



Grades K-4

Overview:

Microsoft Excel is a spreadsheet application. It is a flexible program that can be used to perform calculations on numerical data, graph data and as a simple database. In this lesson students will design an Excel worksheet to record weather data.

Objectives:

The student will:

- identify basic components of an Excel worksheet;
- enter text in Excel;
- format text; and
- enter data in a worksheet.

GLEs Addressed:

[3-4] SA1.1 The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring, and communicating.

Alaska Content Standards:

Technology

A1 A student should be able to operate technology-based tools. A student who meets the content standard should use a computer to enter and retrieve information.

Materials:

- Computer with Microsoft Excel
- Printer (optional)
- STUDENT WORKSHEET: "Using Microsoft Excel to Record Weather Observations"

IT Basics

The title of the sheet that opens up is called Workbook1. A workbook is a collection of worksheets. Notice at the bottom of the page there is Sheet1, Sheet2 and Sheet3. Each workbook can be made up of one or more worksheets. In this lesson only Sheet1 will be used. The name of a worksheet can be changed by double clicking on the name (Sheet1) and entering a new name. If new worksheets are needed, they can be added by **Insert** → **Worksheet**.

In the lesson students will create a column for date and time data. There are several formats available for date and time. If the format in the worksheet needs to be changed highlight the cell or column that the format will be changed in. On the Excel menu select **Format** → **Cells**. General is already highlighted by default, click **Date**, or **Time** and select the format from the type list on the right. Click **OK** when finished.

Activity Preparation

Decide what information will be stored in the worksheet. In this example, date, sky observations, visibility, snow depth, and water / sea ice observation will be recorded. Depending on the data collected, other columns could be added as well.

Activity Procedure

1. Start the lesson by going over the basic parts of a Microsoft Excel worksheet such as cells, rows, columns and the formula bar.
2. Practice with students how to name cells. For example ask where cells B2, C10, etc. would be located.
3. Distribute the STUDENT WORKSHEET: "Using Microsoft Excel to Record Weather Observations," and guide students through the worksheet.

Answers

Answers will vary depending upon the type information stored in the worksheet.

Name: _____

Levels

Using Microsoft Excel to Record Weather Observations

Student Worksheet (1 of 5)



Grades K-4

Background Information

Microsoft Excel is a spreadsheet application. It is a flexible program that can be used to perform calculations of numbers, graph data and as a simple database. In this lesson a table will be created to store data for the date, sky observations, visibility, snow depth, water / sea ice observation. After the table is made sample data will be entered. Depending on the data collected other columns could be added as well.

Procedure:

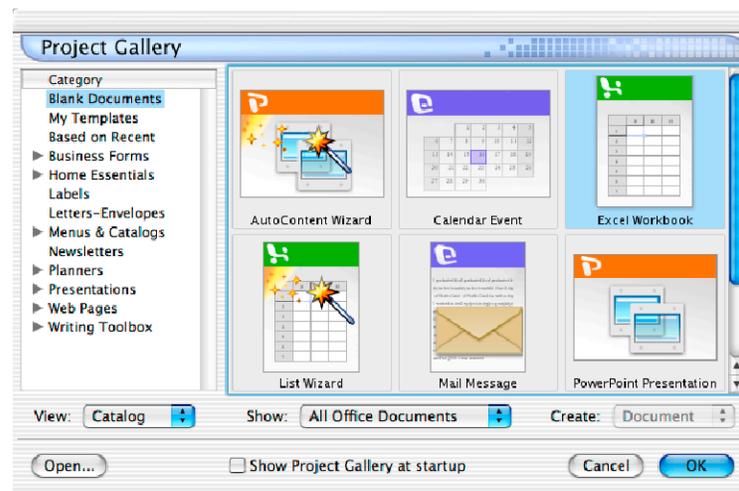
1. Launch Microsoft Excel from the Macintosh dock by clicking once on the Excel icon. It looks like a green X:



Once it is launched there will be a black triangle underneath it.



2. The screen for the Project Gallery will open. Click **Open** or **OK** to open a Blank Document. (Sometimes the Project Gallery does not open because it has been turned off. If it has been turned off a blank document or worksheet will open.)



