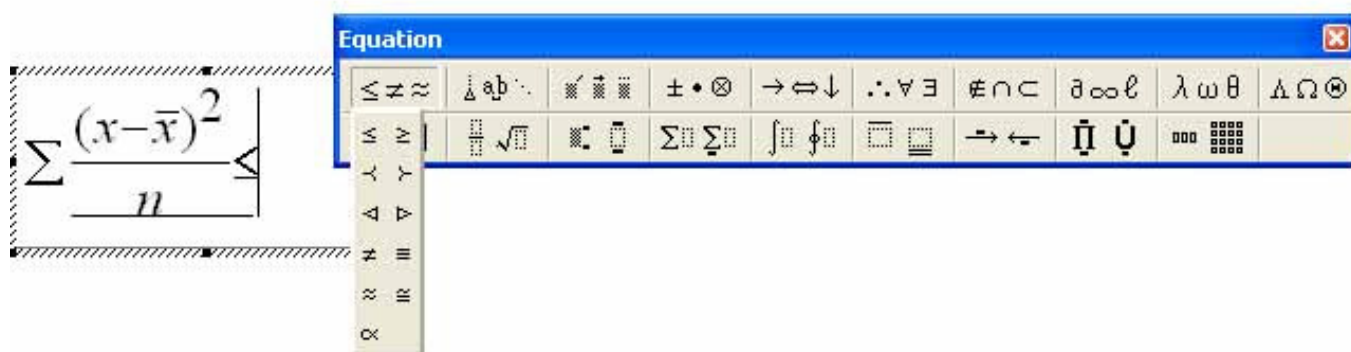


Utilizing Microsoft Equation Editor and Draw for Math and Science¹

Equation Editor is a simple, yet powerful program that can be used to add mathematical and scientific equations to any Microsoft Word document or PowerPoint presentation.




Accessing the Equation Editor Menu

- 1) Position your cursor where you want the equation to be inserted
- 2) From the Insert Menu select Object.
- 3) From the Object Dialogue Box scroll down and select Microsoft Equation 3.0.
- 4) An equation editor textbox appear along with the equation shortcut menu.
- 5) Type your equation and then click away from the equation textbox. Your finished equation will display on your document.



Adding the Equation Editor icon as a shortcut to the standard toolbar

- 1) From the Tools Menu select Customize
- 2) In the customize dialogue box click on the Commands tab
- 3) In categories highlight Insert. Under Commands scroll down until you find Equation Editor
- 4) Click and drag the equation editor icon onto one of your toolbars.

(Tip: While you are here you may want to add shortcuts for the symbol icon  as well as the subscript and superscript icons   (found under Format Commands). (Super Tip: Repeat the previous steps to add the same shortcuts in Microsoft PowerPoint.)



Working with Equation Editor

Take a few minute to explore the Equation Editor Shortcut keys. It is possible to create equations with exponents, subscripts, fractions, inequalities, integrals, derivatives, Greek letters, set notation and much more.

¹ Bellevue School District Instructional Technology. Created by Dusty Steere 12/2004

When you open Equation Editor the usual Microsoft Word toolbars are replaced by the Equation Editor Toolbar with the following choices: File, Edit, View, Format, Style, Size, Window and Help.

Format

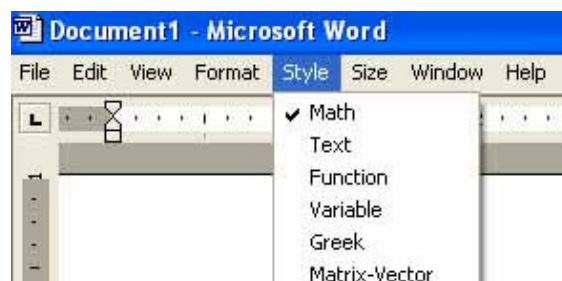
Use the format menu to alter the way a “pile” of equations are aligned. You can align equations at the equals sign, at a decimal point, to the right, left or center.

