWARE: Microsoft Encarta 97 Encyclopedia, Internet Explorer

WHAT TO DO: Begin your research by gathering as many facts and as much information about the state you've been assigned to promote as possible. Each team member will be responsible for researching one category from the Suggested Research Topics including (a) job opportunities; (b) cost of living; (c) weather; and (d) recreation. Use the suggested subject areas as a guide and add to, or delete from, as necessary.

Encarta 97 Encyclopedia is a great place to begin your search. Simply type in the name of the state for a comprehensive overview including the state's history, climate, agriculture, and cultural points of interest.

You can also access a great deal of information about your state from the World Wide Web, using Microsoft's *Internet Explorer* and a search engine such as Yahoo or Lycos. Use the state name or a place in the state as a keyword, post questions on a traveler's bulletin board, or e-mail the state's Department of Tourism.

SUGGESTED RESEARCH TOPICS	
JOB OPPORTUNITIES Growth Industries Per Capita Income Density of Population City vs. Country	**COST OF LIVING** Housing Food Transportation Medical
WEATHER Seasonal Temperatures Yearly Precipitation Sunshine/Cloud Cover Storms/Natural Disasters	**RECREATION** Sports Culture History Entertainment Events

Keep in mind that as marketers, you need to discover great and attractive things about your state. However, you also need to be aware of the negative aspects of your state and determine the best way to address them.

Now, using the research you've gathered, decide who the most logical target market is for the state you will be promoting. Is it families? Or singles? Perhaps people living in a particular geographic region?

STEP 2

Organizing Your Ideas

SOFTWARE: Microsoft Word

WHAT TO DO: Each team should meet at least twice a week to share with team members all of the information they have gathered to date. Remember that the different categories of your research (job opportunities, cost of living, weather, and recreation) must work together in one presentation so if *recreation* is focusing on a particular area of the state, perhaps *weather* should focus on that area as well.

Meet with your teacher at least once a week to review your research. Are you getting appropriate information? Have you read and understood the information received? Does the information cover the whole state? What cities or areas of the state are you focusing on?

Organize your information according to the four categories listed. One easy way to start organizing your ideas is by creating an outline. The Outline View in Word provides a quick way to organize and structure your report. To learn more about Outline View, ask the Office Assistant how to "create an outline."

Since your presentation is a

collaborative effort, take advantage of *Word*'s many collaborative tools including these options: Reviewing Toolbar, Comments, Revision Marks, and Versions. Team members can choose Versions from the File menu, then choose Save Now in order to note changes they've made to the group report. *Word* displays the date and time each version was saved, along with the name of the person who worked on the document and any comments regarding change they may have made to the document.

STEP 3

Mapping Out Your Presentation

SOFTWARE: None

WHAT TO DO: Each team should now begin to map out its presentation. Teams should meet to identify the most interesting or attractive features of the state. What information would be most appealing to your target market? What information in each category is positive? Which negative? What parts of the information is quantifiable and can be charted using *Microsoft Excel?* In what order should the information be presented to the audience?

STEP 4

Charting Data

SOFTWARE: Microsoft Excel

WHAT TO DO: Be prepared to create at least five charts. (*Microsoft Excel* has 14 different chart types.) Think about the data you wish to present and choose the type of chart that you feel will present your data most effectively (see Example 2.)

To create a chart, highlight the range of data you want to include in the chart. Then click the Chart Wizard button. Follow the instructions in the wizard to specify the chart type and options you want.

Keep in mind the following points: Are your charts accurate? Are they readable and clear? Do they present interesting information?

STEP 5
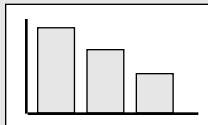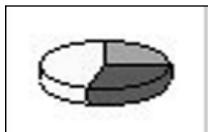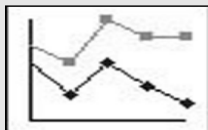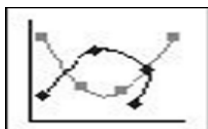
Creating Slides

SOFTWARE: Microsoft Powerpoint

WHAT TO DO: Anytime you are presenting information to a group of people, you want that information to be as clear as possible. *PowerPoint* enables you to quickly and easily create slide presentations that communicate information effectively.

Each team member should create about 10 slides and be prepared to present those slides to the class in about five minutes. The entire presentation should take no more than 25 minutes.

You may also wish to add hyperlinks to related Web sites or other slides within your pre-

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COLUMN CHART

To show recreation growth (or decline)—sports, culture, entertainment, events—over the past 10 years

PIE CHART

To show cost of living expenditures—housing, food, transportation and medical

LINE CHART

To show population growth (or decline) of your state during the last 25 years

SCATTER CHART

To show average temperature in your state during each of the twelve months of the year

Example 2: **Examples of some common charts used for presenting data**

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sentation to create greater visual interest. For example, if you see an image from *Encarta* that you would like to include, simply click on the picture, then click Copy Image. Open up your *PowerPoint* file and paste the image. With *Encarta*, you can copy and paste text, photos, charts and maps into your reports, and citations are added automatically.

Since each team member will be preparing their own slides, be sure to use the Slides from File option under the Insert menu to bring all team member's slides into one presentation.

Use a variety of visuals, with as little text as possible on each slide. The Apply Design command on the Format menu lets you add a colorful background to all slides (see Example 3). With *PowerPoint*, you can also include sound and narration to create a multimedia presentation. Speaker notes can be added to each slide by choosing Speaker Notes from the View menu.

Print the Notes Pages to help guide you when delivering your presentation. Be sure to add slide transitions and animations to each slide. These features will make your slides more interesting and provide you with more control over the pacing of your presentation.

STEP 6

Creating the Brochure

SOFTWARE: Publisher 97

WHAT TO DO: Create an eye-catching brochure designed to appeal to your target audience and complement your presentation. The Brochure PageWizard in *Publisher* makes it easy to create a customized design.

Click Create New Publication on the File menu, and then the PageWizard tab, if necessary. Click the Brochure PageWizard to step through the process of creating a brochure. Be sure to include pictures and charts from your research by replacing the placeholder pictures with the images you've gathered. For additional help, click the Show Help button on the status bar.

Of course, you'll also want to type your own information in the brochure to replace the placeholder text that *Publisher* inserts. You can type directly into a text frame, or insert a text file. If your text doesn't fit, try editing the text to fit, changing the font size, margins, or letter spacing, or continuing the text in another text frame.

Make multiple copies of your brochure to hand out following your oral presentation.

STEP 7

The "Dress Rehearsal"

SOFTWARE: Microsoft PowerPoint

WHAT TO DO: Now do a "dress rehearsal" of your presentation. The Rehearsal feature in *PowerPoint* monitors the time spent on each slide so you don't spend too much or too little time on any one slide. You can get timings for your slides before you rehearse, or you can get them automatically while you rehearse. Ask the Office Assistant about "rehearsing."

STEP 8

The Presentation

SOFTWARE: Microsoft PowerPoint

WHAT TO DO: Your presentation can be given as a slide show on the computer, projected onto a screen using an LCD type panel, or you can create overhead transparencies.

Practice good presentation skills, such as using a slow, clear voice and avoiding distracting gestures. Following your oral presentation, distribute copies of your brochure to classmates. After all the class presentations are finished, choose the state you would most like to visit based on the information presented. ∎
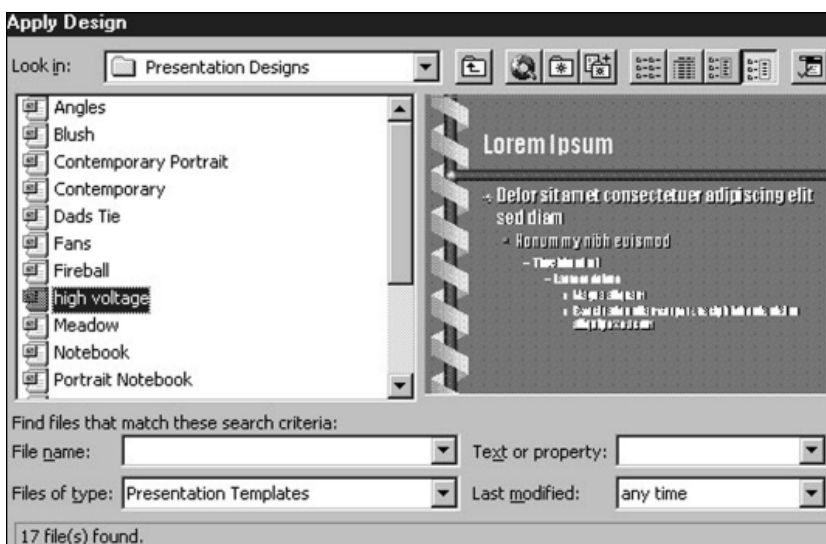
Example 3: **Apply Design feature in *PowerPoint***

NUTRITION TRACK

Teacher Guide

SUMMARY

In this lesson, students will learn about the importance of a healthy diet based on the USDA guidelines outlined in the food pyramid. Students will be required to keep a food diary. They will then create various charts to analyze and compare their diets to the USDA recommended allowance for each food group.

OBJECTIVES

◆ To make students aware of foods that are important for a nutritious and healthy diet

◆ To gather, record, and chart data for comparative purposes

◆ To critically interpret information that is graphically displayed

PREREQUISITE SKILLS

◆ Basic knowledge of creating worksheets in *Microsoft® Excel* including skills such as formatting cells; calculating averages; and creating and modifying charts

◆ Basic knowledge of *Microsoft® Word* including skills such as formatting and editing text; understands how to import charts from *Microsoft® Excel*

TIME ALLOTTED

Approximately 2 weeks
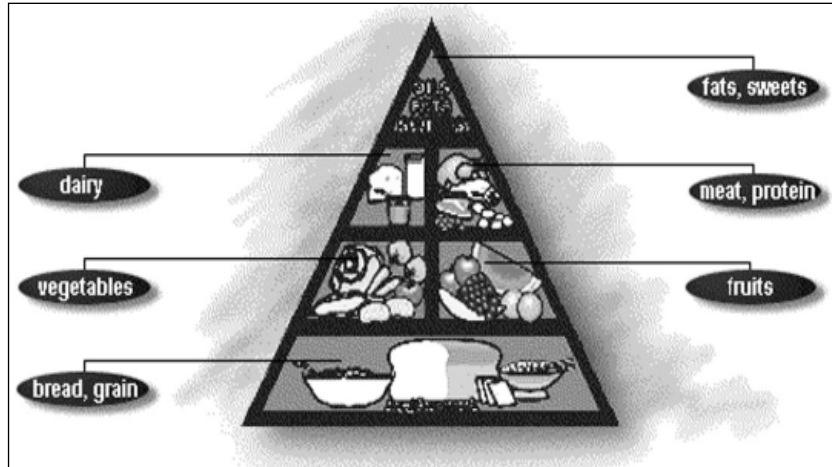
Food pyramid downloaded from the Internet

HOW TO BEGIN

Introduce students to this lesson by discussing the importance of a balanced diet. Explain that by eating a well-balanced diet, as suggested by the "food pyramid" (above), people get most of the vitamins and nutrients their bodies need.

Use *Internet Explorer* to access the pyramid on the U.S. Department of Agriculture Web site.

Explain that the base of the pyramid represents that food group which should be consumed in the greatest quantity, and the top of the pyramid, the food group which should be consumed sparingly. Explain to students that they will learn how their diet compares with the pyramid by keeping a diet log for one week.

Recommended Web Site

◆ **Department of Agriculture**
   http://www.nal.usda.gov

Extensions

• For a more scientific study of vitamins and nutrients, suggest that students look up "Nutrition" in *Encarta 97* and then research Essential Nutrients. The Personal Nutrition Interactivity area allows for a personal analysis of one's diet based on age, gender and activity level.

• Have students create a slide presentation in *Microsoft PowerPoint* which shows their favorite foods and the nutrition those foods provide. Or have them create a brochure in *Publisher 97* recommending foods that coincide with those suggested in the food pyramid.

Student Activity

DESCRIPTION

In this activity, you will keep a record of what you eat over a five-day period, and then compare your diet with the United States Department of Agriculture's recommended daily diet.

STEP 1

Create A Spreadsheet

SOFTWARE: Microsoft Excel or Microsoft Works

WHAT TO DO: Open up a new worksheet in *Microsoft Excel* (Note: *Microsoft Works* can also be used for this project). In column A, starting in row 2 (cell A2) list the six basic food groups according to the food pyramid. Use *Internet Explorer* to access the food pyramid on the Department of Agriculture's Web.

In cell B1 type Day 1, in cell C1 type Day 2. Click the fill handle in the lower right corner of the cell (the pointer changes to a black cross) and drag to highlight through cell F1. In cell G1, type the heading "5-Day Avg" (5-Day Average) and in cell H1, type "Recommended Servings." Highlight columns A-H. Click on the Format menu and choose Column, then choose Autofit Selection to fit headings into each cell. To rotate text, highlight B1:H1. From the Format menu choose Cells, then click the Alignment tab and in Degrees, type 45.

In column H beginning in cell H2, record the minimum number of servings for each food group that the USDA recommends.

TIP! Within your worksheet, you

Example 1: *Microsoft Excel* nutrition worksheet with cell comments

can add a comment (as above) to show the various foods in each food group. First, click a food group cell, for example "Grains." Then, choose Comment from the Insert menu. A yellow box will appear where you can now type in the various foods that are part of the Grains food group such as bread, cereal, and pasta (see Example 1). (You might also want to type in the recommended daily servings.) Now, if someone else is using your worksheet and wants to find out more information about each food group, all they need to do is move the cursor over the particular cell they are interested in for some "at-a-glance" information.

Recommended Web Site
◆ **Department of Agriculture**
http://www.nal.usda.gov

STEP 2

Keep a Diet Record

SOFTWARE: Microsoft Word or Microsoft Works, Microsoft Excel

WHAT TO DO: Using *Word* or the word processor in *Microsoft Works*, create a docment in

FOOD PYRAMID GUIDELINES

(Estimated one serving equivalents)

Grains:
◆ 1 slice of bread;
◆ 1 ounce of cereal;
◆ 1/2 cup of cooked cereal, rice, or pasta

Vegetables:
◆ 1 cup of leafy vegetables (measured raw)
◆ 1/2 cup other vegetables (cooked or raw
◆ 3/4 cup of vegetable juice

Fruit:
◆ 1 medium apple, banana, or orange
◆ 1/2 cup cooked, chopped or canned fruit
◆ 3/4 cup of fruit juice

Meats/Beans:
◆ 2-3 ounces of lean meat, poultry, or fish
◆ 1-11/2 cups of cooked dry beans
◆ 2 eggs
◆ 4-6 tablespoons of peanut butter

Dairy:
◆ 1 cup of milk /yogurt
◆ 1 1/2-2 ounces of cheese

Fats/Sweets:
◆ Use sparingly

which you can keep a daily record of everything you eat over a five-day period. Then using the Food Pyramid Guidelines figure out how many servings of each of the six food groups you had each day. For example, estimated servings size for a tuna salad sandwich is 2 bread servings, 1 meat serving, and 1 fat serving. Now, record in your *Microsoft Excel* worksheet the number of servings of each food group you had for each of the five days.

STEP 3

Compare Your Diet

SOFTWARE: Microsoft Excel

WHAT TO DO: Now you can calculate how your diet compares, on average, to the USDA's recommended diet over a five-day period.

To calculate the average number of servings of the first food group for the five days type **=average(B2:F2)** in cell G2. Highlight G2:G7 and choose Fill from the Edit menu, then choose Down to calculate the average number of servings for the remaining 5 food groups.

STEP 4

Chart the Results

SOFTWARE: Microsoft Excel

WHAT TO DO: Create a pie chart showing the average number of servings for each food group in your diet over a five-day period. Highlight B2:F7, select Chart from the Insert menu and step through the Chart Wizard to create a pie chart (see Example 2).

Next, create a column chart (see Example 3) that compares your average number of servings to the minimum number of
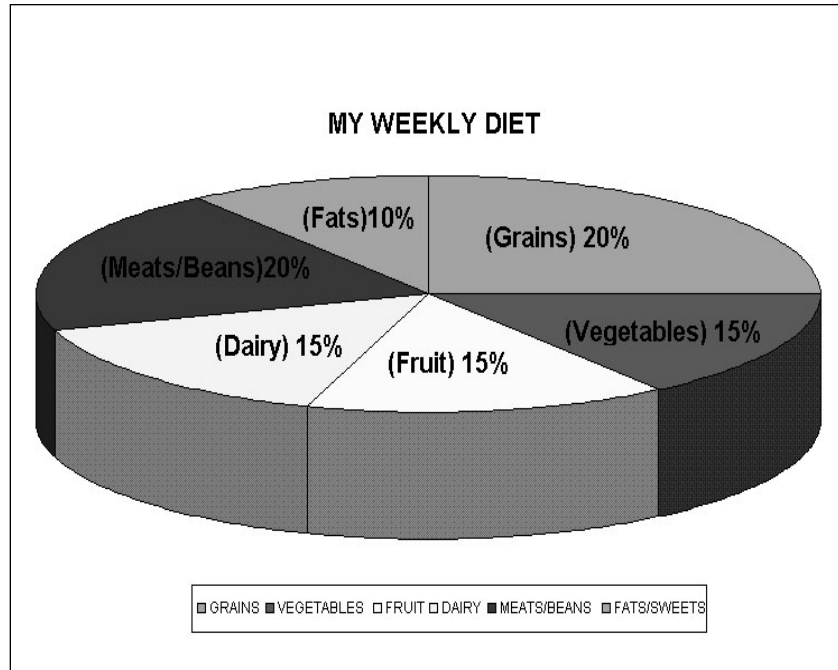
Example 2: **Pie chart created in *Microsoft Excel* using the Chart Wizard**

servings the pyramid recommends. First, highlight G2:H7. Then select Chart from the Insert menu and step through the Chart Wizard to create a column chart. Be sure to put a title on your chart and label the X and Y axes and the legend.

