



Engineering Virtual Learning

**HS Machine Drafting
Lesson #16**

April 27, 2020



Objective/Learning Target:

Students will create a cardboard “Free Throw” game and produce a complete set of working sketches.
(this activity is day 1 & 2 of a 4 day project)

Bell-work:

Have you ever played horse or a free throw game as part of basketball practice? One famous coach said, “To put it simply, free-throws are the most important shot in basketball.”

Watch these videos of a free throw game you can create at home:

https://www.youtube.com/watch?v=ZfaAJrwcU_U

<https://www.youtube.com/watch?v=wNtNtOIJQk>

Is there an advantage to the moveable free throw shooter?
(record your thoughts in your engineers notebook)

Learning Practice: “Free Throw Court Build”

Day 1- Steps 1 - 3

Step 1: Gather materials from around your home to build a free throw game like one in the video.

Some items you might use: Cardboard (cereal box or shipping box), popsicle sticks, wooden skewers, hot glue or tape, string, ping-pong ball (or small paper wad), coke bottle cap, rubber bands, scissors or exact-o knife.

Step 2: Watching the video make a set of plans (rough sketches) of the pieces you will need.

These plans do not need to be exact but they need to be proportional. As you draw them think about adding some dimensions while you are building your court. You decide which court to build.

Step 3: Use your plans to start building the court. (Explain to your Parents what you are about to do!!)

As you are building your court, add dimensions to your plans. You can also change the court if you see something that needs to be redesigned. Note your modifications in your plan documentation. You might not finish the court today as you will spend more time thinking about the project rather than building.

We will use the plans you sketched today to create a set of working drawings this week for your game.

Learning Resource Links:

Do It Yourself Freethrow game –

https://www.youtube.com/watch?v=ZfaAJrwcU_U

https://www.youtube.com/watch?v=_wNtNtOIJQk