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Introduction to Using Microsoft Office to Enhance Student Learning

American Schools are experiencing a technological revolution. Computers, LCD projectors, smart boards, and wireless Internet connections, once found in only the most elite schools, are now becoming as much a mainstay in school buildings as the cafeteria. This influx of technology is found not only in computer labs but in individual classrooms as well. They are becoming increasingly wired for the Internet and personal computers. Yet despite this influx of capital and technology, many school computers are underused, relegated to housing a few educational games and perhaps to some minor record-keeping functions.

Standards-based reform and accountability continue to take on increased importance. Given the recent pressure to meet state-mandated curriculum standards, many teachers believe they don't have the time to spend on computer projects beyond those required to teach to the basic technology standards. Schools are required to meet challenging content and academic standards as set by state boards of education. Computers, properly used, can help achieve students' state-mandated educational standards.

Many classrooms suffer, not from a lack of technology but from a lack of understanding how best to use the technology already in place. This book is designed to help teachers meet the demands of high-stakes curriculum standards using technology hardware and the Microsoft Office software available in most classrooms. The book contains over 80 practical and interesting projects designed to help teachers teach to the state learning standards. These projects are described, step-by-step, along

with recommendations for classroom use by elementary, middle, and high school teachers in content areas of language arts, math, science, and social studies.

This book is not designed as a primer on Microsoft Office products. That information is available elsewhere and written about in exacting detail by other authors. The reader of this book will be expected to already have a working knowledge of Microsoft Office products, to include Word, PowerPoint, Excel, Access, and Publisher. It is not intended that this book teach the "nuts and bolts" of these programs but, rather, that teachers may learn new ways to use these programs in helping their students master the curriculum objectives. In addition, the extensive collection of templates found on the companion CD that accompanies this text will make it easy for even the novice user to adapt these projects for classroom use. The examples cited and the screenshots included in this text are from Microsoft Office 2003, but most of these projects can be adapted for use on older versions as well.

Project Format

Each project has a standard format, with sections common to all projects in the book. This way you can readily locate applicable parts of each project. Common sections in each project include the following:

Project title: Generally, you should be able to determine the nature of the project from its title.

Project number: Each project has a distinct number. The software used for the project can be determined from the first letters in the project number, as follows:

WD = Microsoft Word

PP = Microsoft PowerPoint

XL = Microsoft Excel

AC = Microsoft Access

PL = Microsoft Publisher

Degree of difficulty: A five-pointed star icon will indicate the degree of project difficulty. The more shaded points on the star, the more challenging the project will be.

Software used: This section is a backup way to tell what software is used in the creation of the project.

Additional hardware: If the project requires a scanner or a printer hookup, it will be indicated in this section.

Internet connection required: Some projects will require an Internet connection. If so, it will be indicated here.

Template available: The companion CD that accompanies this book contains templates for most of the projects. These templates will prove to be a real time-saver, especially on the more challenging projects.

Created by: Some of these projects are designed to be teacher created. Some are student created, and some projects may be either student or teacher created.

Project type: This section will tell you if the project is primarily designed to support classroom instruction or classroom administration. Some projects can be used for both.

Student learning style: While it is acknowledged that most of these projects work well with the visual learner, the aural and kinesthetic learners can gain much from these projects as well.

Approximate time: This section gives a rough estimate of the length of time required to create the project. Projects may take anywhere from just a few minutes, to several hours to complete. Use this section when planning how many class sessions to devote to the project.

Grade level: This section lists the general grade level areas best served by the project. While not exclusively confined to these grade levels, generally, the projects may be best used in elementary school, middle school, or high school as indicated here.

Content area: Here you will find suggested content areas for which the project may be well suited. Choices include language arts, math, science, and social studies.

Comments: This section will contain some general information about the project, along with some possible suggestions for use.

Procedures: In this section, you will find the step-by-step instructions necessary to complete the project.

Figures: Screenshots of actual projects are found here. Most of these screenshots come from projects or templates included on the companion CD.

For more information: This section will usually contain the URL of a Web address to go to for additional information on the topic addressed in the project.

Icons

Each project contains several icons to help identify important information about each of the projects. Icons used in this book include the following:

Level of difficulty: These icons indicate approximate degree of difficulty in creating the indicated project. In several cases, projects that may be rather challenging to create from scratch have been indicated as fairly easy because you are encouraged to use the template provided on the companion CD.

1

Very Easy   Very Easy

2

Easy   Easy

3

Medium Difficulty   Medium Difficulty

4

Difficult   Difficult

5

Very Difficult   Very Difficult

Created by: Icons in this section indicate who might best create the indicated project. Most of these projects can be either teacher or student created, depending on intended use.