STEP 5

Interpret the Results

SOFTWARE: Microsoft Word

WHAT TO DO: Use *Word* to write a brief report describing what you learned about your diet. Insert charts created in *Microsoft Excel* to visually represent how your diet compares to the USDA recommended diet. Explain in detail any steps you might take to improve your diet. Which foods should be eaten in larger quantities? Smaller quantities? Which foods might be eaten in place of high-fat, sweet snacks? ∎

Example 3: **Column chart created in *Microsoft Excel* using the Chart Wizard**

CANDY IS DANDY

Teacher Guide

SUMMARY

This lesson shows students the benefits of using graphs to communicate information, answer questions, and solve problems as they investigate color distribution in bags of M&M's. Working with actual bags of candy, students will sort and classify contents, summarize their findings on a worksheet, convert the numbers into charts, and make predictions about color distribution in other bags of candy.

OBJECTIVES

◆ To introduce students to the concept of graphing

◆ To record color distribution in spreadsheet format

◆ To utilize information obtained through hands-on research and analysis to write a research report

PREREQUISITE SKILLS

◆ Knows how to use *Microsoft® Word* to create a document including formatting and editing text

◆ Knows how to create a *Microsoft® Excel* worksheet including creating formulas

◆ Can create presentations using *Microsoft® Powerpoint®*

TIME ALLOTTED

Approximately 2-3 days

COLORS	BAG 1	BAG 2	BAG 3	BAG 4	AVERAGE
Blue	6	3	6	8	6
Brown	4	6	4	7	5
Green	3	2	6	5	4
Orange	7	7	4	4	6
Red	5	5	7	3	5
Yellow	4	6	3	5	5
TOTAL	29	29	30	32	30

"Candy Is Dandy" worksheet created in *Microsoft Excel 97*

HOW TO BEGIN

Introduce students to the concept of charting and discuss why some data collections are better represented by bar charts, while others may be easier to interpret as line charts or pie charts. Explain that while there are no sure-fire rules that state which chart type to select for a particular data set, it is important to select a chart type which gets a message across in the most effective way. Bar charts, for example, allow for a comparison of values within a category, line charts emphasize a progression of change, and pie charts show the relationship of a part to the whole.

Tell students that this lesson requires them to work with several bags of candy of differing weights. They will be sorting the contents of each bag by color, recording the number of candies for each color, and representing observations in both a worksheet table and several types of charts.

Extension Activities

◆ Students can use *Internet Explorer* to visit the M&M's Web page (http://www.m-ms.com/) and take a virtual tour of the factory. They can send electronic mail to the company, indicating which colors they like best and which colors they would like to see in future bags of candies.

◆ Encourage older students to summarize their research findings in a letter to the Consumer Affairs Department, M&M/Mars, Hackettstown, NJ 07840-1503. Students can use Microsoft Word's Letter Wizard to get started.

Student Activity

DESCRIPTION

You are going to conduct some market research about M&M's. First, you will sort and classify the contents of several bags of M&M's, summarize your findings on a worksheet created in Microsoft Excel, convert the numbers into charts, and make predictions about color distribution in other bags of candy.

Example 1: **Cell Notes pop-up from *Microsoft Excel***

STEP 1

Color Distribution

SOFTWARE: Microsoft Word

WHAT TO DO: Work in pairs using several small-size bags of M&M's, or two larger-sized bags. Before opening any bag of candy, take a guess about the colors you expect to find. Do bags of equal weight have an identical number of candies? Are all colors represented equally or are some more popular than others? Does color distribution remain constant no matter how small or large the bag? Record your answers in a *Word* document and save for later reference.

STEP 2

Creating a Worksheet

SOFTWARE: Microsoft Excel

WHAT TO DO: Open a worksheet in *Microsoft Excel*. In cell A1, type the title Candy Is Dandy! In row 3 beginning in cell A3, type the headings Colors, Bag 1, Bag 2, Bag 3, Bag 4 and Average. Type in the weight of the bags of M&M's in a com-

ment. Click in cell B3, choose Comment from the Insert menu, then type the weight in the yellow pop-up (see Example 1). Now, anytime you move your cursor over that cell, the weight will appear.

In column A, beginning in cell A4, list all of the colors of M&M's you found in your bags. Next, sort the list alphabetically by highlighting the cells and choosing Sort from the Data menu. Type Total in the cell below your last entry.

Now you can format your worksheet in a variety of ways. Choose AutoFormat from the Format menu and select the format of your choice!

STEP 3

Adding Formulas

SOFTWARE: Microsoft Excel

WHAT TO DO: Enter the number of same color M&M's in the corresponding cells beginning with Bag 1. Use the AutoSum function to total your columns. Highlight cells B10:E10. Choose Fill from the Edit menu, then choose Right.

Now, you can automatically calculate the average number of each color per bag. Click in cell F4, then type the formula **=average(B4:E4)**. Highlight cells F4:F10. Choose Fill from the Edit menu, the choose Down. Format cells in the Average column so that a whole number is returned (i.e. no decimal places) by using the Decrease Decimal button on the Formatting toolbar.

Interpret your data. Are some colors more numerous? Do all bags have the same number of candies? Compare your observations with the findings of students in other groups. Are the same colors more numerous from one group to another? Is color distribution consistent in bags of differing weights?

STEP 4

Creating Graphs

SOFTWARE: Microsoft Excel

WHAT TO DO: Use the Chart Wizard in *Microsoft Excel* to produce at least two different charts (see Example 2.). Choose the chart types that best represent

the data such as bar chart or column chart. You might chart the distribution of colors in a single bag, or the total number of candies for all bags in your sample.

Highlight cells **A3:E9**. Choose Chart from the Insert menu. Click the Column chart type, then click the Next button. Click the Data Range tab, and be sure Columns is selected next to Series In, then click Next. In step 3 of the Wizard (Chart Options), click the Titles tab. Add titles for the chart and its axes. Click the Gridlines tab and experiment with gridline options. Choose a gridline that makes it easier to understand the data. Click Legend tab and choose a locations for the legend, then click Next.

Finally, have *Microsoft Excel* place the chart as an object on the original worksheet, so that worksheet entries are visible as you examine the chart.

Example 2: **Column chart created from *Microsoft Excel* Chart Wizard**

STEP 5

Writing The Report

SOFTWARE: Microsoft Word

WHAT TO DO: Students can use *Word* to describe the research project, the procedures they employed to sort and count the candies, and what the data reveals about candy colors and color distribution.

Students should compare their initial hypotheses about the average number of candies per bag and the expected color distribution with actual survey results have them copy and paste spreadsheet and chart data into *Word* where appropriate (see Example 3.).

Reports should discuss the advantages/disadvantages of representing data in spread- sheet tables, column charts, bar graphs, or pie charts. When is it best to use one chart type instead of another? What is the value of using more than one bag of candy to conduct this experiment? ■
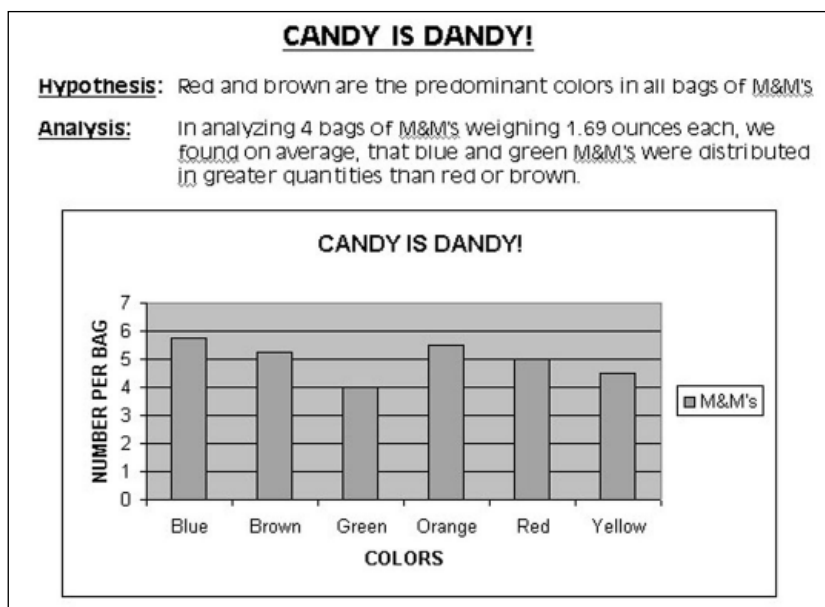
Example 3: **Report created in *Microsoft Word* with column chart imported from *Microsoft Excel***

FOR THE RECORD

Teacher Guide

SUMMARY

In this activity, students create a database that catalogs their music collection of CDs and tapes. Then they sort, analyze, and print selected database records in answer to questions about their favorite music recordings and performing artists.

OBJECTIVES

◆ To build a full-featured database customized to meet specific needs.

◆ To learn how to search, sort, analyze and manage a database

◆ To evaluate the activity in a thoughtful essay

PREREQUISITE SKILLS

◆ Knows how to launch a database application in *Microsoft® Access* or *Microsoft® Works*

◆ Knows the functions of *Microsoft Access* or *Microsoft Works* including how to enter and correct information; copy, change, and delete information; change appearance of text and numbers, and print database files

◆ Knows database terms and concepts such as table, record, and field

◆ Knows how to browse the World Wide Web using *Microsoft® Internet Explorer*

TIME ALLOTTED

Approximately one to two weeks
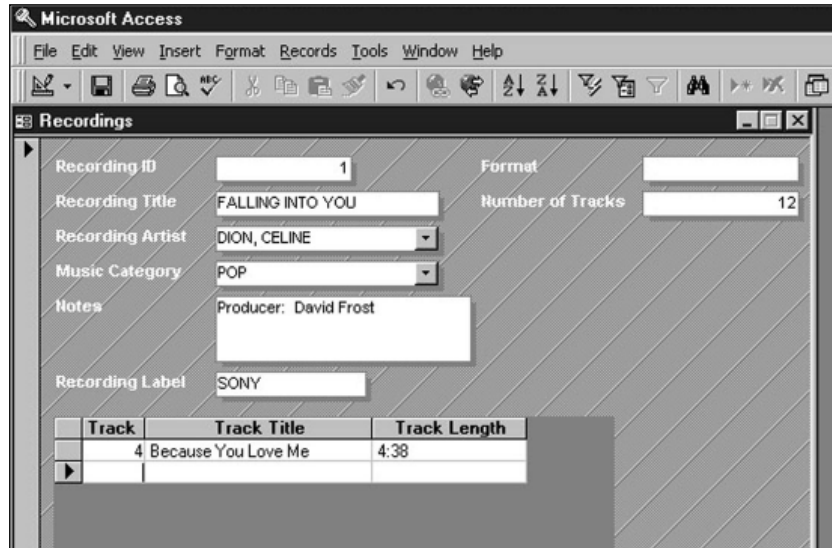
Music database entry in *Microsoft Access 97*

HOW TO BEGIN

Ask students how they keep track of important birthdays, addresses, telephone numbers, and appointments (e.g., wall or desk calendars with important dates penciled in, address books, notes on the refrigerator, sticky notes on a bedroom or kitchen bulletin board).

Have students discuss the advantages (inexpensive) and disadvantages (easy to lose) of conventional paper-based memory boosters.

Talk about what a computer database is and what it does. Encourage students to think about the advantages of an electronic database (e.g., information is stored in a single place; it's readily available; it can't be misplaced; it's easy to update;

it's always neat and legible; you can search for records in a variety of different ways).

Explain to students that in this activity they will build a database to catalog either their home music collection of audio CDs, records, and cassette tapes or the collection available in the school music room/library.

Provide a glossary of terms that students are likely to encounter as they create a database such as table, record, field, query, filters, sort, layout, database wizard, design view, form view, datasheet view, preview mode.

Recommended Web Sites
◆ **Music Central Online**
   http://musiccentral.msn.com/
◆ **The Ultimate Band List**
   http://www.ubl.com/

Student Activity

DESCRIPTION

In this activity, you learn how to manage information by creating numbered records which you arrange, retrieve, sort, and print. You will use *Microsoft Access* to catalog your collection of music CDs, records, and cassette tapes, storing information about recording artists, music styles, and music tracks. (Note: With slight modifications, you can do this activity using *Microsoft Works 95*.) You will learn how to display this information in a datasheet (table format) or on a custom-designed form. You will also learn how to retrieve information from the database using the software's Find command. By employing a variety of sorting techniques to examine your data, you will try to find patterns or trends. The goal is to develop a "wish" list of CDs or tapes for distribution to friends and family, so that everyone knows exactly what to get for your next birthday. Finally, you will write a report using *Microsoft Word*, evaluating the significance of this activity.

STEP 1

Prepare a Database Template

SOFTWARE: Microsoft Access (or Microsoft Works);

WHAT TO DO: Launch *Microsoft Access*, choose Database Wizard from the Create a New Database dialog box, then
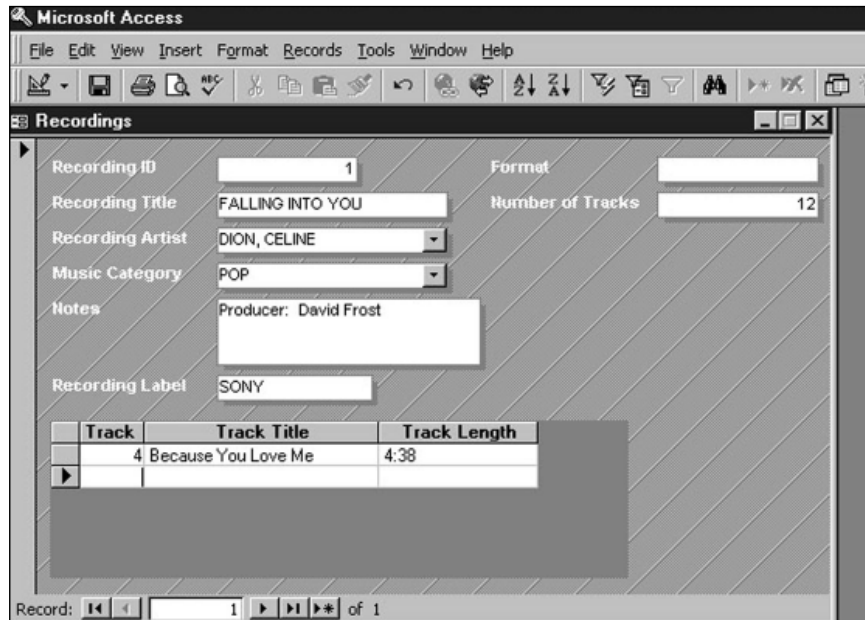
Example 1: **Record database entry using *Microsoft Access***

double click on the "Music Collection.mdz" wizard to create a music collection database. Name your new database, then click the Create button. (Note: If you use the database module in *Microsoft Works 95*, you can use a WorksWizard to create a database template. *Works* does not have a Music Collection TaskWizard.)

When the Music Collection Database Wizard appears on screen, choose the fields you want to include in the various database tables. Decide whether you want to include any optional fields (the ones listed in italics) or any sample data. Click the Next button.

Choose a style for the screen display of your database form, then click Next. Choose a style for your printed reports, then click Next. Finally, name your database and decide

whether you want to include a picture on all reports. When you click Finish, your music database will be ready to accept data.

STEP 2

Enter Data

SOFTWARE: Microsoft Access

WHAT TO DO: If the Access Main Switchboard dialog box is not visible on screen, choose Open database from the File menu, then double-click on the music collection database. Click the Enter/View Recordings button. Begin cataloging your music CDs and other recordings by filling out the Recordings form.

In the Recording Title field, enter the title of your record, for example, Falling Into You. As soon as you begin entering data, *Access* automatically assigns this record a

Example 2: **Display of multiple recordings from more than one musical category in *Microsoft Access***

Recording ID. This is the number *Access* uses to identify this record to related tables in your music collection database.

Press the tab key to enter the name of the recording artist. Since this is a new entry, you won't be able to select an artist from the drop down list. Follow *Access*' request to double-click this name field. Doing so displays the Recording Artist form. Enter "Dion, Celine" in the Recording Artist field. In the Notes field, enter the name of the Producer and any other information you would like to include. Click the Close button to return to the Recordings form. Now you can select Celine Dion's name from the menu drop down list.

