

ENGINEERING

ACTIVITY #6

Today you will develop a full-scale drawing of one of your bridge designs that you sketched in the last activity using AutoSketch. The drawing you complete in this activity will be used later as a pattern (PLAN) for your model bridge. You must meet certain design specifications (rules) that are listed below. **MAKE SURE THAT YOU UNDERSTAND ALL OF THE RULES BEFORE YOU BEGIN YOUR DRAWING!!**

You must follow these specifications as you complete the full-scale drawing and the building of your bridge.

1. A total of 20'0" of wood will be used. NO MORE THAN 20'0" for the ENTIRE BRIDGE!!
2. The total bridge LENGTH (superstructure) must measure 12" long at the roadbed.
3. The total bridge WIDTH must measure 3" wide from side to side. (The width of the bridge is the cross truss.) Your cross truss should measure 3" wide by 1" tall (3" x 1"). YOU MUST HAVE FOUR (4) CROSS-TRUSSES MEASURING 3"x 1"!!
4. The total bridge HEIGHT must measure 4" OR MORE!!
5. A section below the roadbed (substructure) may be added for strength. If you decide to add the substructure the measurement must be 1" from the bottom of the roadbed piece to the bottom of the bridge.
6. Cross bracing, adding additional reinforcement to various sections of the structure may be used.
7. To allow the bridge testing device to work, you must design your bridge leaving at least a 1" square opening at the very center point of the roadbed of your bridge.

Look at the pictures on page 15 in The Pitsco Bridge Book booklet and notice how the various parts of your bridge (construction joints) may be joined. You may use any of these methods to construct your bridge.

Locate the drawing template {Bridge Template.SKF} in the video folder on your desktop. Drag the icon onto your desktop. You will need to draw a side truss and one cross truss using the AutoSketch program. This drawing will be completed full scale and will act as your guide when you begin to construct your bridge. **BE SURE TO FOLLOW THE RULES LISTED ABOVE AS YOU DESIGN YOUR BRIDGE.**

A. Double Click the {Bridge Template.SKF} that was copied to your desktop..

The blank document will open.

B. After the document has opened choose SAVE AS (under the FILE menu) the document:

Left click the [File] button on the menu bar at the top of the screen.

Left click the [Save As...] button.

The Save Drawing File window will open.

Under the <Look in: > box, left click the DESKTOP icon

In the <File Name box>, type in your First nameLast nameEngineering

Left click the [Save] button in the lower right corner of the screen.

Your document is now saved and an icon with your name will appear on the Desktop.

****While you are working, click the SAVE icon every few minutes to keep your work updated. (The SAVE ICON looks like a floppy disk, and is on the menu bar at the top of the screen)****

C. When you are finished if the period ends make sure you EXIT the program:

Left click the [Save] icon or go to the File menu and left click the Save button. (NOT THE [Save As...] BUTTON!!!!)

Left click the [File] button on the menu bar at the top of the screen.

Left click the [Exit] button.

Spend the rest of the period working on your drawing. Remember that your drawing will be used later as a pattern when you build your bridge, so be sure to make the drawing FULL SIZE and ACCURATE.

When you have completed your full-scale drawing, let Mr. St. Onge check all of your work.