T

Teacher   Teacher

S

Student   Student

S / **T**

Student and/or Teacher   Student and/or Teacher

Project type: These icons indicate if the project is primarily intended to support class-room instruction or if it is better suited to support classroom administration and management.

Administrative   Administrative
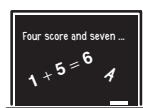
Instructional   Instructional

Learning style: While most of these projects primarily support a visual learning style, several of these can be used to support aural and kinesthetic learners as well.

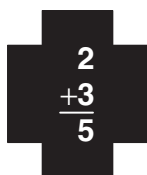**Visual**   Visual

Aural   Aural

Kinesthetic   Kinesthetic

Content area: Icons in this section indicate for which of the content areas the project might be well suited. Content area teachers may find it useful to sort the projects according to supported content to help in selecting projects.
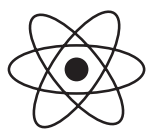
Language Arts   Language Arts

2 +3 5

Math   Math

Science   Science

Social Studies   Social Studies

N/A

Not Applicable   N/A

SAMPLE PROJECT PAGE

WHERE I LIVE — Each project has a unique title.

3
Medium Difficulty — Level of difficulty on a scale of 1 (very easy) to 5 (very difficult)

Project number: PP-15 — Project number identifies program. PP = PowerPoint, WD = Word, XL = Excel, AC = Access, PB = Publisher
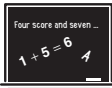
Additional hardware: Scanner

Internet connection required? Yes — Additional hardware or Internet requirements

Template available? Yes — Project templates located on companion CD

Grade level: Elementary, Middle School, High School

Created by: **S / T** **Student and/or Teacher** — Identifies project creator as student and/or teacher

Project type: Four score and seven ... $1 + 5 = 6$ **Instructional** — Identifies project as primarily instructional or administrative in nature

Student learning style: **Visual** — Project supports these modalities (visual, aural, kinesthetic)

Approximate time: 30 minutes to create a 10-slide show — Approximate time to create from scratch. To save time, use template on companion CD

Content area: **Social Studies** — Project may prove useful in the identified content areas (language arts, math, science, social studies).

Comments: Young children are often bewildered by the concept of location, confusing the differences between community, town, state, nation, continent, and hemisphere. This is an easy-to-create presentation that will help a child visualize these interrelationships. — Introduce project and some possible uses

Procedures:

> Directions for creating the project.

1. Open a new Microsoft PowerPoint presentation.

2. Select **Title Slide** and enter name of presentation and class information.

> **Bold text** indicates where you should click

3. Select a new **Title and Content** slide. Make five copies of this slide.

4. On the title line of these five slides, place the words "My Neighborhood," "My Town" (or city), "My State," "My Country," "My Continent," "My Hemisphere," and "My World," respectively.

5. In the content area of each slide, place an image of the appropriate area. These images can be scanned pictures or images downloaded from the Internet and placed in a picture file created for this purpose. Use a star symbol to indicate the student's home on each map.

6. Your final presentation may include slides that look something like this:

> This area contains screen shots of the finished project
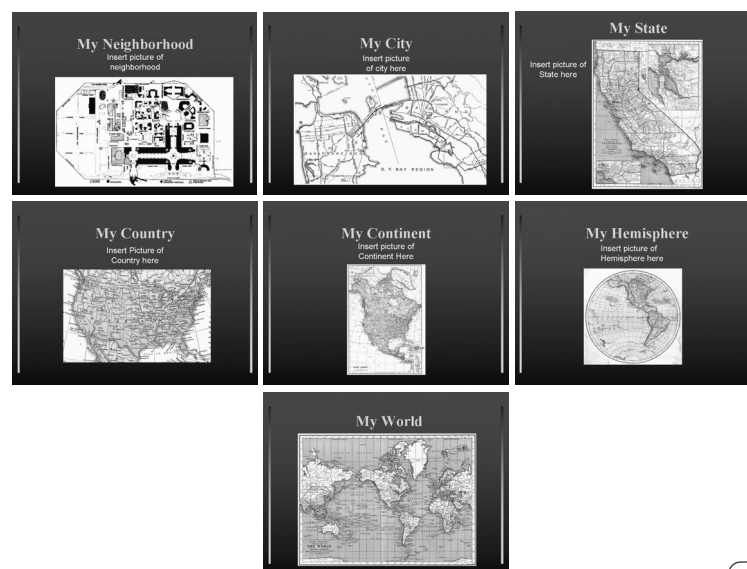
> Where to go for additional help & information

For more information online: www.mapquest.com

COMPANION CD

This book comes with a companion CD containing resources that will prove valuable as you use these projects in your classroom.