Tab to the Music Category field, and enter the appropriate cateogory. Tab to the Recording Label, and enter the name of the record label, for example, Sony. Include the appropriate information in the fields that specify Format and Number of Tracks (see Example 1). You can enter information about each track, track title, and track length by tabbing from one field to another to move through the list. To create a new record, choose New Record from the Insert menu.

STEP 3

Sort Data

SOFTWARE: Microsoft Access (or Microsoft Works)

WHAT TO DO: Develop new insights about your music collection by rearranging, sorting, and filtering the data. After you've entered a few records, you can make them easier to find by putting them in alphabetical order. In Example 2 , we sorted a collection of CDs in the catagories of Jazz and Chants by the name of the artist.

To sort the table alphabetically by artist, press F11 to open your Music Collection Database window. This shortcut key works from any location in the database. Click the Tables tab, then double-click the Recordings object. The Recordings Table opens on screen. Click the column heading labeled "Recording Artist ID." The entire column will highlight. Then click the Sort Ascending Toolbar button (AZ).

Access then alphabetically sorts the table data by Recording Artist. To resize column width for any column in the table (Data- sheet view), click-drag on the line divider to the

right of a column heading. To resize a column so that all data fit, double-click a column heading's right divider line.

STEP 4

Find Data

SOFTWARE: Microsoft Access or Microsoft Works

WHAT TO DO: If you can't remember the name of a particular recording, but you know the name of its recording artist, use the *Microsoft Access* Find command to locate the required information. Follow these steps:

◆ Press F11 to open the Music Collection Database window. Click the Forms Tab, then double-click the Switchboard object. The Main Switchboard window opens. Click the Recording Artist category, then click the binoculars (Find) icon on the Forms toolbar. The Find dialog pops up on screen.

◆ Enter the name of the recording artist in the Find What field. Select All from the Search field drop down list. Select Any Part of Field from the Match drop down list (that way you don't have to enter the full name of the Recording artist). Make
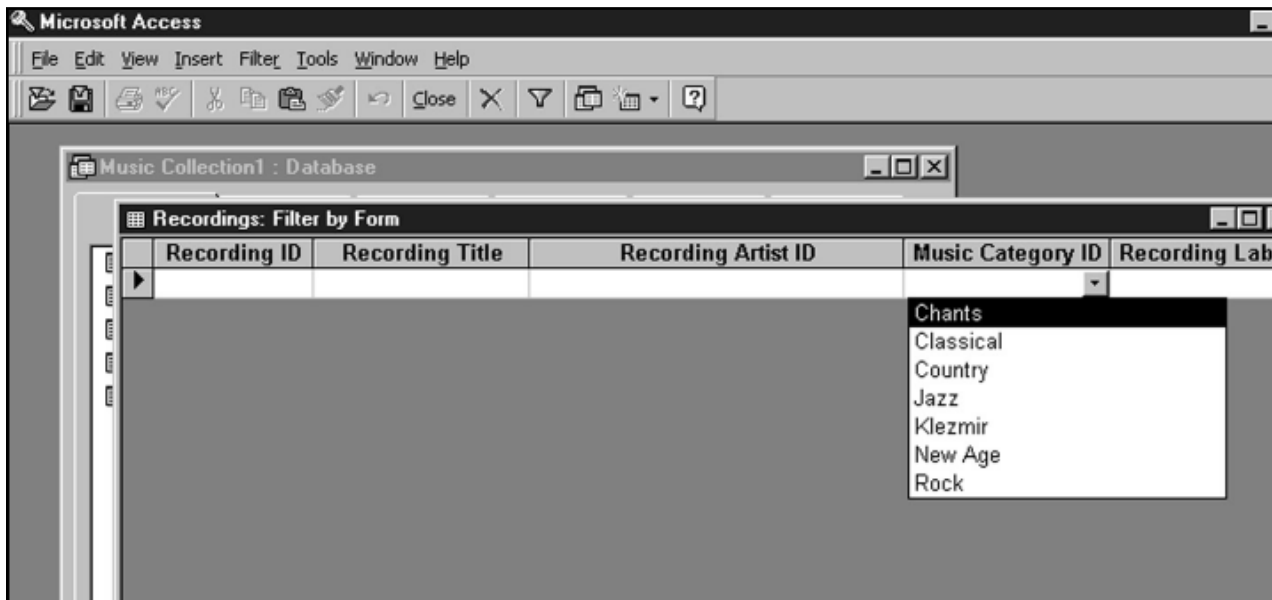
Example 3: **The Recording Filter by Form window in *Microsoft Access***

sure there's no check mark next to the Match Case or Search Only Current Field options.

◆ Click the Find First button. *Access* searches the database and returns a record that matches the criteria you've entered. If this is the record you want, click the Close button. If this is the record, click the Find Next button.

◆ To display all recordings of a particular music category, press F11 to return to the Database Window. Click the Tables tab, then double-click the Recordings object. Click a music category in the Music Category ID column, then click the Filter By Selection toolbar button (the icon with both a funnel and a lightening bolt). *Microsoft Access* then displays only those database records in the music category you chose.

To work with all records in the database, click the Remove Filter toolbar button. To have *Microsoft Access* display recordings from more than one musical category, use the Filter by Form toolbar button. Just follow these steps:

◆ Have *Access* display all records in the database by clicking the Remove Filter toolbar button.

◆ Next, click a Music Category ID field that you want to include in the search (e.g., Jazz) then click the Filter by Form toolbar button.

◆ *Access* displays the "Recordings: Filter by Form" window. Click the "Or" tab at the bottom of this window, then select "Chants" from the Music Category ID drop down list (see Example 3).

◆ Next, click the Apply Filter toolbar button. A new table displays on screen containing all Jazz and Chants records in the database. You can also filter the database by mixing items from several columns.

◆ Click the Print Preview Toolbar button to see how your database will look when printed. Next, click the Print toolbar button to have Access print a copy of selected records.

STEP 5

Reporting the Results

SOFTWARE: Microsoft Word; Microsoft Access

WHAT TO DO: To import an *Access* table to a *Microsoft Word* report, display the *Access* table you want to import. Next, choose Office Links from the *Access* Tools menu. Finally, select "Publish It with *MS Word*." *Access* will save the table in RTF format and automatically open it in *Microsoft Word*.

Once you have database information in *MS Word*, report on the results. Who's your favorite artist? What's your favorite music category? What's your favorite musical instrument. Would any of your other data collections benefit from database management? ■

YOUR JUST DESSERTS

Teacher Guide

SUMMARY

This lesson integrates language arts with math applications as students write letters to town officials and local businesses asking for favorite dessert recipes, tabulate their responses in a spreadsheet, and turn their survey results into colorful graphs.

OBJECTIVES

◆ To have students become familiar with spreadsheet and graphing fundamentals using a real-world application

◆ To reinforce letter-writing and research skills

◆ To gather data through survey techniques

PREREQUISITE SKILLS

◆ Familiarity with *Microsoft® Word*

◆ Knows how to create a worksheet in *Microsoft® Excel* and use its charting function

TIME ALLOTTED

Approximately 5 weeks

HOW TO BEGIN

Explain to students that this lesson, which uncovers the local community's favorite dessert recipes, has many components including a) letter writing, b) tabulating responses, c) charting recipe data, d) publishing a recipe book, and

Hershey's Web page from *Internet Explorer*

e) "sampling" results. Then list the names and addresses of town officials on the board and have students choose someone to write a letter to. If necessary, call Town or City Hall for a list of municipal officers. Or, bring in copies of the area's Yellow Pages and have students look up the names and addresses of local businesses. Plan on having students send out several letters to increase their chances of getting at least one reply.

Review with students the different parts of a letter, e.g., sender's address, date, recipient's address, greeting (salutation), and closing. as well as how to address an envelope.

Have them think about what they are going to include in the body of their letter, e.g., an explanation of why they are writing, the type of recipe they would like to receive, how they will use this recipe, plus special thanks for helping out with the project.

Extension Activities

◆ Have more advanced students use *Microsoft Excel* to calculate what they should charge for their book of recipes in order to earn a profit. First have them create a spreadsheet listing the cost of project supplies (e.g. paper, toner, staples, stamps, envelopes). Divide the total cost of the project by the total number of books printed. The resulting calculation determines the "break-even" figure for the cost of each book. Arrive at a fund-raising goal. Divide this number by the number of books printed. Add the result of this calculation to the previously determined break-even cost to establish the book's sale price.

Student Activity

DESCRIPTION

In this activity you will discover your local community's favorite dessert recipes, publish them in a recipe book and sell them to raise money for a favorite local charity.

STEP 1

Writing Letters

SOFTWARE: Microsoft Word

WHAT TO DO: Put together a list of town officials and municipal officers, or local businesses that you would like to write letters to

for favorite dessert recipes. You will add these names and addresses to a data document later in this lesson. Explain in your letters that the goal of the project is to collect a delicious assortment of local desserts in order to publish a book and raise money. Ask them for a small donation to offset the cost, noting that any business which supports the project will be listed as a "patron" in the recipe book.

Compose your letters in *Microsoft Word. Word* has several Letter templates, or start with the time-saving Letter

Example 1: **Letter Wizard option in *Microsoft Word***

Wizard (see Example 1). Choose Letter Wizard from the Tools menu to get started

If you are printing letters on school letterhead, be sure to place a check mark in the "pre-printed letterhead" box on the Letter Format tab of Letter Wizard. Then, enter the letterhead's location. If you are not printing on school stationery, complete the Sender's name and Return address on the Sender Info tab of *Word*'s Letter Wizard dialog. *Word* automatically inserts this information in the letter.

Proofread and spell check your letters before printing and consider exchanging letters with classmates for peer review and evaluation. Since you will be sending the same letter out to a list of community members, you can save it and merge the address and name into each letter. This is called a form letter. Choose Mail Merge from the Tools menu, click the Create button, choose Form Letters, then click the Active Window button. You are now ready to set up a table with the address information where each letter will be sent (note: you can also keep this data list in *Excel, Access,* or *Works*).

You are now ready to create your data source file. Choose Mail Merge from the Tools menu, then choose Create Data Source. Under Data Source, choose Get Data, then choose Create Data Source. This is where you add the data. Click the OK button, then name and save your document. When you see the Edit Data Source button,

Example 2: **"Favorite Desserts" worksheet created in _Microsoft Excel_**

	Name	Favorite Dessert	Cake	Cookie	Custard	Fudge	Ice Cream	Pastry	Pie	Pudding	Totals
5	Marge Simpson, Town Clerk	Chocolate Chip Cookies		1							1
6	Homer Simpson, Police Chief	Glazed Doughnut						1			1
7	Dot Warner, Tax Collector	Strawberry Cheesecake	1								1
8	Kermit T. Frog, Fireman	Grasshopper Pie							·		1
9	M. Finn, Health Inspector	Potato Chip Pudding								1	1
10	Oscar T. Grouch, Sanitation Dep	Sardine Pudding								1	1
11											
12		CATEGORY TOTALS	1	1	0	0	0	1		2	5

click it and enter the name and address information for one of your letter recipients. Click Add New button to add the next person on your list. Click the Merge button in the Mail Merge Helper dialogue box when you're ready to print your form letters.

To prepare envelopes or mailing labels, choose Envelopes and Labels from the Tools menu. Ask the Ofice Assistant about "envelopes" if you need help.

STEP 2

Tabulating Responses

SOFTWARE: Microsoft Excel

WHAT TO DO: Allow approximately 3 weeks for recipients to respond to your letters. Once received, review responses and identify the various dessert categories (e.g., cookies, cakes, pies, fruit, etc.) from the recipes received.

Create a new worksheet in _Microsoft Excel_ with a separate column for each dessert category and sort the headings so they display in alphabetical order. Title you worksheets, for example, "Our Town's Favorite Desserts" and then enter a "1" in the appropriate dessert category for each person who sends in a reply (see Example 2).

Format column headings and cell contents so that text is centered, and use _Microsoft Excel_'s Autofill, AutoSum and Count functions to add formulas and data to your sheet. Ask the Office Assistant for help.

STEP 3

Charting Responses

SOFTWARE: Microsoft Excel

WHAT TO DO: Create a Pie chart using information in the Totals row of the worksheet. Here's how:

◆ Highlight the cells in the "Totals" row for each category. (C12:J12). Choose Chart from the Insert menu. Select Pie as the chart type, then select the chart sub-type Pie with a 3D Visual Effect. Click the Press and Hold to View Sample button to preview the chart, then click Next.

◆ Click the Series tab. In the Category labels box, type **=sheet1!c4:j4** then click Next. Click the Titles tab, type Dessert Favorites. Click the Legend tab, then choose a location for the chart legend. Click Data labels tab, choose Show Percent. This will make it easy to determine which category is actually the town favorite. Click Next. Choose to place the chart as an object on the original worksheet, so you can see worksheet entries as you view the chart (see Example 3).

STEP 4

The Recipe Book

SOFTWARE: Microsoft Word, Internet Explorer

WHAT TO DO: Every recipe should have its own page in the book. Create a template in _Word_ with a 2-column table, to hold recipe ingredients and instructions. Add decorative elements such as clip art or borders to place a stylish design around the card. Save and then copy the template to a floppy disk or server, and install it in the Templates
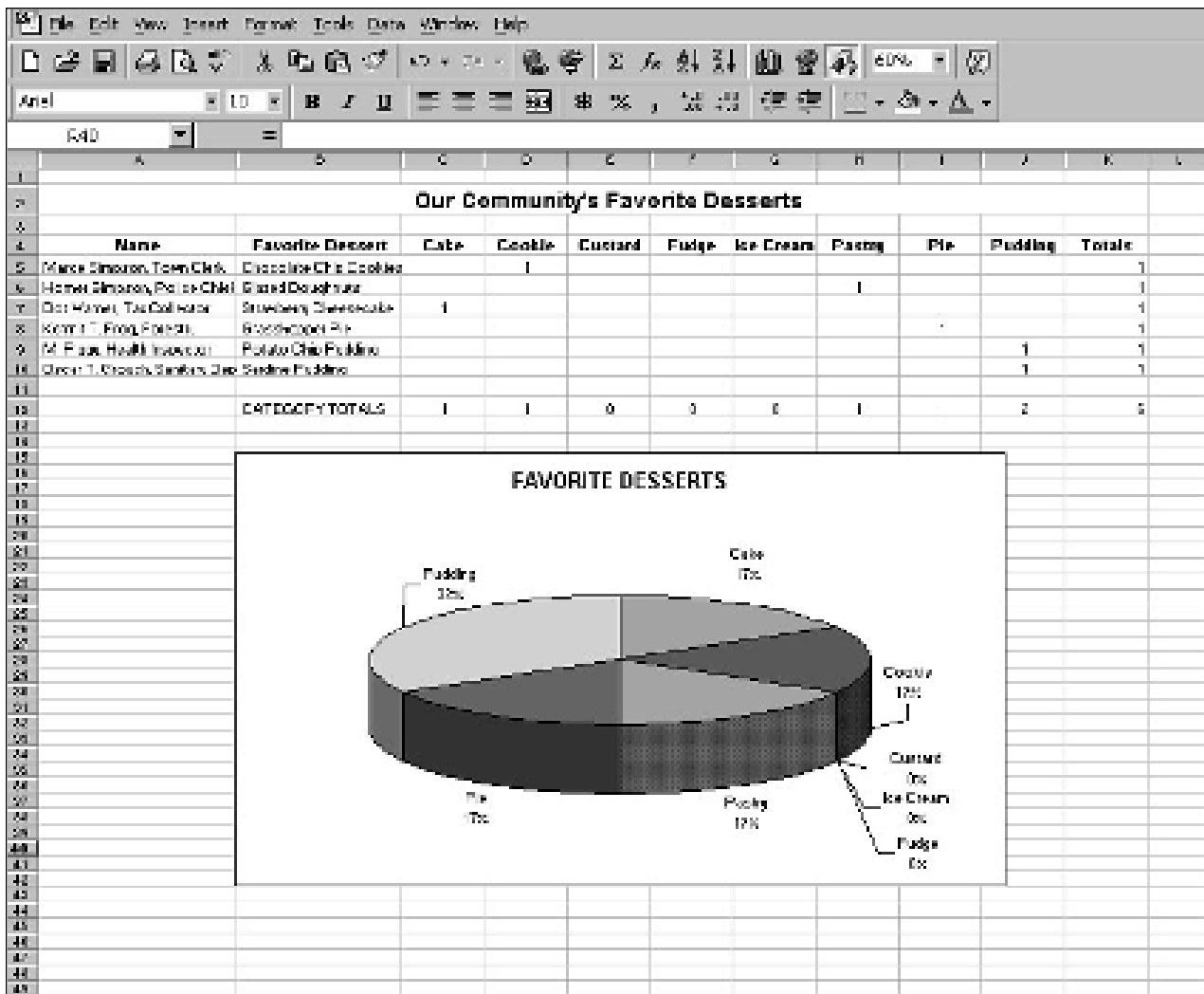
Example 3: **Pie chart as an object on worksheet in *Microsoft Excel***

folder of every computer that students will use to prepare their recipes.

Type recipe ingredients in the appropriate cells. *Word* table cells grow to fit the text you enter and automatically wrap within the cell when they reach the end of a line. Be sure to delete any unused rows and add new rows if necessary.