Style

Each of the commands in the Style menu is used to assign a specific style or font to a selected group of characters in your equation, or to control how styles and fonts will be assigned to any characters that you subsequently type.

- **Math** assigns the Math style either to selected characters or to characters that you subsequently type. In most cases, you should use the Math style because it differentiates between functions and variables and then formats the characters accordingly. Use other styles to include special characters.
- **Text** assigns the Text style either to selected characters or to characters that you subsequently type. Choose this option to make it easier to type ordinary text with Equation Editor. This option also disables the automatic spacing function in Equation Editor and activates the SPACEBAR on your keyboard.
- **Function** assigns the Function style either to selected characters or to characters that you subsequently type. Use this command to assign the Function style to a sequence of characters that Equation Editor fails to recognize as a function name.
- **Variable** assigns the Variable style either to selected characters or to characters that you subsequently type. Use this command to assign the Variable style to a sequence of characters that Equation Editor incorrectly recognizes as a function name.
- **Greek** assigns one of the two Greek styles either to selected characters or to characters that you subsequently type. Lowercase characters are assigned the L.C. Greek style, and uppercase ones are assigned the U.C. Greek style.

Tip: to turn on the Greek style for one letter press Ctrl+G.



Size

Each of the commands on the Size menu is used to assign a specific size either to a selected group of characters or to characters that you type subsequently. You have the following choices.

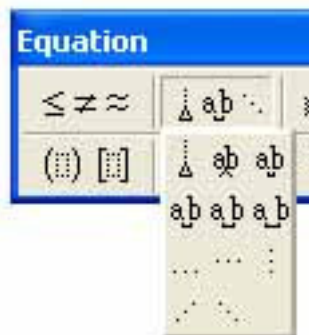
- Full
- Subscript—a smaller font
- Sub-Subscript—an even smaller font
- Symbol—a large font
- Sub-Symbol—bigger than full but not as big as symbol
- Other—here you can explicitly assign font size (in points)

Spacing

Equation Editor automatically adds the appropriate space between elements. Only when you use Text style will you need to use the SPACEBAR. If you want to add space in an equation or close up the space between two elements, use the following methods.

Position the insertion point where you want to adjust spaces, and then choose one of the following spacing symbols from the Spaces/Ellipses palette, or press the following shortcut keys.

To insert	Description	Press
$a\!b$	Zero space	SHIFT+SPACEBAR
$a\b\!b$	1-point space	CTRL+ALT+SPACEBAR
$a\!b\!b$	Thin space (one-sixth em)	CTRL+SPACEBAR
$a\b\!b\!b$	Thick space (one-third em)	CTRL+SHIFT+SPACEBAR
$a\!b\!b\!b$	Em space (quad)	No shortcut key



Formatting an Equation within your document

Once the equation has been completed it responds as like a textbox within Microsoft Word. Do the following to format the layout and text wrapping of the equation.

- 1) Right click on the equation
- 2) Select Format Object
- 3) Modify size, color and layout as desired
- 4) Alternatively, drag on the corners of the equation to resize the equation.

Creating Graphics with the Drawing Toolbar


The Drawing Toolbar in Microsoft Word can be used to create geometric figures such as triangles or trapezoids. Additional text boxes can be used to label diagrams and provide instruction on handouts or presentations.

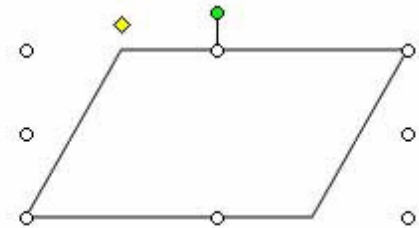
Accessing the Drawing Toolbar

- 1) Click on View; Toolbars and select Drawing.
- 2) The drawing toolbar will display at the bottom of your screen.
- 3) You can click on the far left hand corner of the toolbar and position it in any desired location on the screen.