Resource A: Complete Projects Database

Resource A is an Access database containing information about all the projects in this book. Use this database as you look for ideas. To search for a certain category of projects—say, for example, all math projects or all elementary-level projects—open the "Media & Tech Projects" table, then select **Records > Sort > Advanced Filter/Sort** from the drop-down menu at the top of the screen. Select the desired sorting criteria, select **Ascending** or **Descending** order, then **Apply Filter/Sort**. In this way, you can immediately identify projects that might be most appropriate for your chosen subject or grade level.

In the "Grade Lvl" column on the Media & Tech Projects table, "E" stands for elementary school, "M" for middle school, and "H" is for high school. In the "Content" column, "L/A" stands for language arts, "M" is for math, "S" is for science, and "S/S" stands for social studies.

Resource B: Project Templates

In Resource B, you will find the many templates and project aids that correspond to the written directions. Not all the projects have a corresponding project listed here; others may have more than one. They are numbered using the same title found in the basic project description, only the file extensions may have changed. For example, the template for Project PP-01, Water Cycle, will be listed as "PP-01 Water Cycle.ppt." For some projects, there may be two related templates. For example, a math worksheet project may have one template with blank spaces for students to fill in and a second template may have the correct answers already entered for the teacher's use.

Resource C: State Departments of Education and Curriculum Standards Web Sites

The next item, Resource C, is a table listing the URLs of the 50 state Departments of Education Web site home pages, along with the pages for the state academic standards. When your computer is connected to the Internet, these URLs are designed to hyperlink you directly to the desired site. For better projects, identify the required academic standards you plan to teach in the lesson ahead of time. Select and design your projects accordingly to ensure that your instruction is aligned with your state's curriculum standards. Note: These Web sites were valid at the time of publication; however, some links may no longer work because pages change frequently. If the state Curriculum Standards page has moved, go to the state DOE Web site and follow the links from there to the Curriculum Standards.

Resource D: Project Supplemental Information Web Sites

Many of the project descriptions in this book end with a Web site address where you may find additional information pertaining to that particular project. These

addresses are also included in Resource D, a Word document with a hyperlink to the respective Web site. By using this table, you eliminate the need to manually enter the URL into your Web browser and you can quickly access the desired site.

FAIR USE OF COPYRIGHT MATERIAL

Several of the projects may require you to copy portions of works protected by copyright. Please note the Fair Use of Copyright Material below prior to using any copyright material in your projects.

Fair Use Laws and Plagiarism

Fair Use

The following information was taken from the U.S. Copyright Office Web site http://www.copyright.gov/fls/fl102.html

One of the rights accorded to the owner of copyright is the right to reproduce or to authorize others to reproduce the work in copies or phonorecords. This right is subject to certain limitations found in sections 107 through 118 of the Copyright Act (title 17, U. S. Code). One of the more important limitations is the doctrine of "fair use." Although fair use was not mentioned in the previous copyright law, the doctrine has developed through a substantial number of court decisions over the years. This doctrine has been codified in section 107 of the copyright law.

Section 107 contains a list of the various purposes for which the reproduction of a particular work may be considered "fair," such as criticism, comment, news reporting, teaching, scholarship, and research. Section 107 also sets out four factors to be considered in determining whether or not a particular use is fair:

1. the purpose and character of the use, including whether such use is of commercial nature or is for nonprofit educational purposes;

2. the nature of the copyrighted work;

3. amount and substantiality of the portion used in relation to the copyrighted work as a whole; and

4. the effect of the use upon the potential market for or value of the copyrighted work.

The distinction between "fair use" and infringement may be unclear and not easily defined. There is no specific number of words, lines, or notes that may safely be taken without permission. Acknowledging the source of the copyrighted material does not substitute for obtaining permission.

Plagiarism

Readers are urged to avoid plagiarism when creating these projects. Wikipedia Encyclopedia (http://en.wikipedia.org/wiki/Plagiarism) defines plagiarism as: *"the study of 'honestly' claiming or implying original authorship of material which has not actually been created, such as when a person incorporates material from someone else's work into his own work without attributing it. Within academia, plagiarism is seen as academic dishonesty and is a serious and punishable academic offense. Plagiarism may happen unintentionally in the case of unconscious plagiarism or if a plagiarist is unaware of the need for citation. Unintentional plagiarism is not dishonest but it may be careless."*