You may also want to use *Internet Explorer* to browse the Web for additional recipes to be included in your books.

Recommended Web Sites

◆ **Hershey's Chocolate**

Recipe Index
(http://www.hersheys.com/recipes/recipe.index.html)

◆ **Godiva's Super-Outrageous Ultra-Decadent Mega-Chocolate Desserts**
(http://www.godiva.com/recipes/recipes/chocolatier/mega-chocolate/index.html).

Once you are satisfied with the look of your recipe book, think about different ways you can sell it to raise money for a local charity. You might also want to write thank you letters to everyone who sent in a recipe and donation and include a recipe book with your note.

STEP 5

Sampling Recipies

SOFTWARE: None

WHAT TO DO: Decide on some recipes you'd like to try. You may want to invite survey respondents for a tasting as a way of saying "thank you."

Divide up the recipe ingredients and ask each student to bring in one or two items. Use the school kitchen to prepare the desserts, but only teachers should operate the stove or oven. Make sure students clean the kitchen before they leave! ■

MIDDLE SCHOOL

UNDERSTANDING POETRY

Teacher Guide

SUMMARY

In this lesson, students will use the Internet or library to find a poem they would like to research and analyze. They will then create an informal "working" paper on the poem, and create a multimedia presentation to explain the poem to classmates.

OBJECTIVES

◆ To build skills in literary analysis, expository writing and oral presentations

◆ To enhance students' appreciation of poetry

PREREQUISITE SKILLS

◆ Can navigate Web sites using *Microsoft® Internet Explorer*

◆ Knows *Microsoft® Powerpoint* features including slide transitions and adding sound effects

◆ Has basic knowledge of *Microsoft® Word*

TIME ALLOTED

Approximately 1 week

HOW TO BEGIN

One of the best ways for students to develop an interest in poetry is for them to explore a variety of anthologies and single poet collections. Regular expo-
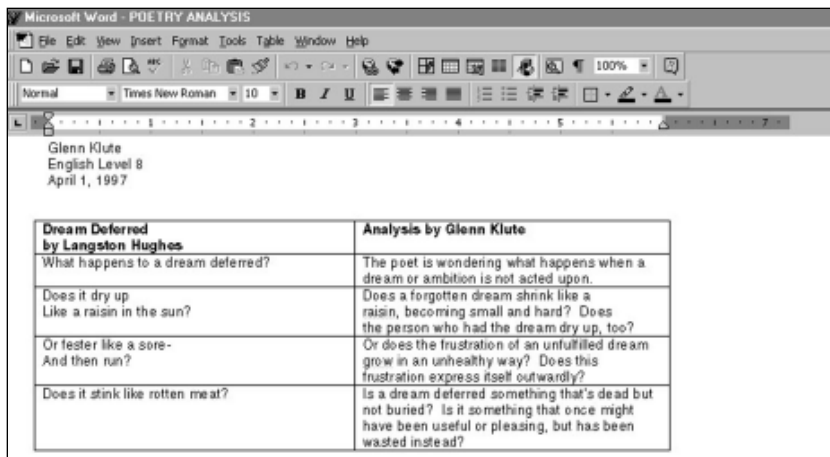
Analysis of "Dream Deferred" in a *Microsoft Word* table

sure to poetry will encourage students to pick up poetry books to browse through just as naturally as they would pick up story books.

Begin a discussion with your students about their favorite poets. Make a list of the poets they name on the chalkboard. Have students tell what they know about each poet. You might also suggest that they use *Internet Explorer* and a search engine such as Yahoo to locate Web sites devoted to the poets listed and to download some of their poems. Students might also enjoy visiting special poetry pages for kids like "Zia Kids Poetry Page."

Explain to students that in this lesson they are going to have the opportunity to research and analyze a poem that has particular meaning to them.

Recommended Web Sites
◆ **Zia Kids Poetry Page**
http://www.zia.com/
educate/books/epoet/htm

Adaptability

◆ For younger or less experienced students, make the lesson a class project. Choose a poem and work through its analysis together with the class. Then have students work in groups of four to create a multimedia slide presentation in Powerpoint about the poem. All four team members should participate in the presentation.

Student Activity

DESCRIPTION

In this activity, you will use the Internet to find a poem that you like and then research, analyze and present your interpretation of that poem to the class.

STEP 1

Researching Poems

SOFTWARE: Internet Explorer

WHAT TO DO: Use *Internet Explorer* or a poetry book from the library to choose a poem that you would like to analyze. Share any poems you find especially interesting with others in the class to build on and increase everyone's appreciation of poetry.
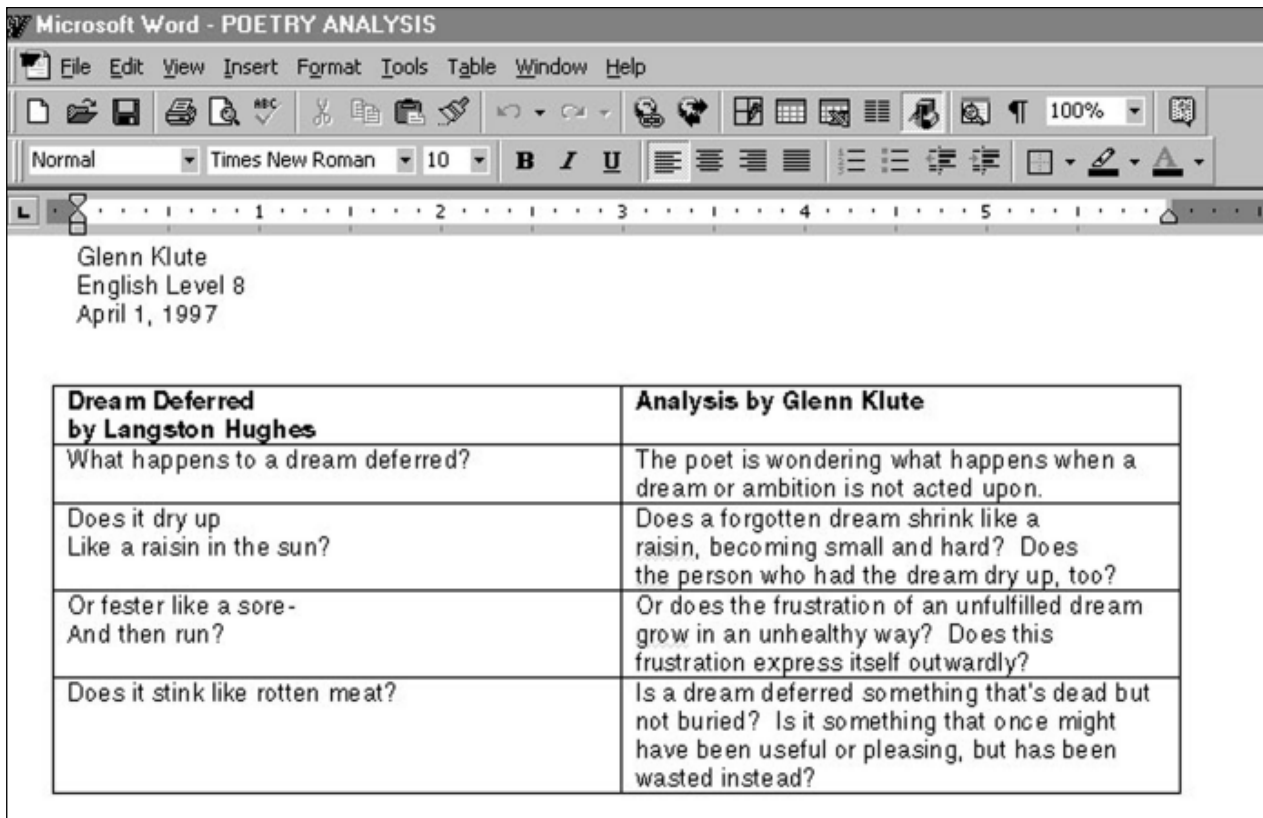
STEP 2

Analyzing the Poems

SOFTWARE: Microsoft Word

WHAT TO DO: In this part of the lesson you will be analyzing your poem in writing. Retyping your poem into a *Word* table will make it easy to analyze your poem line by line. Create a new *Word* document. At the top of the document type your name, the title of your poem, and today's date. Press Enter three times. To create a table, choose Insert Table from the Table menu, then OK (*Word* will automatically add more rows when you press tab while in last cell of an existing table).

Click in column 1, row 1 of your table. Type the name of your poem and the name of the author, then press Tab key. Type Analysis by, type your name, and then press Tab key.

In column 1, row 2 of the table type the first line of the poem, and then press Tab twice. In column 1, row 3 of the table, type the second line of the poem, then press Tab twice. Continue these steps until you have your entire poem typed in column 1 of the table - one sentence per cell (see example below).

Click in each cell in the right hand column and write a line-by-line explanation of the poem. The written explanation should sit beside the line of poetry it explicates (see Example 1). The

Dream Deferred by Langston Hughes	Analysis by Glenn Klute
What happens to a dream deferred?	The poet is wondering what happens when a dream or ambition is not acted upon.
Does it dry up Like a raisin in the sun?	Does a forgotten dream shrink like a raisin, becoming small and hard? Does the person who had the dream dry up, too?
Or fester like a sore- And then run?	Or does the frustration of an unfulfilled dream grow in an unhealthy way? Does this frustration express itself outwardly?
Does it stink like rotten meat?	Is a dream deferred something that's dead but not buried? Is it something that once might have been useful or pleasing, but has been wasted instead?

Example 1: **Analysis of "Dream Deferred" in a *Word* table from *Microsoft Word***

explication should include definitions of unfamiliar vocabulary, possible associations with the poem's images, and explanations of the poem's metaphors and meaning.

Click in the document below the table and describe why this poem has personal meaning to you. What do you identify with and why? What happened to you personally that helps you understand the poem? Include some autobiographical information that you feel comfortable sharing.

Keep in mind that this paper is a "working" document, not a polished piece. However, it should be accurate in its interpretation and must include analysis as well as some autobiographical information.

STEP 3

Presenting the Interpretation

SOFTWARE: Microsoft Powerpoint

WHAT TO DO: You are now going to present your interpretation of the poem to classmates by creating a five to ten minute slide presentation using *Powerpoint*. The presentation should have three key elements:

1. The poem must be read aloud at some time during the presentation — but not necessarily at the beginning.

2. The presentation must help the audience understand the poem.

3. The meaning of the poem must be expressed both verbally and through images and sound added to your *PowerPoint* presentation.
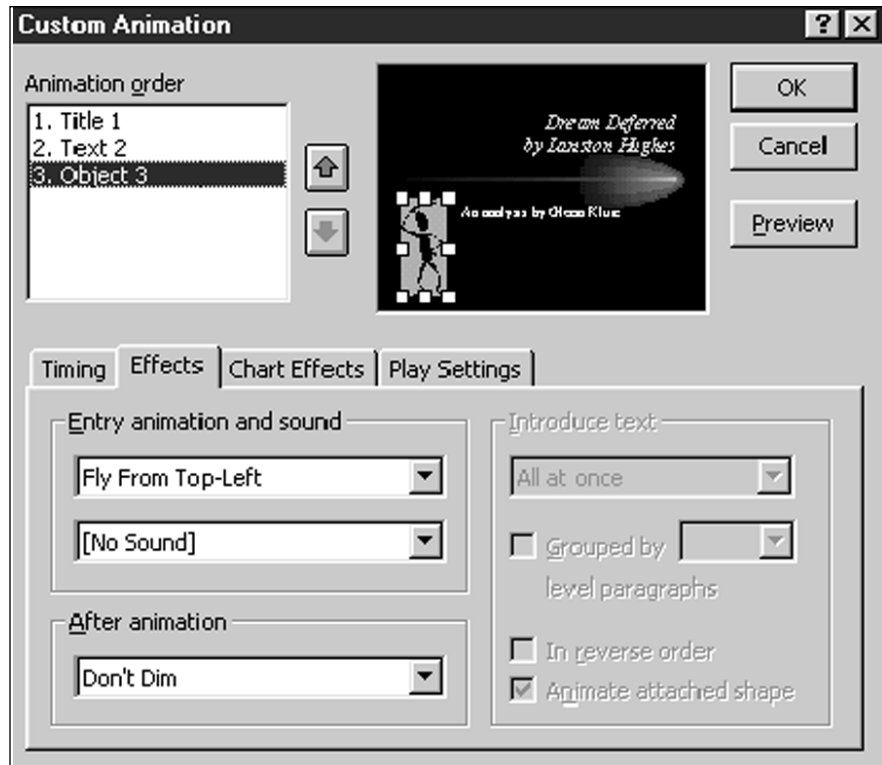
Example 2: **Custom Animation option from *Powerpoint*'s Slide Show menu**

STEP 4

### Presentation Tips

SOFTWARE: Microsoft Powerpoint

◆ Take advantage of the many features of *PowerPoint* to make your slide shows creative and interesting. Experiment with color, backgrounds, text styles, clip art, office art drawing tools, slide transitions, and custom animations.

◆ To animate a slide, choose Custom Animation from the Slide Show menu (see Example 2.) Consider using music, sound effects, or recorded narration. Choose Record Narration from the Slide Show menu. To learn more about adding music, sound and video to your presentation, ask the Office Assistant about "multi-

media." To learn more about using your *PowerPoint* presentation on the Web, ask the Office assistant about the "Web."

◆ Practice your presentation with a classmate. Be sure to speak loudly, clearly, and enthusiastically, but not too fast. Time your presentation by choosing Rehearse Timings from the Slide Show menu. Run through each slide of your presentation just like you would deliver it, then click the right arrow to move to the next slide. You can review the timings in the Slide Sorter view. The listener should take notes. Is anything in the presentation confusing? Is anything particularly interesting or great? Practice giving each other constructive feedback. ■

◫ ÷×= ☀ **MIDDLE SCHOOL**
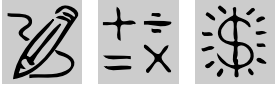
REQUIRED SOFTWARE
◆ MICROSOFT WORD 97
◆ MICROSOFT EXCEL 97
OPTIONAL SOFTWARE
◆ INTERNET EXPLORER
◆ MICROSOFT WORKS

MAKING ENDS MEET

Teacher Guide

SUMMARY

In this real-life simulation, students create a monthly budget, showing income earned from an imaginary job versus estimated monthly expenses. They then encounter unexpected monthly expenses and must adjust their budget to compensate for those expenses. Finally, they write a report evaluating the activity and what they learned about "making ends meet."

OBJECTIVES

◆ To have students prepare a monthly budget using *Microsoft Excel*

◆ To estimate a monthly food bill based on a weekly food menu

◆ To have students evaluate the activity in a thoughtful essay

PREREQUISITE SKILLS

◆ Knows how to create a *Microsoft® Excel* worksheet including formatting cells, creating basic formulas, and saving and printing the worksheet

◆ Knows how to use *Microsoft® Word* to create a document, including creating tables

◆ Can access the World Wide Web using *Microsoft® Internet Explorer*

TIME ALLOTTED

Approximately one week

HOW TO BEGIN

Begin a discussion about the "cost of living" by asking stu-

Monthly budget worksheet created in *Microsoft Excel*

dents questions such as: "How much do eggs cost?" What is the bus fare from your home to another part of town?" "What is the average rent for a one-bedroom apartment?"

Next, discuss the average beginning salaries for various jobs. Suggest that students research salaries by using *Internet Explorer* to visit the Job Market section of the The New York Times Online. You can also have students consult the Help Wanted database published by CareerPath.com for a list of jobs advertised in selected newspapers around the country.

Explain to students that in this activity they will prepare a monthly budget comparing income versus living expenses.

Recommended Web Sites
◆ **The New York Times Online**
http://www.nyTimes.com

◆ **CareerPath.com**
http://www.careerpath.com

A d a p t a b i l i t y

◆ Explain to younger students that they will be trying to save money from an allowance for a big purchase, such as a trip to Disney World, or a new computer. Assign each student a fictitious monthly allowance and have them create a Monthly Budget in *Microsoft Excel*. How much money do they have left at the end of the month? How long will it take to save for their special purchase?

Student Activity

DESCRIPTION

In this activity, you will create a monthly budget based on income earned from a fictitious job versus estimated living expenses (including rent, transportation, food, and leisure time activities). If your expenses exceed your income, you will need to determine where to cut back your monthly expenses in order to "make ends meet." You will also encounter unexpected monthly expenses which will force you to adjust your monthly budget. Finally, you will write a report using *Microsoft Word*, evaluating the activity.

STEP 1

Prepare a Budget Worksheet

SOFTWARE: Microsoft Excel

WHAT TO DO: Open a *Microsoft Excel* worksheet and create a monthly budget template, following Example 1. Be sure to include the following expense categories: rent, utilities, transportation, food, medical expenses, clothing, leisure activities, and miscellaneous.

In Cell B11, type the formula: **=sum(B3:B10)** or use *Microsoft Excel*'s AutoSum function to add up the cost of these expenses.