Name: _____

Levels

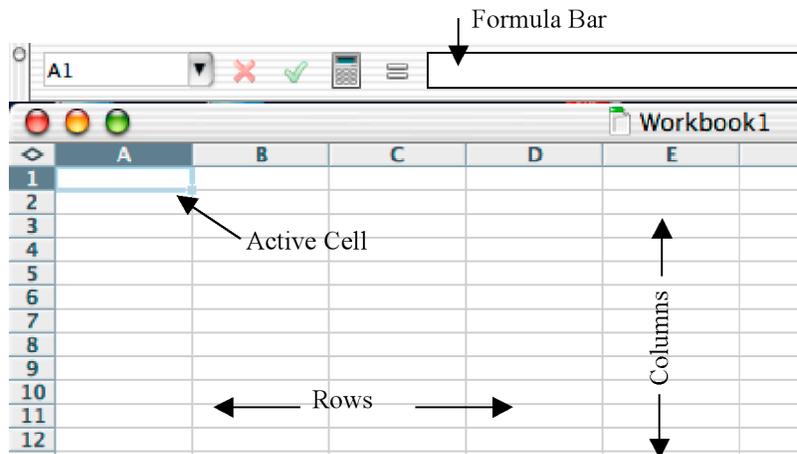
Using Microsoft Excel to Record Weather Observations

Student Worksheet (2 of 5)

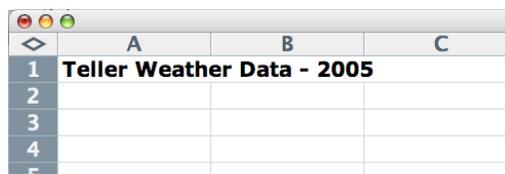


Grades K-4

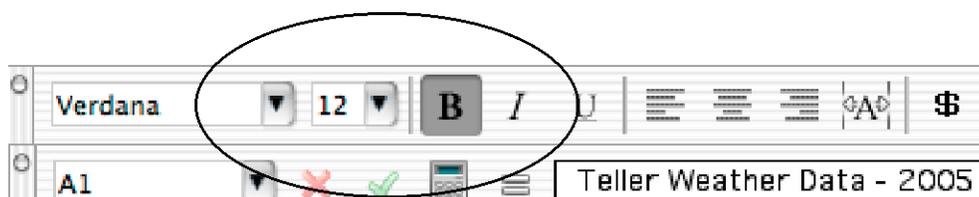
Your instructor should go over the basic parts of a worksheet as shown below.



3. Place the cursor in Cell A1 and enter the location where the weather data is being collected along with the year. In this example Teller will be used, but enter the name of your location.



4. In order to make the title location stand out click in cell A1 to highlight it.
5. Change the font size to 12 by clicking on the down arrow and selecting "12."
6. Make the text bold by clicking on the B next to the font size.



Name: _____

Levels

Using Microsoft Excel to Record Weather Observations

Student Worksheet (3 of 5)



Grades K-4

7. Move the cursor to cell A4, click the mouse and enter Date (see below). Move the cursor to each of the following cells and enter the text.

B4 Time

C4 Sky Observations

D4 Visibility

E4 Snow Depth (cm)

F4 Water / Sea Ice Observation

Tip: If the text needs to be edited click in the cell and correct the text in the Formula Bar.

The worksheet should look like this:

	A	B	C	D	E	F	G	H
1	Teller Weather Data - 2005							
2								
3								
4	Date	Time	Sky Observations	Visibility	Snow Depth (cm)	Water / Sea Ice Observations		
5								
6								
7								

Text Wrapping: Notice that all of the text entered in the cells cannot be read. In order to read the text each cell could be made wider. A better solution in this case is to wrap the text.

8. Click and drag the cursor from cell A4 to G4 to highlight the text.

	A	B	C	D	E	F	G	H
1	Teller Weather Data - 2005							
2								
3								
4	Date	Time	Sky Observations	Visibility	Snow Depth (cm)	Water / Sea Ice Observations		
5								
6								
7								

