

## **Best Practices of Technology Integration**

**Title:** *Bridging Communication*

**Subject(s):** Technology Education

This lesson can be applied to any subject where drawings can enhance communication. I use it in my Technology education classes to improve communication through the combined use of graphics and text.

**Intended Grade Level(s):** 6 – 8

**Description:**

Students entering my technology classes come with a wide variety of computer skills. Many of them have been exposed only to Microsoft™ Paint® for creating drawings. Their exposure comes either from the Computers I class or from experimenting on their computers at home. Still others have had no exposure to drawing programs at all. My goal in using this lesson is to show students how to create drawings in a word processing document.

This lesson gives students hands on experience using the Microsoft™ draw tools, which is a component of the Microsoft™ Word® program. Their assignment is to combine drawings with their pattern notes for the truss bridge activity. The drawings help to clarify the steps in creating a pattern for the truss bridge that they will build. Later in the class when we get to more open-ended design problems, students will be using the draw tools to communicate solutions to design problems.

**Curriculum Benchmarks:**

TCH.2.MS.3

Retrieve, communicate and input information using a technological system.

TCH.3.MS.2

Use technologies as tools for creative expression and communication of ideas.

**Materials/Hardware/Software:**

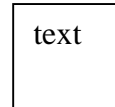
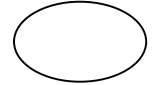
Computer, printer, Microsoft™ Word® program

**Activities / Procedures:**

Present the overhead to the class pointing out the various tools, then immediately get the students on a computer so that they can get some hands on experience. If the draw toolbar is not showing, have the students go to the VIEW pull down menu, highlight toolbars, and then select DRAWING. The drawing tool bar should now be on the screen. When the students move the mouse pointer over the tools, the name of the tool appears. This lesson is only intended as an introduction to the tools. This part of the lesson can be customized to follow whatever order the instructor chooses. I have the students follow my examples of creating and manipulating different shapes. This part of the lesson allows for cooperative learning where students with more experience can assist others.

*Bridging Communication*

1. Have the students create a rectangle
  - a.) Point out the handles and resize the rectangle.
  - b.) Add color using the fill color.
  - c.) Introduce the select arrow.
2. Draw a straight line using the line tool
  - a.) Change the thickness
  - b.) Change the color
  - c.) Select using the select arrow & move around.
3. Create an oval (note: that holding down the shift key while using the oval or rectangle tool creates a perfect circle or square.
4. Create a text box
  - a.) Enter their name
  - b.) Remove the line around the box
5. Click on and try out word art.
  - a.) Resize, adjust and move around.



After this orientation I have the students draw an object such as a vehicle, building, person etc. just to do some experimenting before they begin their pattern notes document. Please see the attached bridge pattern note sheet that was done by a student in Tech I.

#### **Assessment / Evaluation:**

For the assessment of this activity, I check the format of the paper, the spelling of text, the order of numbers, and I look for the five required graphics which include text boxes, lines, shapes and colors.