In Cell B13, type in your monthly net income (your gross income minus taxes and other deductions). Job salaries typically refer to income before taxes. To determine how much money you will actually have to spend after taxes, if you make

$15,000 per year, estimate Federal taxes at 8.5%. If you make $20,000, estimate taxes at 10%. Federal tax forms may be downloaded from the Web using *Internet Explorer* (http://www.1040.com).

Now, in Cell B14, type: **=B11**. And in Cell B15, insert a formula to calculate the difference between Income and Expenses, such as: **=(B13-B14)**.

STEP 2

Estimate Expenses

SOFTWARE: Microsoft Excel

WHAT TO DO: Consult your local newspaper or real estate magazines to get an idea of how much it costs to rent a house or an apartment in an area you would

like to live. Type in the monthly rent and the estimated cost of utilities (gas and electric) in your worksheet.

Next, assume the cost of transportation (car payment, insurance, gas) to be $220.00.

For the other items in your budget (other than food), estimate your monthly expense and type in that amount in the appropriate cell.

STEP 3

Create a Food Budget

SOFTWARE: Microsoft Word; Microsoft Excel

WHAT TO DO: To determine your monthly food budget, open a *Word* document and choose

	A	B	C
1		**MONTHLY BUDGET**	
2	**ITEM**	**AMOUNT**	**COMMENTS**
3	Rent	$250.00	
4	Utilities	$50.00	Phone and Electric
5	Transportation	$220.00	Car payment, insurance, gas
6	Food	$200.00	
7	Medical Expenses	$35.00	Insurance contribution
8	Clothing	$75.00	
9	Leisure Activities	$80.00	Movies, dining out, etc.
10	Miscellaneous	$50.00	
11	**TOTAL**	960	
12			
13	INCOME	$1,225.00	
14	EXPENSES	$960.00	
15	**SAVINGS**	$265.00	

Example 1: **Monthly budget worksheet created in *Microsoft Excel***
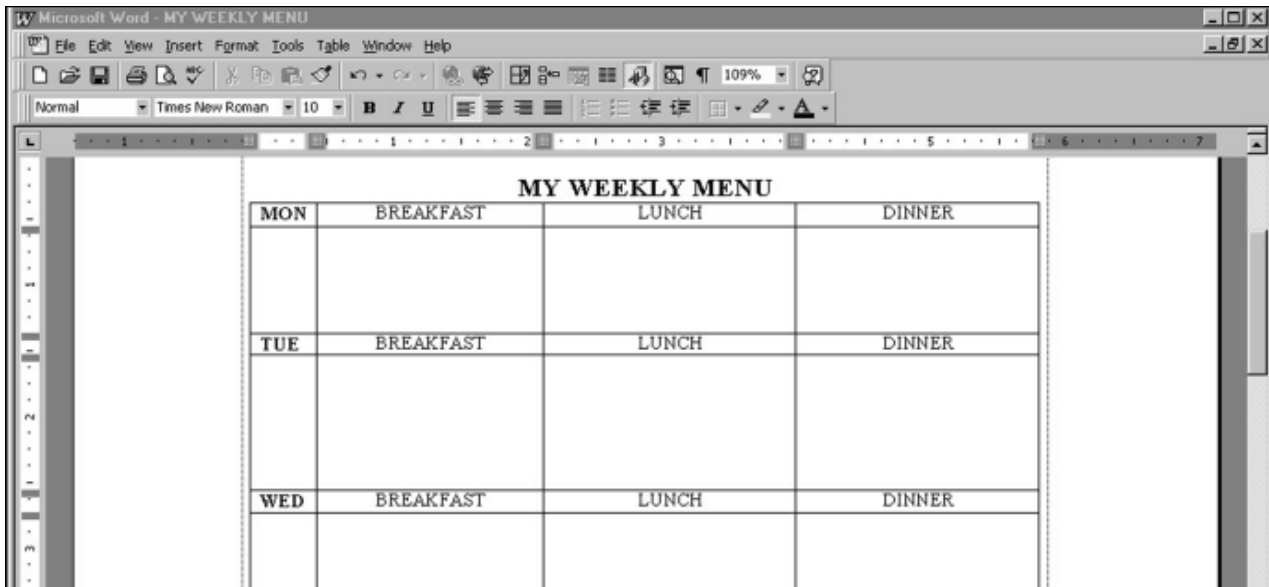
Example 2: **Menu Table created in** *Microsoft Word*

Insert Table from the Table menu. Design a Weekly Menu table similar to the one in Example 2.

Use this table to write down what you plan to eat and drink at each meal for one week. Be sure to include snacks.

Now, figure out what you must buy at the grocery store to produce this menu. In a *Microsoft Word* document, list the items needed according to categories, such as fruit, meat, dairy, and the quantity of each item. Print out a copy of your food list. Then, visit a local supermarket and list the prices of the items on your list according to quantity. (For example, for two cans of soup at $1.15 each, list $2.30.)

Add the total cost of your weekly food budget. Multiply by four and one half weeks to get an estimate of your monthly food budget. Type this number into the food category of your monthly budget.

◆ TIP! To create a wider layout for your Weekly Menu, click on the File Menu and then Page Setup and Paper Size. Then in the Orientation Box, click on Landscape.

◆ TIP! Number table pages by choosing Header and Footer from the View menu. Click the Switch Between Header and Footer button on the Header/Footer toolbar to jump to the Footer section, enter Page, then click the Insert Page # button.

◆ TIP! Remember to choose Spelling and Grammar from the Tools menu to spell check the menu before printing.

STEP 4

Evaluate Your Budget

SOFTWARE: Microsoft Excel

WHAT TO DO: Once you have typed in all of your monthly expenses, your worksheet will show you whether or not you are "making ends meet." Do your expenses exceed your income? If so, you must decide where to cut back so that your expenses do not exceed your income.

Now select one of the unex-pected financial problems listed below. Using *Word*, explain how you would adjust your budget to account for this unexpected expense. Explain your rationale.

Then adjust your budget in your *Microsoft Excel* worksheet to account for this additional monthly expense.

◆ You forget to pay our phone bill and your phone service is shut off. To turn it back on, the phone company wants $50.

◆ The lease on your apartment is up for renewal and the land-lord wants a 5% increase. How much will your increase be? How will you adjust your budget to account for this increase?

◆ Your dog gets sick and the medicine costs $150.

Now use *Word* to write a report explaining what you've learned from this activity. Include information copied from your Excel worksheet as illus-tration whenever possible. Include ways in which you might be able to stretch your budget (for example, take in a roommate to share the rent). ■

ANIMAL LOGIC

Teacher Guide

SUMMARY

This lesson gives students an opportunity to study the traits of three groups of animals and use the information gathered to draw conclusions about how the animals are alike, and how they are different. This exercise is designed to give students an understanding of how shared characteristics can be used in zoological classification.

OBJECTIVES

◆ To show students how a collection of objective traits can be used to classify living things

◆ To apply the concept in a three-way statistical analysis

◆ To form conclusions based on statistical analysis

PREREQUISITE SKILLS

◆ Knows how to open and develop a *Microsoft® Excel* worksheet and use its many functions, including the Autofilter

◆ Knows how to create a *Microsoft® Word* document

◆ Can access information from *Microsoft® Encarta® 97 Encyclopedia*

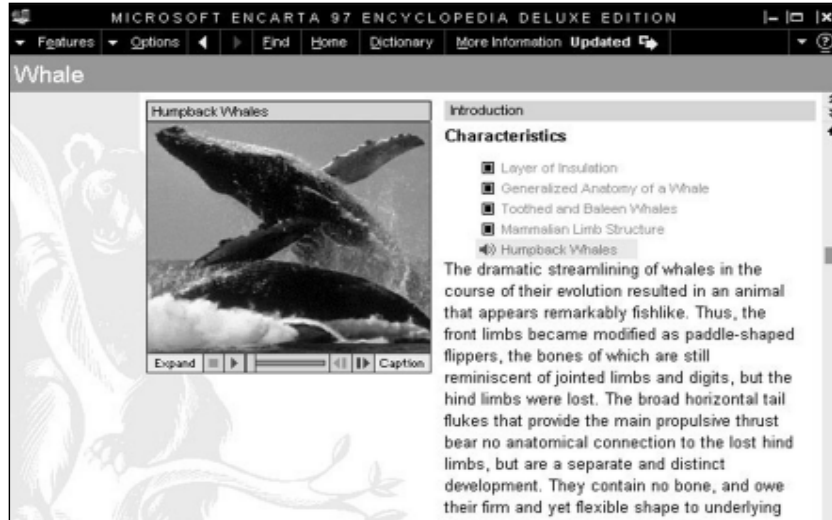◆ Knows how to use *Microsoft® Internet Explorer* to access the World Wide Web

TIME ALLOTTED

Approximately one week

Screen shot of "Whales" from *Encarta 97 Encyclopedia*

HOW TO BEGIN

Explain to students that zoology is a science that deals with animals. Zoologists learn about animals by comparing how animals are similar to and different from each other.

Tell students that in this lesson they will compare three groups of animals based on a list of objective traits, and draw conclusions about the three animals. The first animal in each group is the standard to which the other two animals will be compared.

Invite students to discuss qualities that all animals have in common. What other subgroups for classification can they suggest?

(Note: The animal groups selected were chosen because a comparison of traits might lead to an unexpected conclusion.)

Extension Activities

◆ Suggest that students research the taxonomy of the animals, including their scientific names and placement on tree diagrams.

◆ Have students write a short paragraph using *Microsoft Word* explaining what they learned.

◆ Introduce the topic of biodiversity. Use *Encarta* Biodiversity Collage to learn more about the variety and complex interrelationships of other animals, plants, and living organisms.

Student Activity

DESCRIPTION

In this activity, you will research the characteristics of three different animals in three different groups and conduct a comparative analysis of those animals using *Microsoft Excel*.

STEP 1

Making Predictions

SOFTWARE: Microsoft Word

WHAT TO DO: Look at the three animal groups listed in Chart I. Open a *Word* file and write down a prediction about which two animals in each of the three groups you think might be most alike and why.

Example 1: **Animal Logic worksheet created in *Microsoft Excel***

	ANIMAL LOGIC		
	WHALE	SHARK	ELEPHANT
VERTEBRATE	1	1	1
WARM BLOODED	1	0	1
LIVE YOUNG	1	1	1
OMNIVORE	1	0	0
SKIN	1	1	1
SOCIAL	1	1	1
LUNGS	1	0	1
TOTAL	7	4	6

STEP 2

Researching the Animals

SOFTWARE: Microsoft Encarta; Internet Explorer

WHAT TO DO: Use *Encarta* to research each of the animals listed below, putting together a list of objective traits for each animal. You can select those traits from the list in Chart II. To limit your search, enter keywords with modifications, such as "whales, zoology." For more information about these animals, you might also use *Internet Explorer* to browse a related Web site.

STEP 3

Setting Up

SOFTWARE: Microsoft Excel

WHAT TO DO: To organize your research, open a *Microsoft Excel* worksheet and type the heading: "Animal Logic" in cell A1. To set up your worksheet for the Novice Group of animals, follow these steps:

In row 2, starting in cell B2, type the first three animals to be compared (e.g., whale, shark, elephant). Be sure to list the animals in the order they are listed in Chart I.

In Column A, starting at cell A3, type a list of the objective traits that apply to the whale --

CHART I–ANIMAL GROUPS

Novice Group	Intermedia Group	Advanced Group
◆ whale	◆ bat	◆ spider
◆ shark	◆ owl	◆ shrimp
◆ elephant	◆ mouse	◆ ant

CHART II–OBJECTIVE TRAITS

◆ Vertebrate/invertebrate	◆ Gives birth to live young
◆ Exoskeleton	◆ Carnivore/herbivore/ omnivore
◆ Warm-blooded/cold-blooded	◆ Nocturnal/diurnal
◆ Number of legs	◆ Has exterior fur/feathers/skin
◆ Number of eyes	◆ Lives in a social group/alone
◆ Navigates primarily by ...	◆ Lungs/gills
◆ Lays eggs	◆ Flies/swims/walks

	A	B	C	D	E
	Microsoft Excel - ANIMAL LOGIC #1				
	File Edit View Insert Format Tools Data Window Help				
	SUM	=SUM(B3:B9)			
1		ANIMAL LOGIC			
2		WHALE	SHARK	ELEPHANT	
3	VERTEBRATE	1	1	1	
4	WARM BLOODED	1	0	1	
5	LIVE YOUNG	1	1	1	
6	OMNIVORE	1	0	0	
7	SKIN	1	1	1	
8	SOCIAL	1	1	1	
9	LUNGS	1	0	1	
10	TOTAL	=SUM(B3:B9)			
11					

*Example 2: **Microsoft Excel** formula to total list of objective traits*

the first animal in the Novice Group (see Example 1). Each trait should be expressed as briefly as possible. Modify column and row size so that animal names and headings will fit.

In Column B, beginning in cell B3, type the number 1 in the cell next to each trait. The 1 indicates that the whale possesses each of the traits listed.

Using the information you've collected, fill in the cells under Shark and Elephant. For each animal, type the number 1 to indicate that the animal possesses a particular trait; type 0 to indicate that the animal does not possess the trait. For example, type 1 in Cell C3 to indicate that a shark is an animal with a vertebrate.

At the end of your list of traits in Column A, type the word Total. Then, in the cell to the right of that, type the formula **=sum(B3:BX)** where X is the number of the last row in your list of objective traits (see Example 1). Press Enter.

Now, copy the formula in the next two cells to the right. Ask the Office Assistant how to "fill adjacent cells."

STEP 4

Interpreting the Results

SOFTWARE: Microsoft Excel

WHAT TO DO: The first animal in each list of three is the standard to which the two other two animals are being compared. The total score for the first animal equals the most traits that can be shared in the analysis.

Compare the total similar traits of the other two animals. Which is most like the first animal? Is the conclusion as you expected or is it surprising?

To see the traits that all three animals have in common, use AutoFilter. Just follow these steps.

First, click cell B2, choose Filter from the Data menu, then select AutoFilter. A dropdown arrow will appear next to the name of each animal in row 2.

Click the dropdown arrow next to Whale in cell B2 and choose "1." Repeat the same procedure for cell C2 and D2.

These are the traits all of the three animals have in common. Repeat the procedure above and show the traits that none of them have.

To turn off AutoFilter, choose Filter from the Data menu, then choose AutoFilter.

STEP 5

Reporting the Results

SOFTWARE: Microsoft Word

WHAT TO DO: Record and interpret your findings using *Word*. How are the animals alike? How are they different? Did any of the results surprise you? Why or why not? Zoologists ask these questions all of the time.

Be sure you incorporate the worksheet data created in *Microsoft Excel*. Also, you can copy pictures from *Encarta Encyclopedia* or the Internet sites into your *Word* document. ∎

NEWSWORTHY JOURNEY

Teacher Guide

SUMMARY

In this lesson, students embark on a historical journey to the ancient civilization of Egypt or Mexico to produce a newspaper that reflects the cultural, political, economic, and religious views of the people living in those societies at that time.

OBJECTIVES

◆ To familiarize students with descriptive, narrative, and persuasive writing styles

◆ To use desktop publishing techniques to produce a newspaper about the daily lives of people who lived long ago

◆ To combine social studies with language arts for an integrated approach to learning

PREREQUISITE SKILLS

◆ Knows the basics of *Microsoft® Word* or the word processing program in *Microsoft® Works*

◆ Knows the basics of *Microsoft® Publisher 97*

◆ Can access information from *Microsoft® Encarta® 97 Encyclopedia*

◆ Can access the World Wide Web

TIME ALLOTED

Approximately four weeks

Ancient Egypt Web page downloaded from *Internet Explorer*

HOW TO BEGIN

Brainstorm with students about what life was like for men, women and children living in ancient Egypt or Mexico. Discuss class structure, division of labor, the roles that people played and the jobs they held.

Explain to students that they will be working in groups to produce a newspaper reflecting life in those societies at that time. Then have students bring in copies of several daily newspapers. Discuss the different sections of the paper including the Front Page, Business, Op-Ed, Travel, and Arts & Leisure as well as the various writing styles each section employs. Point out that articles in the Travel section might use a narrative style, while the Real Estate or Arts & Leisure sections are better served by a descriptive style. Editorials and Advertisements, however, often exhibit a persuasive writing style. Discuss the differences in these three writing styles.

Adaptability

◆ Younger students can produce simple newspapers using the Newsletter option in *Microsoft Greetings Workshop*. First, have them click on the "Signs & Flyers" project, and choose a template from the "Family News" category. They can then enter their own text and choose different graphics from the graphics library.

Student Activity

DESCRIPTION

In this activity, you will work with classmates to write and produce a daily newspaper that might have been published in ancient Egypt or Mexico.

STEP 1

Exploring Newspapers

SOFTWARE: Internet Explorer

WHAT TO DO: Use *Internet Explorer* to visit the Web pages of popular daily newspapers like USA Today, The New York Times, and The Washington Post. Examine the layout of these newspapers and read articles by professional reporters. What sections do these papers include? What are the similarities and differences between printed newspapers and their online counterparts?