Name: _____

Levels

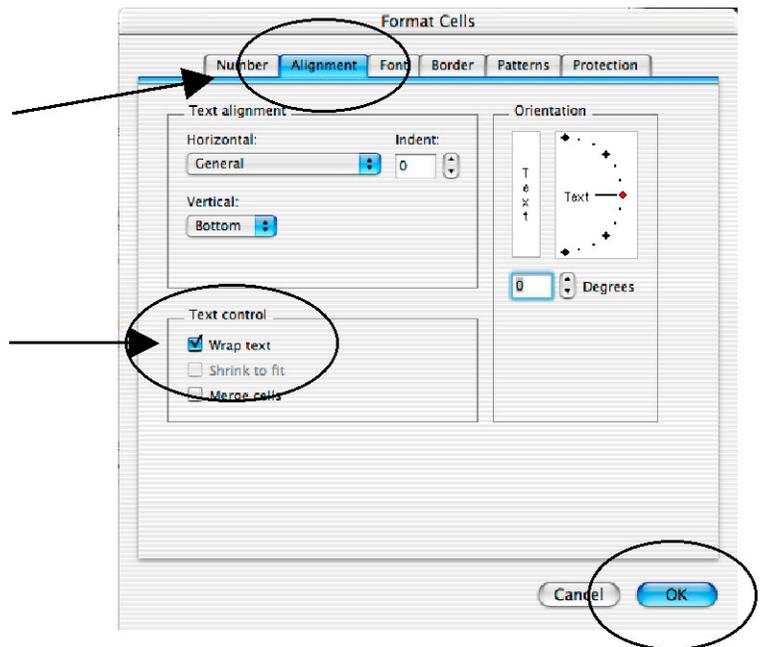
Using Microsoft Excel to Record Weather Observations

Student Worksheet (4 of 5)

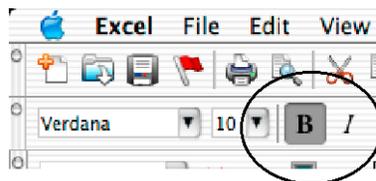


Grades K-4

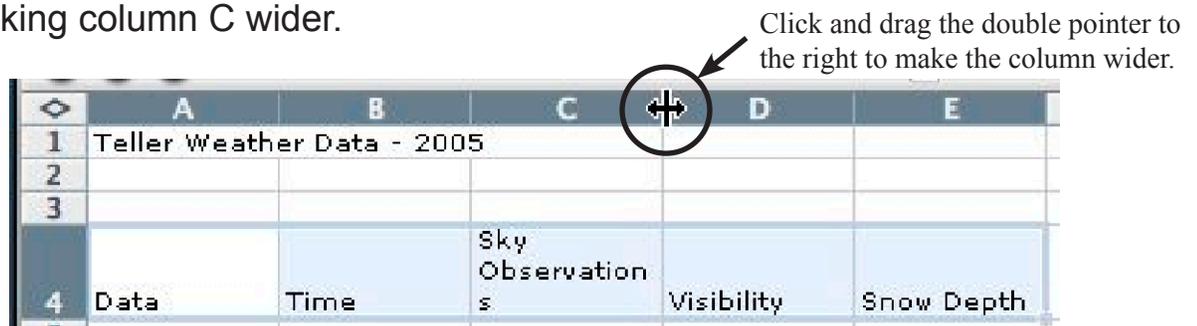
- On the menu select **Format** → **Cells**.
- On the format screen that comes up, select “Alignment,” then check the “Wrap Text” box.
- Click OK.



- Make the text bold by clicking on the B on the toolbar.



- It still may be necessary to resize some columns. For example, to make column C wider place the cursor between columns C and D until the cursor looks like an arrow pointing in two directions. Click and drag the mouse to the right making column C wider.



Name: _____

Levels

Using Microsoft Excel to Record Weather Observations

Student Worksheet (5 of 5)



Grades K-4

The table should look like this when finished.

	A	B	C	D	E	F	G	H
1	Teller Weather Data - 2005							
2								
3								
4	Date	Time	Sky Observations	Visibility	Snow Depth (cm)	Water / Sea Ice Observations		
5								
6								
7								

Entering data in your table.

The following observation was made on Nov. 23 at 2:00 PM. The sky was clear with unlimited visibility. The snow depth measured 7 centimeters and the ocean was open with ice forming along shore.

	A	B	C	D	E	F	G	H
1	Teller Weather Data - 2005							
2								
3								
4	Date	Time	Sky Observations	Visibility	Snow Depth (cm)	Water / Sea Ice Observations		
5	11/23/05	2:00 PM	clear	unlimited	7	Open ocean with ice along the shore		
6								
7								
8								

14. Enter the date in cell A5 and time in cell B5 in the worksheet. In the remaining cells enter the observations for today's weather. After the data is entered either print the worksheet, or have your instructor check it.

Your teacher will tell you where to save the data table and what the file name should be. When you want to add new weather observations to the table open it by double clicking on the file. Enter the date and time the observations were made along with the observation data in each of the cells.

As you add data to your table you will be able to compare observations taken on different days and times.