Drawing Geometric Shapes

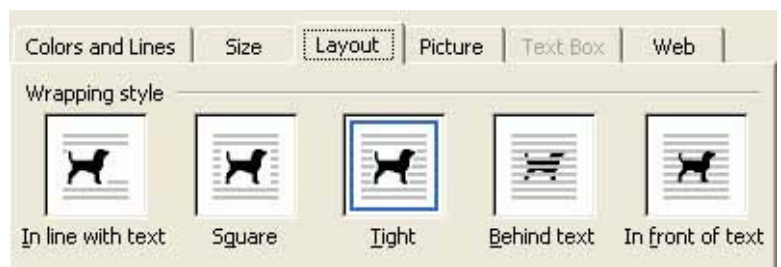
- 1) Click on the Rectangle, Oval or AutoShapes button on the drawing toolbar to select a shape.
- 2) Position the crosshairs  in the desired location of your document and click and drag to create your shape.
- 3) Click and drag on a corner point in order to resize the shape.
- 4) Click and drag on the center of the object to reposition the shape
- 5) Click on the green dot to rotate the shape.
- 6) Click on the yellow diamond (if available) to change the dimensional properties of the shape.




Formatting Geometric Shapes

Formatting your shape allows you freedom in choosing how the object will interact with the rest of your document. You can make changes to color, layout and order.


- 1) To access the format menu either double click on the object or right click on the object and select Format Picture.
- 2) Click on the Colors and Lines tab to modify the outline and fill color and transparency.
- 3) Click on the Size tab to size, rotate and scale your shape
- 4) Click on the Layout tab to control how your shape will wrap with other text in the document.

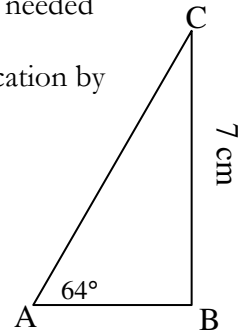


Adding Labels and Identifying Information with Textboxes

- 1) Activate the textbox tool by clicking on the icon on the draw toolbar .
- 2) Click and drag to create a textbox of the desired size.
- 3) Type the desired text.

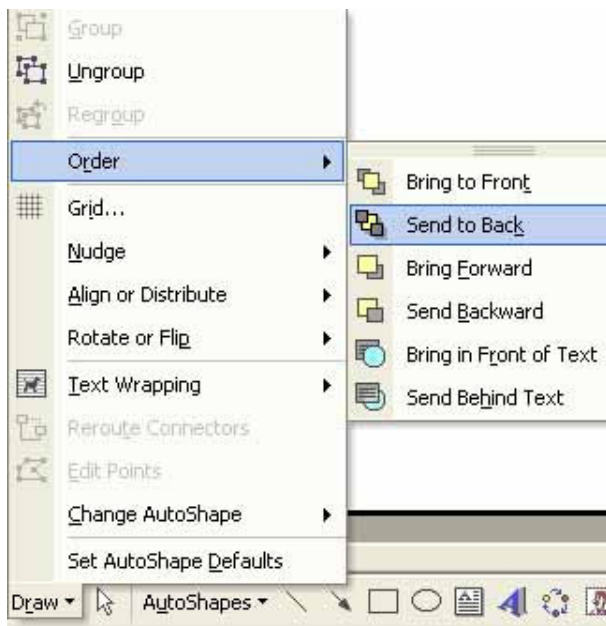
Tips for working with Textboxes


- If you are creating multiple textboxes (i.e. for the labeled vertices of a triangle), create one textbox and then modify its format as desired and then copy and paste the textbox as often as needed
- Modify the textbox colors and lines so that it has no fill and no line.
- Temporarily disable snap to grid to precisely position your textbox in the right location by holding the Alt button while you move your textbox.
- Change the text direction using the textbox shortcut menu 



Selecting, Grouping and Ordering Your Figure

Once your diagram is complete you will want to group it together as one so that when it gets moved it moves as one piece.



- Click on the Select Tool  on the Drawing Toolbar, click and drag over your entire object to select all the different parts of your drawing.
- From the Drawing Toolbar click on Draw and select Group.
- Also from the Draw menu you can change the positioning of the drawing by choosing an option from the Order menu