Recommended Web Sites

◆ **USA Today**
   http://www.usatoday.com

◆ **The New York Times**
   http://www.nytimes.com

◆ **The Washington Post**
   http://www.washingtonpost.
   com

STEP 2

Gathering Research

SOFTWARE: Microsoft Encarta 97; Internet Explorer

WHAT TO DO: Use *Encarta 97 Encyclopedia* to research the political, economic, and cultural characteristics of ancient Egypt

Example 1: **The Home Page for a Mayan Web site in *Internet Explorer***

or Mexico. Using the encyclopedia's Find command, search for articles with keywords such as Egypt, Maya, and Pyramids.

Click "More Information" for a list of related articles with additional facts about a selected topic. Click WebLinks to view links to related Web sites. You can also choose the Online Library option to connect to the *Encarta* online site with additional information on the topic.

Encarta text, maps, images, and image captions may be copied and pasted into another application. Configure encyclopedia settings so that you can select Tools from the Features menu and automatically launch *Microsoft Word*. Information sources should be automatically cited in your document. If not, you should add them.

You may also want to use *Internet Explorer* to visit the Web pages of sites highlighting the civilizations of ancient Egypt and Mexico (see Example 1).

Recommended Web Sites

◆ **Egypt**
http://users.skynet.be/sky69900/

◆ **Mayan**
http://www.wotw.com/MundoMaya/mexico/yucatan/

STEP 3

Writing the Articles

SOFTWARE: Microsoft Word

WHAT TO DO: Use *Word* to write articles for the different sections of your newspaper. Include at least one feature article, a Letter to the Editor, a classified ad, and an advertisement. You may also want to include articles on sports, travel, arts and leisure or business.

Use your imagination in creating your stories and advertisements. For example, you might write a general interest article on the life of a typical teenager in ancient Mexico. Or, for your
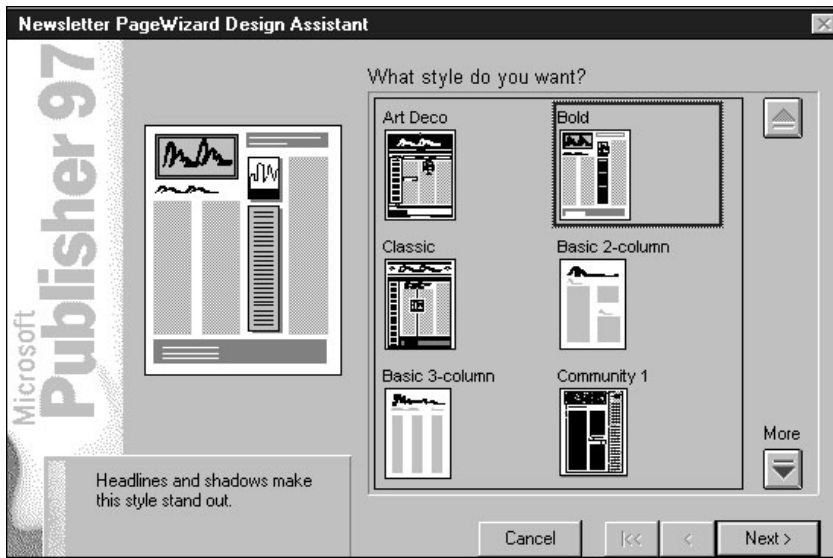
Example 2: **The Bold newsletter template from** *Publisher 97*

Example 3: **Newsletter created with** *Publisher 97* **Newsletter PageWizard**

Egyptian newspaper, you might write an article reporting on the festivities surrounding opening day at a new pyramid. You might include an advertisement in your Egyptian newspaper for "Camels R Us," a dealer in desert transportation, or for a travel agent specializing in luxurious holiday stay at the Chichen Itza Hilton.

Be sure to illustrate stories with pictures, tables, and charts wherever possible.

After proofreading and spell checking the story text, print out a first draft to share with group members for feedback or use the Reviewing feature in *Word* to make comments online. Edit and revise your stories where appropriate and then submit stories to your teacher for evaluation. Your teacher can also make comments online. Once you have received teacher comments and suggestions, revise your writing a final time for publication.

STEP 4

Create Your Newspaper
SOFTWARE: Microsoft Publisher 97

Use the Newsletter PageWizard in *Publisher* (any version) to create your newspaper layout (see Examples 2 and 3). Add visual impact by using *Publisher*'s Fancy First Letter option from the Format menu to alter the size of a paragraph's first letter.

Click the newsletter headline and use the Design Gallery option in the Tools menu to change the style of the masthead. You can do the same for the table of contents and sidebar, etc. Finally, import text from articles already written. ∎
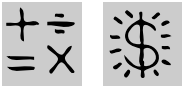
BUY LOW, SELL HIGH

Teacher Guide

SUMMARY

This lesson will teach students how to invest in corporate stocks by creating investment "portfolios." Step-by-step instructions will enable students to develop worksheets that track their portfolio's performance over a specified time period and report the results to the class.

OBJECTIVES

◆ To introduce students to the stock market

◆ To design a worksheet that calculates profit (or loss) for any given investment

◆ To generate line graphs representing stock performance

PREREQUISITE SKILLS

◆ Knows *Microsoft® Excel* basics and its many features including creating worksheets and charting

◆ Knows how to create an electronic slide presentation using *Microsoft® PowerPoint®*

◆ Knows how to access the World Wide Web using *Microsoft® Internet Explorer* (optional)

TIME ALLOTTED

Approximately six weeks to three months

HOW TO BEGIN

Introduce students to the Stock Market summarizing its role in U.S. economic history (e.g., the

Stock portfolio worksheet created in *Microsoft Excel*

great crash of 1929). Define terms that students are likely to encounter in their research such as portfolio, dividend, and price/earnings ratio (i.e. stock price divided by stock earnings per share.) Have students bring in the business section of newspapers that publish stock market information and explain to them how to read a stock quote. Have each student choose five compa-

nies whose stock they want to purchase. Explain that everyone in the class will start with $1,500 as seed money to purchase stocks at the current market value and that they will track their portfolio's performance over a period of time from six weeks to three months. Finally, discuss with students the effectiveness of line charts in presenting their results.

E x t e n s i o n   A c t i v i t i e s

◆ Have students consider trading their stock (buying or selling shares) during the specified time period.

◆ Have students create a Summary worksheet of their investments. Columns should contain cells that reference initial investments, total shares owned, current price/share, and profit/loss figures for every company in the portfolio.

Student Activity

DESCRIPTION

In this activity, you will invest $1,500 in five different companies and then track the stock market price of those companies over a period of time.

STEP 1

Research The Market

**SOFTWARE: Microsoft Encarta, Internet Explorer**

WHAT TO DO: Choose ten companies in which you think you would like to invest. Using Microsoft's *Internet Explorer* and a search engine such as Lycos or Yahoo, access each company's Web site in order to gather as much background information as possible about each company, including:

- Type of company
- Number of years in business
- Summary of what the company does
- 1996 profits
- 1997 profits (thus far)

Now, review the information gathered and decide on five companies in which to invest. Find out the current selling price per share for each company's stock. Decide how many shares of stock you want to buy in each company keeping in mind that you have only $1,500 to invest.

TIP! *Encarta* 97 includes several helpful articles about the stock market. Use the encyclopedia's Find command to search for keywords such as "Stocks and Bonds," "Finance," and "Stock Exchange."

TIP! Using *Internet Explorer,* visit a Web site called "Investing for Kids" (see Example 1) or "StockMaster,"
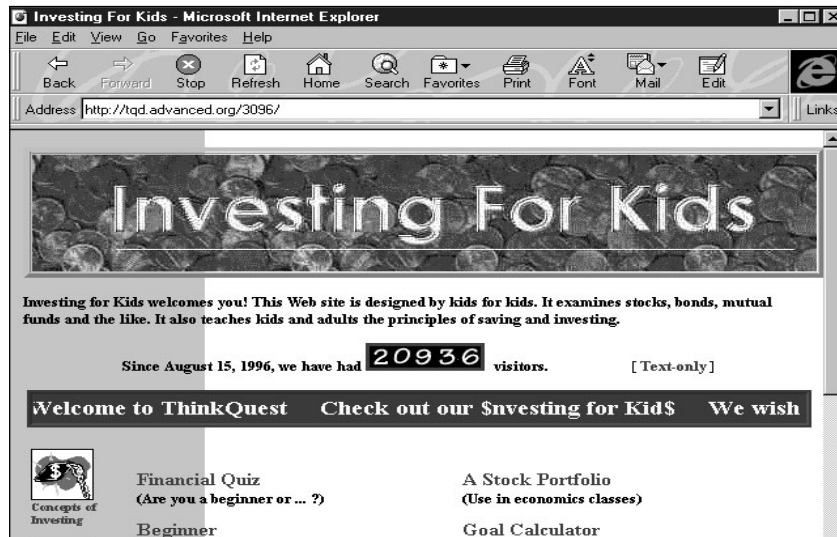
Example 1: **"Investing for Kids" Web site (from *Internet Explorer)* at http://tqd.advanced.org/3096**

the stock market site referenced in the Web Links section of *Encarta*. Or, you can access a wealth of business news and financial information to track the performance of selected stocks by visiting the Web site of "Microsoft Investor."

Recommended Web Sites

- **Investing for Kids**
  http://tqd.advanced.org/3096
- **StockMaster**
  http://www.stockmaster.com
- **Microsoft Investor**
  http://www.investor.msn.com

STEP 2

Create A Spreadsheet

SOFTWARE: Microsoft Excel, Microsoft Word

WHAT TO DO: Open Microsoft Excel. Add 2 new worksheets to your workbook so you have a worksheet for each of the five companies in your investment portfolio.

TIP! Adding worksheets is easy. Simply click Worksheet from the Insert menu. Use the Office Assistant to learn how to rename a worksheet.

For each company's worksheet, you will input (a) some basic information about the company, such as the company Symbol (the unique symbol assigned to a NASDAQ security) and the name of the particular Stock Exchange that lists the stock; (b) an Initial Investment section; and (c) a Daily Record section (see Example 2).
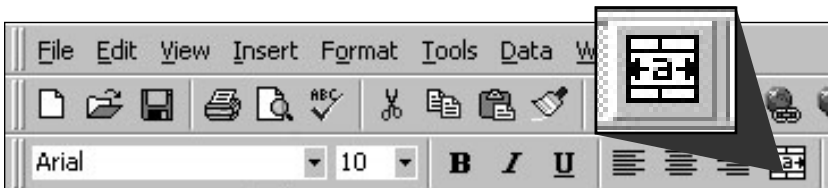
Here are some step-by-step instructions to get you started with your worksheets:

- In cell A1, type the company name, for example, ACMEDIATE Corporation

- Highlight A1:E1; then click Merge and Center on the Formatting Toolbar to center the company name (see Example 3).

- In cell A3, type "Symbol:"followed by the company's four-letter symbol, for example, ACME; in cell E3, type "Initial

Example 2: **Stock portfolio worksheet created in *Microsoft Excel***

Example 3: **Merge and Center icon on the Formula Toolbar**

Investment" followed by the total amount of money (number of shares times the price per share) you are investing in that company. Your total investment equals the total price paid for the stock.

◆ In cell A4, type "Exchange:" followed by the name of the exchange listing the stock.

TIP! To enlarge a cell, point to the column border, the cursor will change to a two-headed arrow. Now, drag the column to the desired width.

TIP! Format all currency for two decimal places by choosing Cells under the Format menu, clicking the Number tab, and then selecting Currency under Categories. In the Decimals places enter the number 2 (see Example 4.)
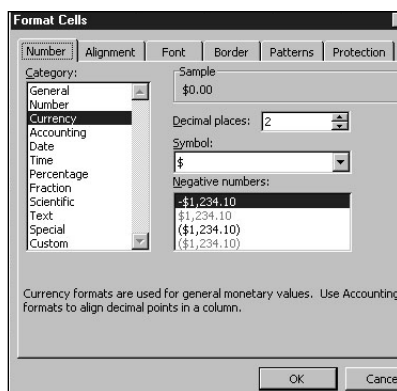
STEP 3

Invest In Your Companies

SOFTWARE: Microsoft Excel

WHAT TO DO: To create the Initial Investment section of your worksheets, try these tips:

◆ In cell A6, type "Initial Investment" and change to bold face type.

Example 4: **Format Cells dialog box**

◆ In cell A7, type "Date of Transaction."

◆ In cell C7, type "$/Share"; in D7, "# of Shares Bought"; in E7, "Total Investment".

◆ Highlight A7:E7

◆ Right click the highlighted cells, then choose Format cells.

◆ Click Alignment, select Center.

◆ In cell A8, type the date of the initial transaction

TIP! At this point you may want make four copies of the worksheet to use as a template for each company's stock that you track. Select Move or Copy Sheet from the Edit menu, click the Create a Copy check box, then repeat this procedure for as many copies as you need.

◆ In cell C8, type the cost per share (e.g., 20 3/4) as listed on the stock exchange. *Microsoft Excel* will automatically convert this figure to decimals. Be sure to format the number for two decimal places.

◆ In cell D8, type the number of shares bought. In cell E8, type the formula: **=C8*D8** and press enter. The total cost of your investment will automatically be calculated. Format to two decimals places.

STEP 4

The Daily Record Section

SOFTWARE: Microsoft Excel

WHAT TO DO: To create The Daily Record section of the worksheet, follow these steps

◆ In cell A9, type "Daily Record."

◆ In cell A10, type "Date of Transaction"; in B10, "#/Shares";

in C10, "$/Share"; in D10, "Current Value"; in E10, "Profit/Loss".

◆ Highlight A10:E10 and center and wrap text.

◆ Beginning with cell A11, highlight the range of data in Column A you will be entering on your worksheet, for example , A11:A22. Right click the highlighted cells. Choose Format Cells. Click the Number tab. Click Date, then choose Type of Date. Click OK.

◆ In cell B11, type the number of shares bought. Ask the Office Assistant "How do I fill down?"

◆ In cell C11, record the price of your stock on the first date of transaction.

◆ In cell D11, type the formula: **=B12*C12**.

◆ In cell E11, create a formula that calculates Profit/Loss by taking the Current Value (D12) minus the initial investment (E8). The formula should refer to D8 as an absolute reference- **=D12-E8**.

Example 5: **Highlighted data to create** *Microsoft Excel* **line chart**

TIP! Look up "cell references" in Office Assistant to learn more about this term. Ask the Office Assistant how to format Column E for currency.
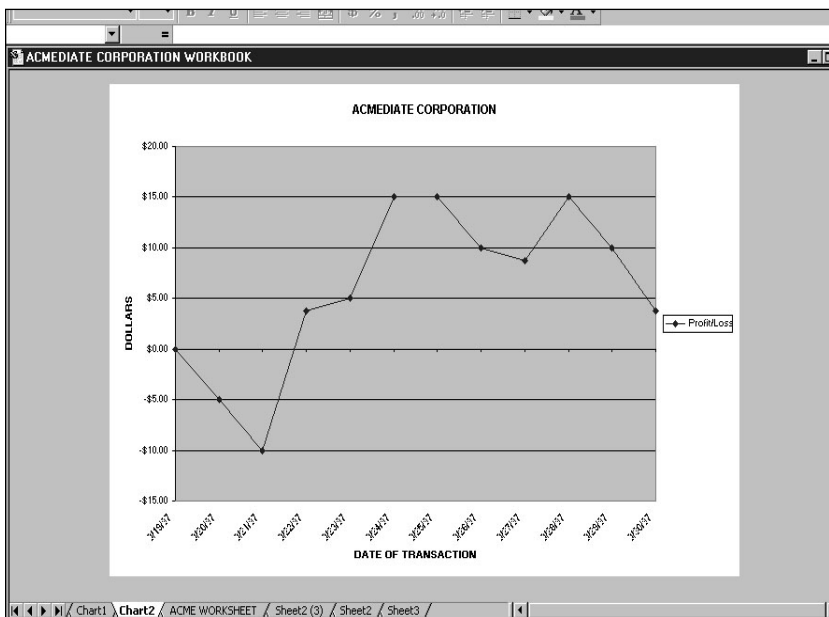
STEP 5

Tracking Stocks

SOFTWARE: Microsoft Excel

WHAT TO DO: At the end of the stock performance period, use the Chart Wizard in *Microsoft*

Example 6: **Line chart created in** *Microsoft Excel* **showing profit/loss.**

Excel to create a line chart showing "profit or loss" for each stock you invested in.

Highlight the range of data you've entered on your worksheet, for example, E12:E23 (see Example 5). Click Chart from the Insert menu, then choose Line and step through the procedures for creating a line chart. Be sure to add a chart title. Label the chart's X and Y axes (see Example 6). Why does the line chart do a better job of representing the stock data than a pie chart? For more help, ask the Office Assistant about "charting."

STEP 6

Reporting The Results

SOFTWARE: Microsoft Word,
Microsoft PowerPoint

WHAT TO DO: Summarize your stock market experience in a printed report using *Word* and incorporate worksheets and charts copied from *Microsoft Excel*. Or, create a slide presentation using *PowerPoint*. The presentation should summarize the company's stock performance and any trends that are apparent. ■

BRIDGING THE GENERATION GAP

Teacher Guide

SUMMARY

Students get a real life lesson in Sociology as they create a hypothesis about the attitudinal differences between generations, test their hypothesis with a survey, chart their findings, and present their answers to the class.

