

Technical Sketching 1 of 2

The process of engineering begins with an idea. The ability to communicate many technical ideas requires a translation from thoughts into pictures. A quick way to share an idea is through a technical sketch. Technical sketching is a tool used by engineers and inventors daily. If the idea turns out to be a good one, these first sketches are turned into a full set of drawings, or solid models, which include measurements and other critical details. From the initial sketches, the first prototypes can be developed. The freehand sketch is the first step taken to turn an idea into reality.

Developing Proper Sketching Technique

All two dimensional pictures can be broken into straight lines and curved lines. The next couple of exercises will help the novice to develop good sketching technique. We will start by practicing straight, parallel lines.

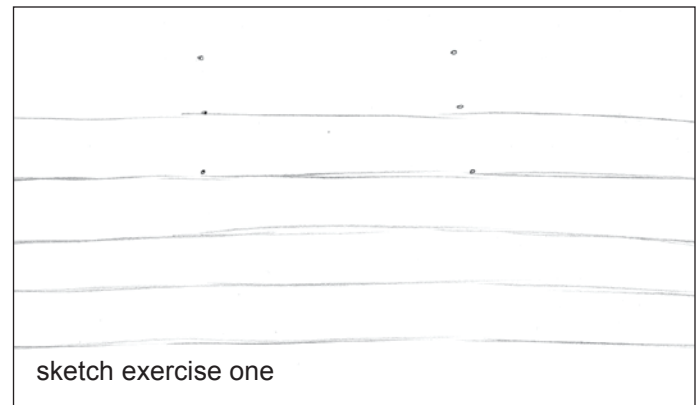
Things to remember:

1. Hold your pencil using a loose grip.
2. Lock your wrist and move your whole shoulder as you sketch your straight lines.
3. Guide the pencil with your eye by continually looking toward where you would like the pencil to go
4. Keep your lines light and consistent.

Straight lines

Sketch exercise one

Begin by selecting a sharp pencil and a blank piece of paper. In this sketching exercise you will sketch straight light lines keeping them evenly spaced all the way down the paper. Initially, you may want to place a couple of light points that you can look towards to guide your pencil. Soon you will be sketching straight light lines easily. Remember to look toward where you would like the pencil to move. Keep all lines light. Hold the pencil loosely.

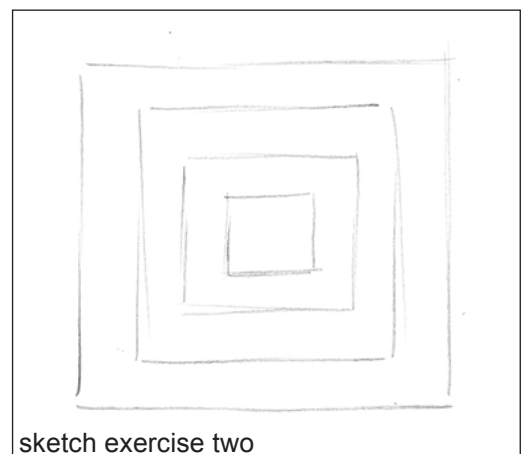


Sketching a Square

1. Sketch the first side of your box, keep the line parallel with the top of the paper.
2. Sketch the second side of the square. Keep the line parallel with the first line.
3. Sketch the third side. Keep the line perpendicular to the first two lines.
4. Sketch the last line. Make sure that the last line is sketched placed in a position that makes both sides equal.

Sketch exercise two

Begin with a scrap, blank sheet of paper. Sketch a small square in the middle of the paper. Sketch another square around the first square. Maintain an equal distance between squares.



Technical Sketching 2 of 2

You do not have to be an artist to accurately and neatly describe your ideas using technical sketching. A good example of layout is demonstrated at the right - laying out a circle. A circle fits perfectly into a square. In order to draw proportionally correct circles use the following sequence:

1. Begin by sketching a square.
2. Proportionally divide the square into four even areas.
- 3.- 6. Complete the four semi-circles.

Note: Remember to keep all of your lines light. Darken when the sketch is correct.

Sketch exercise three

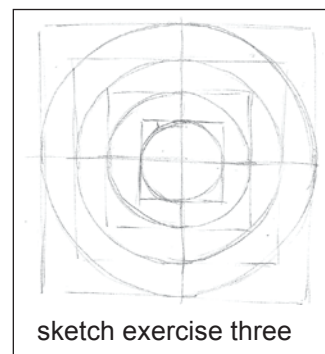
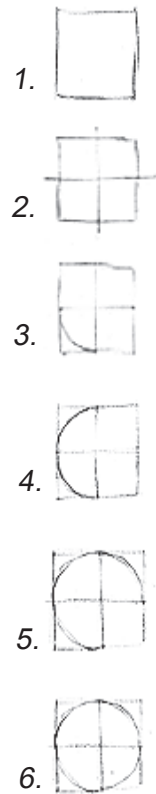
This sketching exercise is designed to give the beginner practice sketching straight and curved lines while keeping things proportional. Start by sketching a square in the middle of your paper then continue to add squares and circles until the paper is filled.

Additional Sketching Exercises

Use blank sheets of paper to sketch the shapes shown in the boxes below. You will need a sharp pencil. For extra independent practice complete the example sketches below.

Things to remember:

1. Don't grip the pencil too tightly.
2. Keep developmental lines light.
3. Darken object lines when your drawing is complete.
4. Maintain proper proportion.
5. Keep your drawings neat.



sketch exercise three

