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# Computer Projects for Middle Schools: An Introduction

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*Computer Projects for Middle Schools* is designed to introduce students of all ability levels to the fundamental operation of a personal computer, while at the same time providing them with the knowledge of how computer technology is applied in our society. This book was created for use in a computer lab setting for grades six through eight, and each lesson can easily be correlated to the existing middle-school curriculum.

The twelve activities contained in this book address the many different ways computers can be used. This offers teachers the opportunity to confidently take their classes to the computer lab and present well-rounded lessons.

This book is arranged in a logical progression that includes introductory labs, intermediate labs, and advanced labs. Everything you need to implement each lesson effectively is contained within the lab, along with helpful template files that provide you with any required resource material.

Each activity has been successfully used in the middle school classroom. Each can be completed in one or two forty-five minute computer lab sessions. Little knowledge of computers is required to teach the activities contained in this book. Each lab provides you with the overall purpose of the lesson, learning objectives, materials required, and step-by-step procedures detailing how to successfully implement the lesson.

*Computer Projects for Middle Schools* can be used in either a Macintosh or Windows platform. Every lesson explains how to execute the lab in either platform, using a variety of software. This book should be especially appealing to teachers of middle school technology, who are implementing new information technology lessons into their existing curriculum. Each lab in this book can be used to teach information technology, as well as aligning the technology curriculum with the other middle school disciplines.

As you work through each lab, this chart will assist you in following the directions for the activity.

<b>Instruction</b>	<b>What To Do</b>
<b>BOLD CAPITALS</b>	Select this pulldown menu from the Menu Bar.
<b><i>Bold Italics</i></b>	Make this selection from the pulldown menu.
<b>Bold</b>	Choose this button, tool, or key.
<i>(filename)</i>	Type this word or sentence, or this is the name of a file.

Overall, *Computer Projects for Middle Schools* is an easy to use, fun, and educational way to provide your students with computer literacy, while keeping your computer lab time productive and in line with your curriculum.

# Lab #1 Introduction to Spreadsheets: The Multiplication Table

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## Purpose:

Students are introduced to the basic formatting of cells in a spreadsheet application by creating their own multiplication tables.

## Learning Objectives:

At the end of this lesson, each student will be able to:

- create a new spreadsheet document.
- utilize the **Select All** command.
- define the terms: *column*, *row*, and *cell*.
- identify the specific address of a selected cell.
- adjust the width of a selected column.
- adjust the height of a selected row.
- enter data into a specific cell.
- increase the size of the font in a selected cell.
- alter the color of the font in a selected cell.
- change the style of the font in a specific cell
- adjust the alignment of the data in a specific cell.
- create a heading for a spreadsheet.
- create an accurate multiplication table using a spreadsheet application.

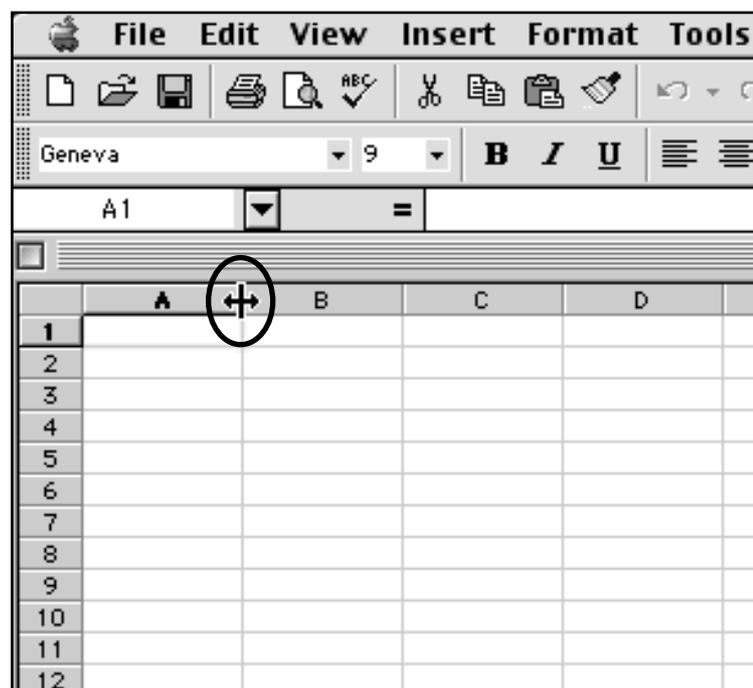
## Materials:

- *AppleWorks* (*ClarisWorks*), *Microsoft Excel* for Macintosh or Windows, or another spreadsheet application

# Lab #1 (cont.)

## Procedure:

1. To begin this activity, explain to your students that they are going to use a spreadsheet application to create a multiplication table. Ask them if they have ever used a spreadsheet before. Explain to the class that a spreadsheet is like a word processing application for numbers. Spreadsheets are used to organize and manipulate specific data. Data entered into a spreadsheet can be in the form of either numbers or text, and spreadsheets are most often used to display information in the form of charts or graphs.
2. After you have discussed the basics of how spreadsheets are used, instruct your class to open new spreadsheet documents. Take a minute to explain the basic structure of a spreadsheet. First, point out that the spreadsheet is like a big grid pattern that is made up of columns and rows. Columns make up the vertical part of the spreadsheet and are labeled with letters. Rows compose the horizontal portion of the spreadsheet and are labeled with numbers. Together, columns and rows compose an entire spreadsheet, and where a column meets a row is called a cell. Spreadsheets contain thousands of cells, and each cell has its own location or address. For example, cell A1 is located where row 1 meets column A. This method of cell identification allows the spreadsheet to perform mathematical calculations.
3. Next, instruct your class to locate column A on their spreadsheets. Explain to them that the width of a column can be altered to fit the data entered into a cell. To change the size of a single column, students should bring their cursors up to the top of column A. They then move their cursors to the line located between columns A and B, and the shape of the cursor should change. (See Figure 1.)



**Figure 1.** Adjustment of column width using the mouse