OBJECTIVES

◆ To introduce students to the process of creating a hypothesis and testing its validity

◆ To familiarize students with spreadsheet fundamentals

◆ To encourage thoughtful discussion about generational differences

PREREQUISITE SKILLS

◆ Knows the basics of *Microsoft® Word* or the word processing program in *Microsoft® Works*

◆ Knows how to create a basic *Microsoft® PowerPoint®* presentation including inserting clip art

◆ Knows how to create a *Microsoft® Excel* worksheet including sorting and filtering data

TIME ALLOTED

Approximately four weeks

HOW TO BEGIN

Explain to students that in this lesson they are going to explore

"Generation Gap" worksheet created in *Microsoft Excel*

the differences between generations. Ask students: Is your attitude about issues in life such as politics and family values the same as somebody who is, say, age 50? Do older people and younger people think alike? On what subjects might they feel differently? Is there really such a thing as a "Generation Gap?"

Tell students that they are going to find out for themselves. After developing a hypothesis that they believe reflects the differences between generations, students will design and adminster a survey to test their hypothesis, and then chart their findings and present the results to their classmates.

Adaptability

◆ For more advanced students, have them design the survey form in *Microsoft Excel* or *Word*. They'll work with the Forms toolbar to add form buttons and boxes. For help designing a form in *Microsoft Excel*, click the Office Assistant and type "Create a form" in the search field.

Student Activity

DESCRIPTION

In this activity, you will write and administer a questionnaire that compares attitudes and opinions about certain issues, based on different variables, such as age, gender, or geographic region. You will then analyze your results using *Microsoft Excel* and report your findings using *Powerpoint*.

STEP 1

Creating a Hypothesis

Software: None

WHAT TO DO: Decide how you think generations may differ in their opinion on a particular topic. Team up with a classmate and choose two topics to study. These will be called **Dependent Variables** because you are stating that you believe that a person's beliefs about these topics *depends* on their age. The **Independent Variable** is what causes the differences in the dependent variables. In this case, the independent variable is the generation to which the person belongs.

Choices for topics might include: politics; TV violence; movies; religion; technology; women in the military; gun control; family values; friendship; and eating habits.

Now, decide exactly how you think the dependent variables will differ for the generations. This is your hypothesis. For example, if the topic is "TV violence," the hypothesis might be: *Younger people think TV violence is fun and harmless, but older people think it is dangerous and harmful.*

Or if the topic is "women in the military, the hypothesis might be:" *The older a person is the more he or she will believe that women in the military should not be allowed in combat.*

Or if the topic is "friendship:" *Young people tend to value friends more than family, but older people tend to value family more than friends.*

STEP 2

Creating the Survey

SOFTWARE: Microsoft Word

WHAT TO DO: Use *Word* to create a survey form similar to the one at the end of this activity. With your partner, create five statements for survey participants to respond to that will accurately test your hypothesis. Statements should be designed to elicit answers like "strongly agree" or "strongly disagree."

Next, assign numerical values for different attitudes toward your statements. For example:

- **5** – Strongly agree
- **4** – Agree
- **3** – Neutral
- **2** – Disagree
- **1** – Strongly disagree

Present your survey statements to the rest of the class and see if the class can guess your hypothesis and if the statements accurately reflect the hypothesis.

STEP 3

Administering the Survey

SOFTWARE: None

WHAT TO DO: Decide on a minimum number of people to be surveyed. Set up tables in public places, such as at a mall, inside or outside a grocery store, or at a movie theater. Please note: *You must have the permission of your parents and the survey site owner before administering their survey.* Be sure respondents fill out the entire survey and thank them for taking the time to do so.

Now, for each respondent, average the numerical values of their responses to the survey statements and write this "score" in the Key Code Average box on the survey form.

STEP 4

Analyzing the Data

SOFTWARE: Microsoft Excel

WHAT TO DO: You are now ready to analyze your survey data. First, clarify your variables. For example, independent variable: Generation; dependent variable: Political Beliefs. There should be one column for each dependent variable on your worksheet (see Example 1).

When entering data into your worksheet, each response (completed survey) should be put in its own row and the Independent Variable should go in the first column.

Even if you do not include this information in your analysis,

Example 1: **"Generation Gap" worksheet created in *Microsoft Excel***

you should at least note how many males/females there are and what part of the world the respondents were born in. These differences may affect your results, and are therefore important to record. Make these the second and third columns.

Next, sort the data based on the generation group. Then, calculate the average score for each dependent variable for each group.

Using *Microsoft Excel*'s filtering features, evaluate the data by showing records that match certain rules, or criteria. For example, show all records of people who were born between 1946-1955 from the United States that scored the highest for one of your dependent variables.

Finally, create charts that show some trend in your data.

STEP 5

Presenting the Answers

SOFTWARE: Microsoft Excel; Microsoft PowerPoint

WHAT TO DO: Have each team present their hypothesis and their findings to the class. Teams may present their ideas on the computer using *Microsoft Excel* to show their graphs. Or, each team can create a presentation in *PowerPoint* to demonstrate with graphics, art, animations, and graphs the hypothesis and the various findings. ■

SURVEY

This is an anonymous survey to be used for a school project only.
Thank you for your time!

Gender (circle one)   Male   Female

When were you born? (circle one)

      1905-1915   1916-1925   1926-1935   1936-1945

      1946-1955   1956-1965   1966-1975   1976-1985

In what state did you live as a child? _____

      If outside the U.S. , where? _____

When you were a child, was your home? (circle one)
      Urban   Suburban   Rural

What is your political affiliation? (circle one)
      Democrat   Republican   Other _____

For each statement below, check one of the five boxes that follow to indicate the extent to which you agree or disagree.

1. _____

   _____

   ❐ Strongly Agree   ❐ Agree   ❐ Neutral   ❐ Disagree   ❐ Strongly Disagree

2. _____

   _____

   ❐ Strongly Agree   ❐ Agree   ❐ Neutral   ❐ Disagree   ❐ Strongly Disagree

3. _____

   _____

   ❐ Strongly Agree   ❐ Agree   ❐ Neutral   ❐ Disagree   ❐ Strongly Disagree

4. _____

   _____

   ❐ Strongly Agree   ❐ Agree   ❐ Neutral   ❐ Disagree   ❐ Strongly Disagree

5. _____

   _____

   ❐ Strongly Agree   ❐ Agree   ❐ Neutral   ❐ Disagree   ❐ Strongly Disagree

Reproduce for Student Use

CREATING YOUR OWN WEB SITE

Teacher Guide

SUMMARY

In this lesson, students will learn to design Web pages complete with text, graphics, and hypertext links. After adding backgrounds, navigation buttons, and audio-visual effects, and revising their work based on comments from peers and teachers, students will "publish" their projects on the Internet for all the world to see!

OBJECTIVES

◆ To have students create and publish their own Web site

◆ To expand on student's critical thinking skills as they organize information for distribution over the Internet

◆ To define Internet terms like ImageMap, HTML and Hyperlink

PREREQUISITE SKILLS

◆ Knows how to open a document in *Microsoft® Word* and to use *Word*'s many features

◆ Knows how to use *Microsoft® Publisher 97*

◆ Can access the World Wide Web using *Microsoft® Internet Explorer*

TIME ALLOTTED

Approximately two weeks
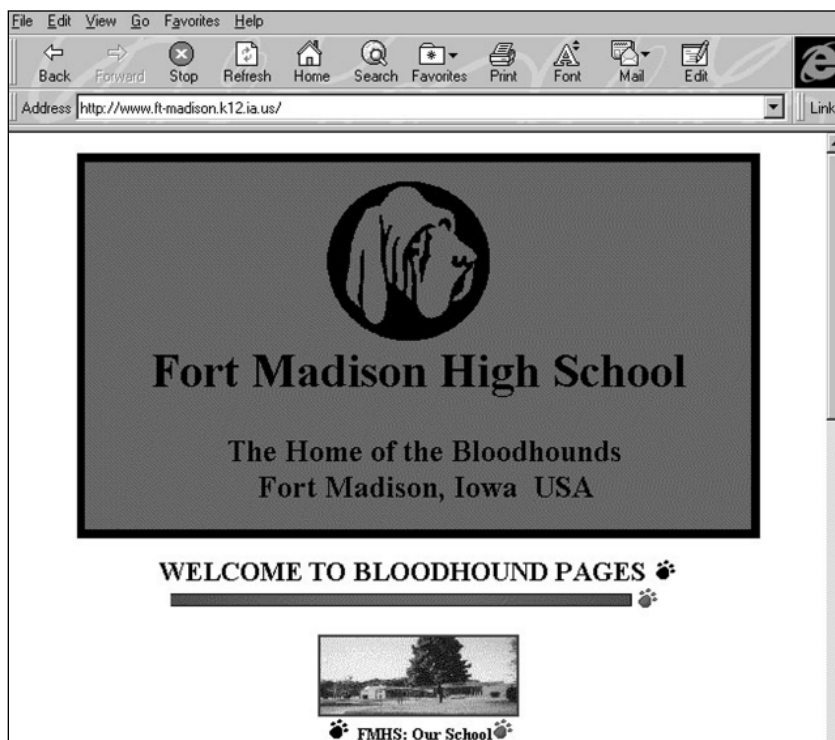
Web page from the "Web66 International Registry of School Web Sites" from *Internet Explorer* (http://web66.coled.umn.edu/schools.html)

HOW TO BEGIN

Provide a brief introduction to the Internet and explain to students that they will be creating a Web site of their very own. Introduce terms that they are likely to encounter as they develop pages for the World Wide Web such as ImageMap and Hyperlink.

Now, have students talk about and/or download Web pages they visit regularly. What do they like about the content and design of these sites? Why do some Home pages work and not others? What could be done to improve Web page design? How important are the following Web page design elements: text that is easy to read, links to other pages, pictures, animations, multimedia sounds and music, video clips, 3D elements, e-mail reply forms, and interactivity. Do these elements make the Web site more appealing or do they function as a distraction?

Student Guide

DESCRIPTION

In this activity, you will create your own World Wide Web site and "publish" your site to a folder.

STEP 1

### *Deciding on Ideas for the Web page*

SOFTWARE: Internet Explorer

WHAT TO DO: Think about the different kinds of information you might like to publish on your Web site such as:

a) information about a science project or a social studies unit just completed;

b) a class directory highlighting the diverse cultural backgrounds of the students in your school;

c) a school-sponsored community Web site introducing visitors to local community attractions, popular restaurants, cool clothing stores; or,

d) pictures from a recent class trip, along with student reports.

Use *Internet Explorer* to visit other school Web sites for design ideas, such as those listed below. Send e-mail messages to comment on how you enjoyed the site or to inquire about Web design techniques.

Recommended Web Sites

◆ **The Global Schoolhouse**
http://www.gsh.org/fetc/default.htm

◆ **The Illustrated Spanish Alphabet Page (**Ralph Bunche School, Harlem, New York)
http://ralphbunche.rbs.edu/
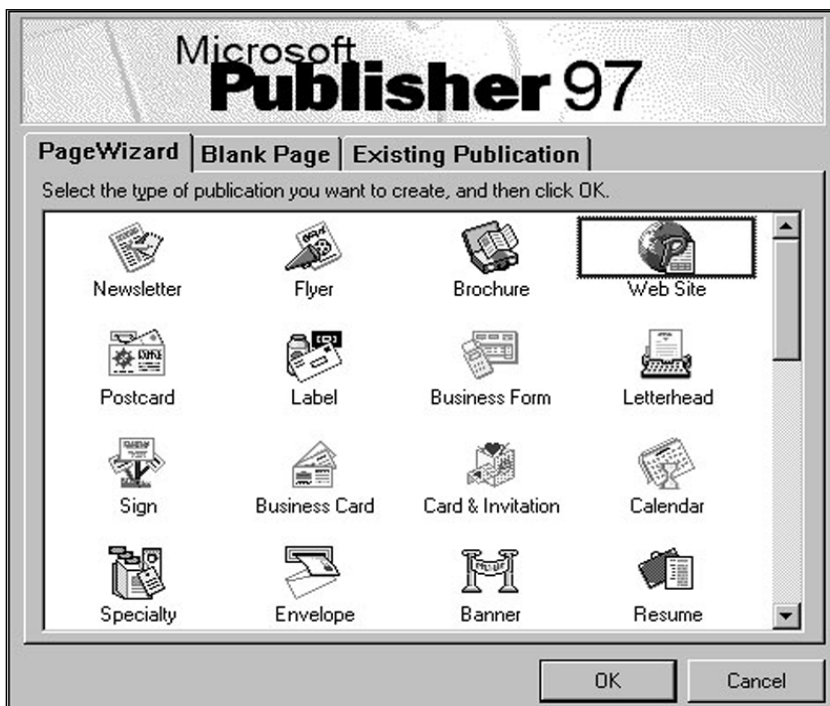
*Example 1: **Publisher 97** opening screen showing Web Site PageWizard*

For an international mega-list of school sites, visit:

◆ **"Web66 International Registry of School Web Sites"** http://web66.coled.umn.edu/schools.html

STEP 2

Creating the Web Page

SOFTWARE: Microsoft Publisher 97

WHAT TO DO: Use *Publisher 97* to create single-page or multi-page Web sites, using the new Web Site PageWizard, or convert existing Publisher documents, such as flyers or newsletters, to a web site.

Start *Publisher* 97. In the opening screen, click the PageWizard tab and select Web Site PageWizard (see Example 1). Follow the on-screen steps to create a multipage Web site layout. Save your work.

STEP 3

Adding Text and Graphics

SOFTWARE: Microsoft Publisher 97

WHAT TO DO: You can type your web page text directly into the web layout, or you can choose Insert Text from the File menu and insert files created in Microsoft Word, Microsoft Works or another word processing program. Continue replacing the placeholder text in your web site with your own text. Proofread and spell check your file.

To replace a picture with your own choice, right click on a picture, then choose Insert Clip Art. The Microsoft Clip Gallery offers lots of fun choices for your web pages. To insert clip
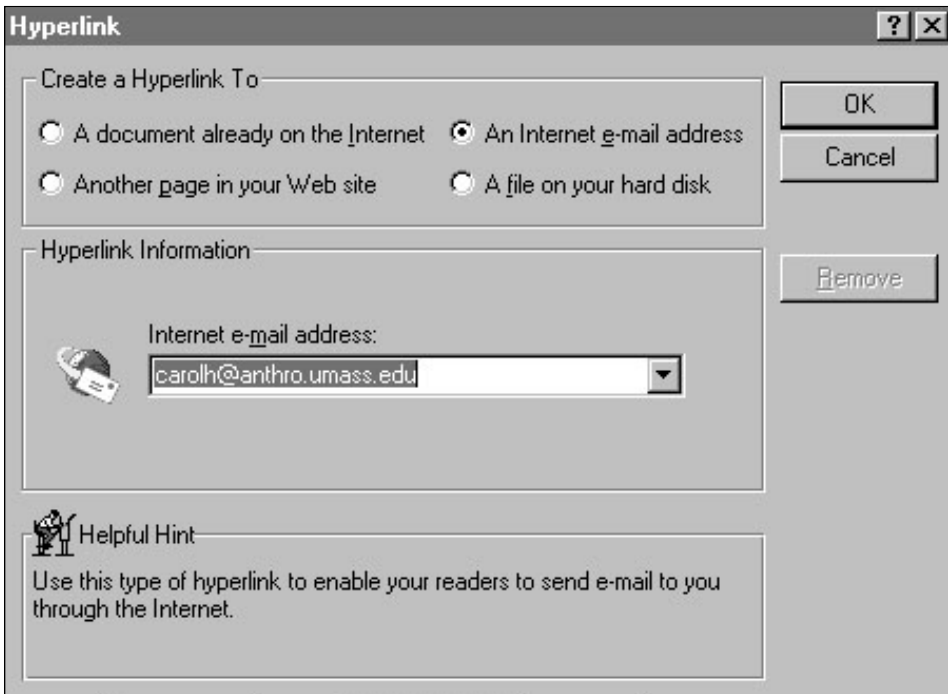
Example 2:
Hyperlink dialog box

art from a file, right click on a picture, choose Insert Picture File. Then locate the file you wish to insert.

If you decide to develop a new Web page, *Publisher*'s Blank Page publication list includes a Web page template with automatic formatting to fit a variety of video display monitors.

STEP 4

Adding Hyperlinks

SOFTWARE: Microsoft Publisher 97

WHAT TO DO: In Publisher 97 you can add hyperlinks to a document already on the Internet, to another page in your Web site, to an Internet e-mail address, or to a file on your hard disk. To add a hyperlink follow these steps:

◆ Highlight a word on page 1 of your Web site;

◆ Choose Hyperlink from the Insert menu;

◆ In the Hyperlink dialog box (see example 2), click Another Page in Your Web Site;

◆ Click Next Page, and then click the OK button.

You should now add a story or text that is related to the hyperlink.

STEP 5

Web Design Tips

SOFTWARE: Microsoft Publisher 97

**WHAT TO DO:** Keep in mind these design considerations when using *Publisher 97*:

◆ Add new pages to a Web site document by choosing Page from the Insert menu.