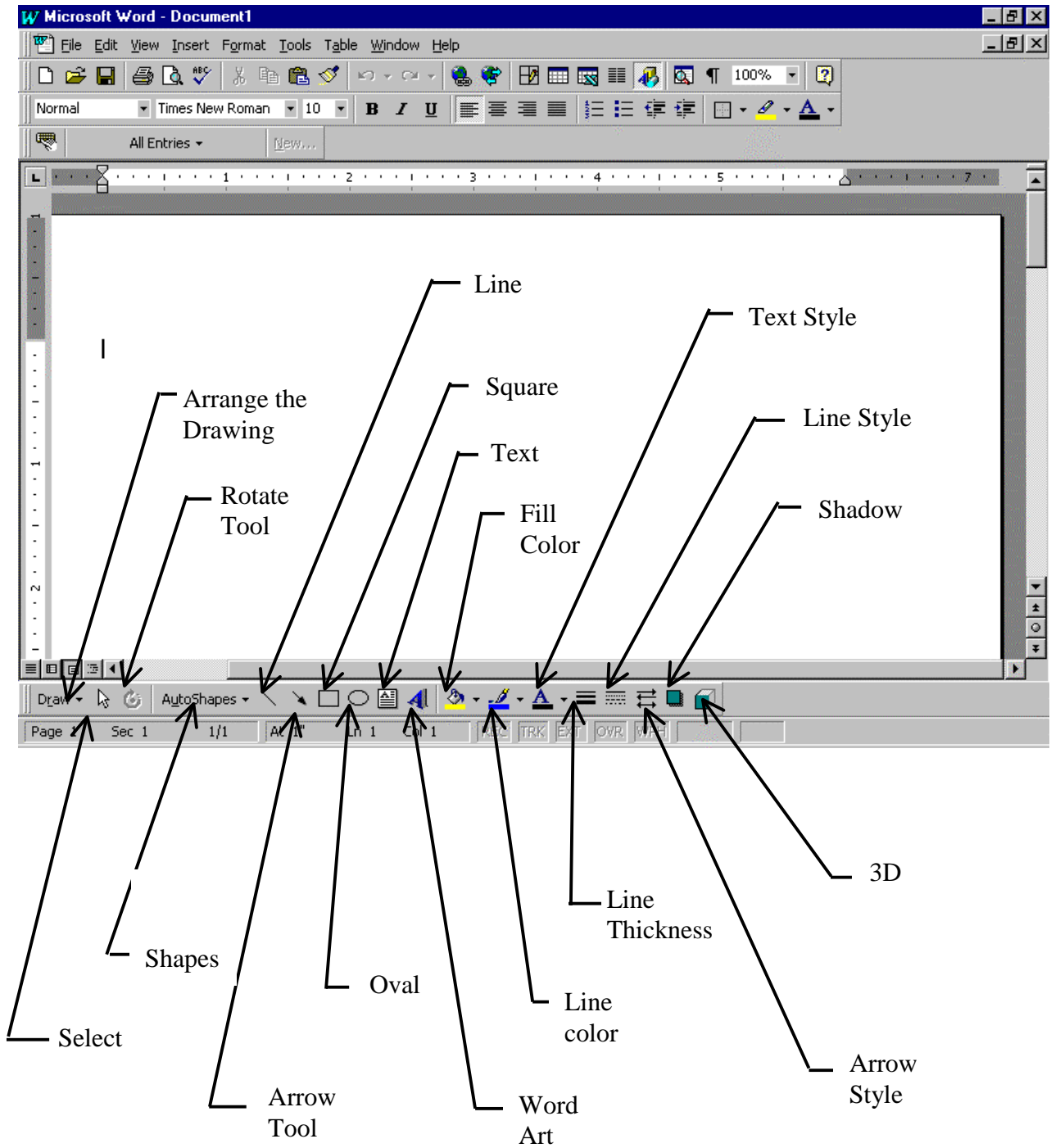
#### **Follow –Up activities:**

The second drawing component of the bridge building unit includes a cover sheet complete with a drawing of the bridge that they designed. I also require that they include some scenery in their drawing along with name, date, hour and title.

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The draw tools overhead:

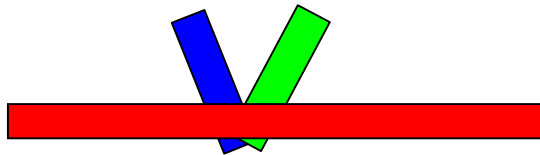



This document was done by a student as a result of this lesson.

**Pattern Notes:**

1. Transfer sketch to graph paper use light lines.
2. Measure each member.
3. Add all the wood you need for one side.
4. Multiply by 2.
5. Subtract the total from 120.
6. Do you have enough left over for cross members? (12" left over?)
  - a.) You need a minimum of 6 cross members.
  - b.) Each one - 2" long minimum.
7. If you have enough wood: show the thickness of your members.

\_\_\_\_\_ Single line \_\_\_\_\_ Double line \_\_\_\_\_ (1/4")  
8. Color each member a different color to show details of each joint.



9. Show location of cross members  
 Symbol for cross members

10. Begin the Construction lab