◆ *Publisher 97*'s Design Gallery contains an assortment of ready-made Web navigation buttons for email and other Web page actions (e.g., Home, Next, Back) and Web Page Dividers. After inserting a button on your Web page, highlight this button's text, then right-click on the text and select Hyperlink from the pop-up menu. Link the button to another page in your Web site or to a specific URL.

◆ If there is a TWAIN-compliant scanner attached to your computer, you can easily scan in photographs, drawings, or other graphic elements, for use on your Web page.

To insert an image, click the Picture Frame tool on the *Publisher 97* toolbar, then create a frame sized to fit your needs. Position this frame where you'd like the picture to appear, then click Scanner Image/Acquire Scanned Image (Insert menu) to bring in the scanned graphic. *Publisher* automatically inserts the "captured" picture in the predrawn frame.

◆ Consider outfitting the Home page with a directory listing the names of all students having pages at this site. If you scan in
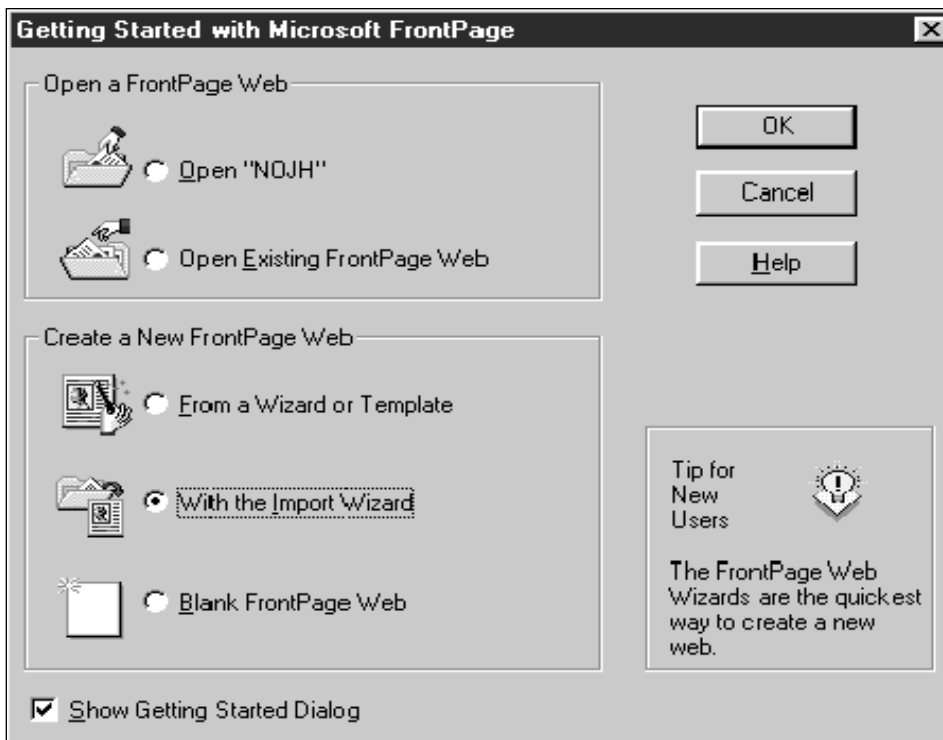
Example 3:
FrontPage 97
Web Wizard

student photos, you can format this directory to have both an ImageMap and a student name. To do so, lay out the information in a two-column Table of Contents (produced with the Table Frame button). Then add click-on links to each picture and name. Now, clicking on either the student's picture or the student's name will take you to that student's Web page.

◆ Add graphics to any Web page by choosing *Publisher* Clip Gallery images. *Publisher 97* also features background patterns and text color combinations to brighten the appearance of any Web site.

◆ Make your site so appealing that visitors will want to return. Provide links to Web pages like Mega-Math (http://www. c3.lanl. gov/megamath/) and The Mad Scientist Network (http://medin fo. wustl. edu/~ysp/MSN/).

STEP 6

Publishing the Web Page (to a folder)

SOFTWARE: Microsoft Publisher 97

WHAT TO DO: Before publishing your Web site to a folder, check for errors using *Publisher 97*'s Design Checker from the Tools menu.

Then to publish your Web site to a folder, follow these tips:
◆ Choose Publish Web Site to Folder from the File menu.
◆ Click New Folder button and type a name for your site.
◆ Choose OK.

STEP 7

Importing into FrontPage 97

SOFTWARE: Microsoft FrontPage 97

WHAT TO DO: If you are using Microsoft FrontPage 97 to manage your class or school web site, you can import

the Publisher folder you just created (or any folder of HTML files) into a new or existing FrontPage web site. The steps below tell you how to import into an existing *FrontPage* web site (see Example 3 for importing to FrontPage.)
◆ Open your existing *FrontPage* web site (or use the Corporate Presence or Personal Home Page Wizard to create a new site).
◆ In the FrontPage Explorer view, choose New from the File menu, then choose FrontPage Web.
◆ Choose Import Web Wizard; then click the Add to Current Web check box.
◆ In the Import Web Wizard dialog box, click Browse, then locate your *Publisher* created Web site (unless you specified otherwise, it should be located in c:/Program Files/MicrosoftPublisher/ Publish/<your file name>

To learn more about Microsoft FrontPage, visit http://www. microsoft.com/frontpage/ ■

BUYING A DREAM CAR

Teacher Guide

SUMMARY

This practical spreadsheet lesson offers easy answers to life's perplexing math problems like *How much will my dream car really cost after financing?* Students will calculate the cost of purchasing their very own Lamborghini sports car and determine if the ultimate price tag is really worth the investment.

OBJECTIVES

◆ To expand students' understanding of mathematics

◆ To show practical applications of math in everyday life

◆ To provide practice in using a *Microsoft Excel* worksheet to solve practical everyday problems

PREREQUISITE SKILLS

◆ Knows how to open and set up a *Microsoft® Excel* worksheet

◆ Can access the World Wide Web using *Microsoft® Internet Explorer*

TIME ALLOTTED

Approximately one week

HOW TO BEGIN

Ask students to name some exotic sports cars. If a student mentions a Lamborghini, have that student tell what he/she knows about this luxury car.

Tell students that, although this elite supercar is no longer produced, its popularity stemmed from its reputation as a "menacing road warrior" that could go from
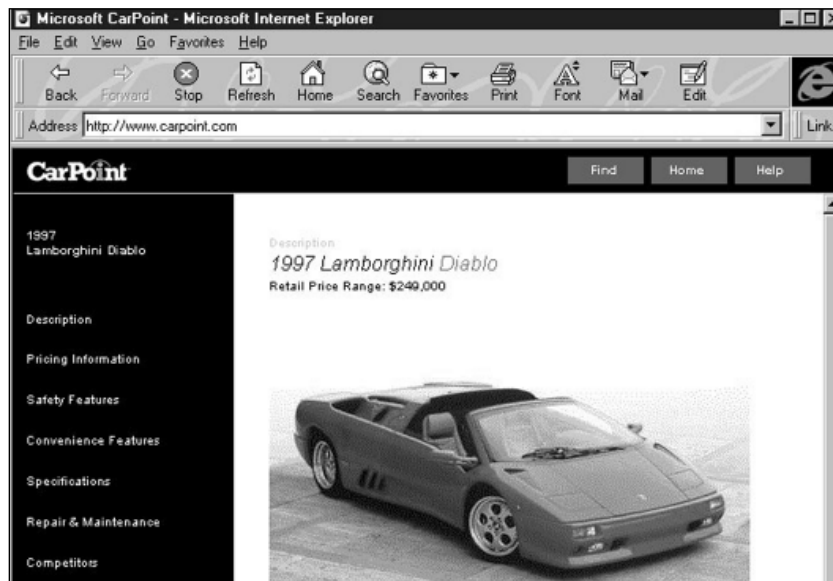
Microsoft CarPoint Web page from *Internet Explorer* (www.carpoint.com)

0-60 miles per hour (mph) in 4.2 seconds! Go on to explain that the car was engineered to hug the road at a top speed of 183 mph.

Then tell students that a previously owned Lamborghini sells for $150,000. But thanks to Honest Ed's easy finance plan, they can purchase one of these luxury cars for a mere $150,000 plus interest.

Review the financial concepts that students will use to complete this project such as interest rate, loan term, and repayment period. Explain that *Microsoft Excel* has a built-in "Periodic Payment Function" which calculates the amount you pay for a loan based on constant payments and a constant interest rate. The payment function is written as follows: PMT(rate, nper, pv) where "rate" is the interest rate for the loan, "nper" is the total number of payments for the loan, and "pv" is the present value or principal (i.e., the total amount that a series of future payments is worth now). For this function to work correctly, proper "syntax" (the order in which the function's variables are entered) must be observed.

Extension

◆ For some added fun, have students use *Internet Explorer* to visit the Lamborghini Home page (http://www.lamborghini.com/) or the web sites of Porsche (http://www.porsche-usa.com/), Ferrari (http://www.ferrari.it/), or Corvette (http://www.corvette.net/).

Student Activity

DESCRIPTION

In this activity, you will create a worksheet to calculate the actual cost of purchasing a previously owned Lamborghini sports car that is selling for $150,000. You will then pose several "what if" questions about the proposed purchase terms of this exotic "dream car" to see how various terms affect the amount of interest paid for the car.

STEP 1

Create a Worksheet

SOFTWARE: Microsoft Excel

WHAT TO DO: Create a new *Microsoft Excel* worksheet like the one in Example 1. Follow these time-saving tips:

◆ **Worksheet Titles:** To create a bold face and centered worksheet title, type the title in column A and press Enter. Highlight columns A through E and then click the Merge and Center button on *Microsoft Excel*'s Formatting toolbar. Click the Bold button. Increase the font size of the text to 14.

◆ **Word Wrap:** Enter cell contents in column A. To turn on word wrap, highlight all cells in which text must wrap (A6:A12) then right-click the highlighted cells. Click the Alignment tab, then select Wrap text in the Text control section.

◆ **Column Width:** To adjust column width, double click the column boundary to the right of a column heading. To create columns of uniform width, select those columns, choose Column from the Format menu, choose Width, then enter a value, e.g. 14.

◆ **Formatting Currency:** Format cells B4, B6, B10, B11, and B12 as Currency, by selecting B4, then pressing the Ctrl key while clicking the other cells. Right-click on a highlighted cell, then choose Format Cells from the pop-up menu. Click the Number tab and choose Currency with 2 decimal places.

◆ **Saving Work:** Turn on AutoSave to have *Microsoft Excel* save a workbook automatically at a time interval that you specify. If AutoSave is not available from the Tools menu, choose Add-Ins from the Tools menu, place a check mark in the AutoSave Add-Ins dialog box, click OK. Then choose AutoSave from the Tools menu to specify the time interval for Automatic Save. Now *Microsoft Excel* will pop up save reminders.

STEP 2

Adding Formulas

SOFTWARE: Microsoft Excel

WHAT TO DO: Follow these time-saving tips for adding formulas:

◆ **PMT Function:** In Cell B10 paste *Microsoft Excel*'s PMT function (Periodic Payment Function). Click cell B10, then choose Function from the Insert menu. Select Financial from the Function Category list, then choose PMT from the Function Name list. Click OK.

Type the following cell references in the PMT dialog box. For Rate (the interest rate per period for the loan), type **B7/B9**; for Nper (the total number of loan payments), type **B8*B9**; for Pv (loan amount), type **B6**. Choose OK. *Microsoft Excel* returns a negative number to indicate that you are making a payment. Note: To work with positive numbers on the worksheet, calculate PMT as follows: PMT(rate,nper,-pv).

◆ **"Total Amount Paid" Formula:** In B11, type the following formula, which will calculate

	A	B	C	D	E	F	G
1		HONEST ED'S DREAM MACHINE					
2		Dream Car: Lamborghini					
3							
4	Sale Price:	$150,000.00					
5							
6	Loan Amount	$140,000.00	$140,000.00	$120,000.00	$120,000.00		
7	Interest Rate	5%	5%	5%	5%		
8	Length of Loan (in years)	30	5	30	5		
9	Payment Periods per Year	12	12	12	12		
10	Amount Paid Each Payment Period	$751.55	$2,641.97	$644.19	$2,264.55		
11	Total Amount Paid	$270,558.10	$158,518.36	$231,906.94	$135,872.88		
12	Total Interest Paid	$130,558.10	$18,518.36	$111,906.94	$15,872.88		
13							
14							
15							

*Example 1: **Microsoft Excel** worksheet designed to calculate interest and total payment for a purchase, based on different loan terms.*
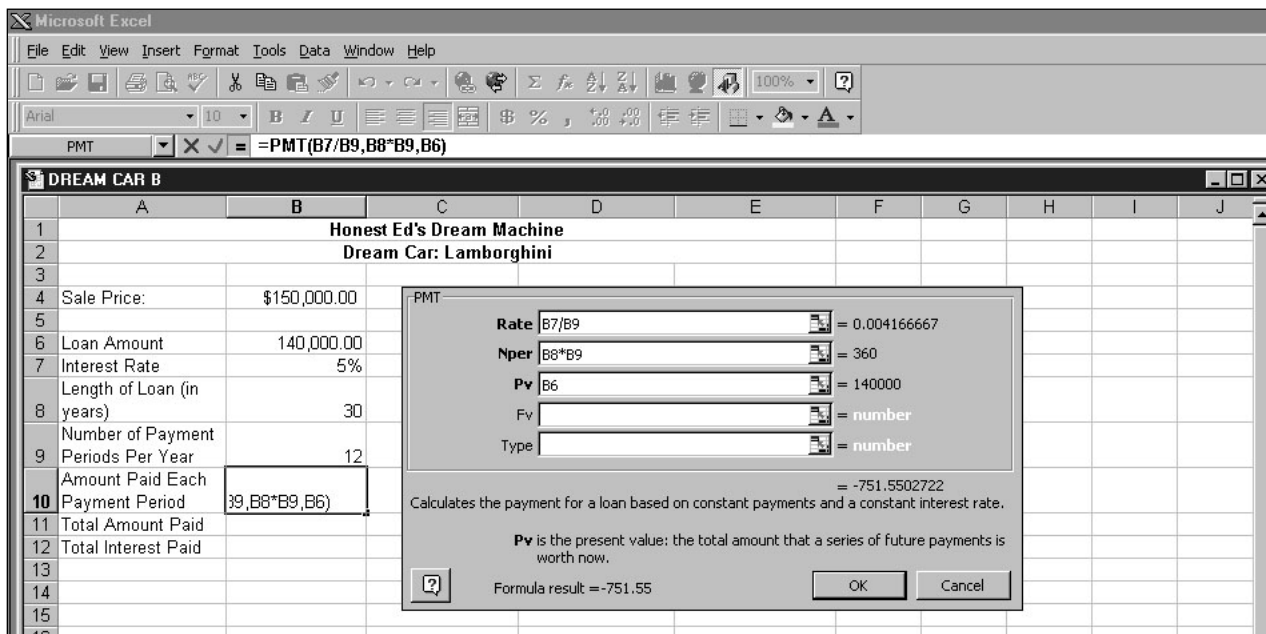
Example 2: ***Microsoft Excel****s Periodic Payment Function.*

the total amount paid for a loan: =SUM(B10*(B8*B9)), where B10=PMT (i.e., the amount paid each payment period) and B8*B9 =nper (the total number of loan payments).

◆ **"Interest Paid" Formula:** In B12, type the following formula which calculates the total amount of interest paid: =**SUM(B11-B6)**, which is the total amount paid minus the loan amount.

◆ **Showing Formulas:** To have *Microsoft Excel* show formulas, rather than formula results, choose Options from the Tools menu; click the View tab, then select the Formulas check box. To display formula results, clear the check box.

Once you format the cell contents of column B, entering appropriate formulas where necessary, you can copy cell content and format to columns C and D using Autofill or Fill Right.

STEP 3

Reality Check

SOFTWARE: Microsoft Excel

WHAT TO DO: Once your worksheet is set up, you can pose different "what if" questions about your loan to see how the total amount of interest paid might change. For example, what if the interest rate was 4% and the length of the loan was ten years? What would your monthly payment be? How much interest would you pay over the life of the loan?

Assume you want to pay a maximum of $250 per month for a new car. Also, assume that you are willing to take out a five-year loan at an interest rate of 5 percent. Calculate the maximum selling price of a car you can afford, based on those assumption. Use the same worksheet, entering numbers in Column E. First, select E10 (the cell with the PMT function), then choose

Clear/ Contents from the Edit menu to delete the formula. Copy contents of cells D7:D9 to E7:E9. Copy formulas in D11 and D12 to E11 and E12 respectively.

Now enter 250 in Cell E10. (This is the amount of money you want to pay each month). On a piece of scratch paper, solve the following algebraic equation where X=price of car per month and .05X=monthly cost of interest. For example:

$$X + .05X = 250$$
$$1.05X = 250$$
$$X = 238.1$$

Each time you pay $250, $238.10 is principal and $11.90 is interest. You can now determine the amount you can afford to pay for the car, assuming no down payment.

In E6 enter the following formula: =238.1*(E8*E9), where $238.1 is the monthly principal and the product of E8*E9 is the number of total payments. ∎