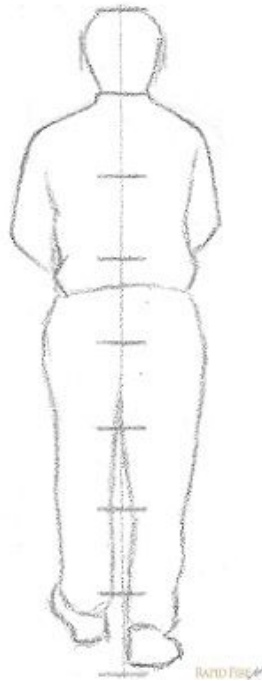
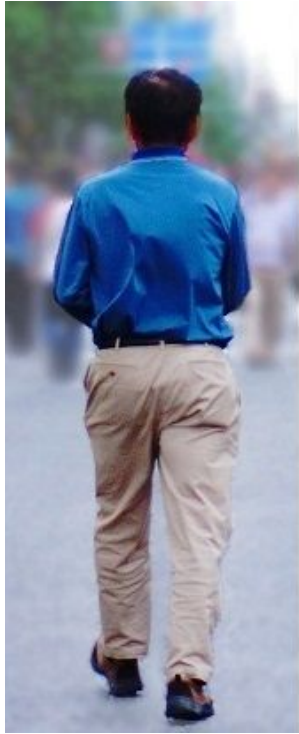


Lesson 4: How to Draw with Accurate Proportions

By Darlene Nguyen - May 17, 2017 0 956



Proportion simply refers to the size relationships between objects. If you want to draw a subject or scene with accurate proportions, you must employ proper techniques and train your eyes over time.

When drawing, most of my time is spent on measuring, comparing, re-measuring and re-comparing. The more time you spend trying to improve the accuracy of your drawing, the better you will “see”.

How to Draw With Correct Proportions

I’m going to introduce a few techniques to measure and check your accuracy. When you draw, it’s best to use as many measuring techniques as possible. You can use these techniques in any order, wherever you see fit.

I like to measure my subject before, during and sometimes even after I finish my portraits.

Measuring **before** I draw helps me understand what I'm seeing and familiarize myself with the subject. It's very helpful when drawing portraits of people I've never seen before.

Measuring **after** I draw is a way for me to do a final check to find mistakes that I may have missed and a way to gain confidence in the finished product. You should never leave measuring to the very end!

Important: If you're following along, you'll want to use very light pressure so you can easily erase any mistakes you make.

Navigation

[1. Measure with Your Pencil](#)

[2. Check Relationships Between Objects on the Vertical and Horizontal Axis](#)

[3. Check Angles](#)

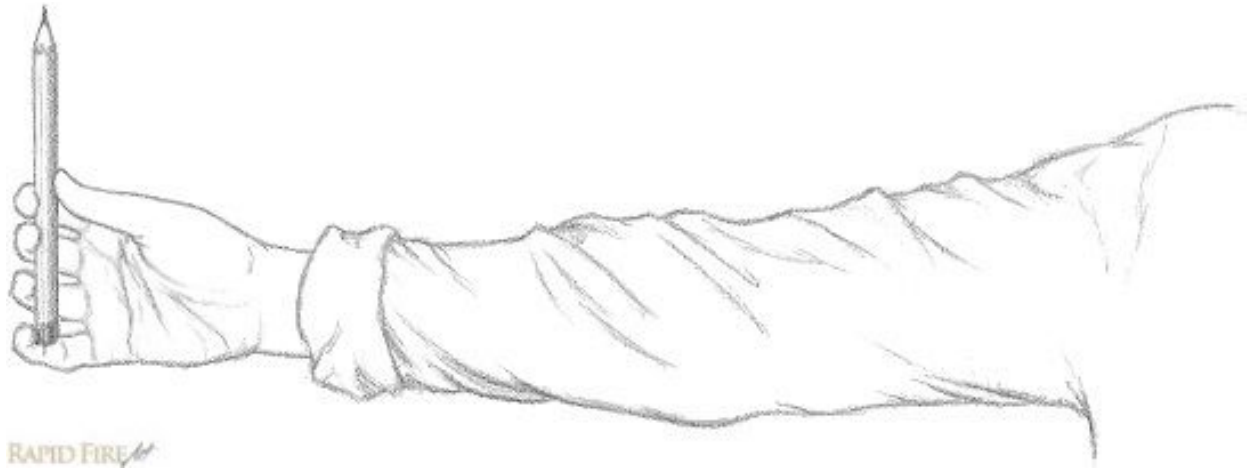
[4. Observe Negative Space](#)

#1: Measure with Your Pencil

To draw something accurate in relative **size**, you can use your pencil and thumb as a measuring tool to measure the relationships between body parts or objects in a scene. Here's how to do it:

Maintain Accuracy Across All Measurements

Before you make any measurements, it's important to understand how to maintain accuracy throughout the measuring process.

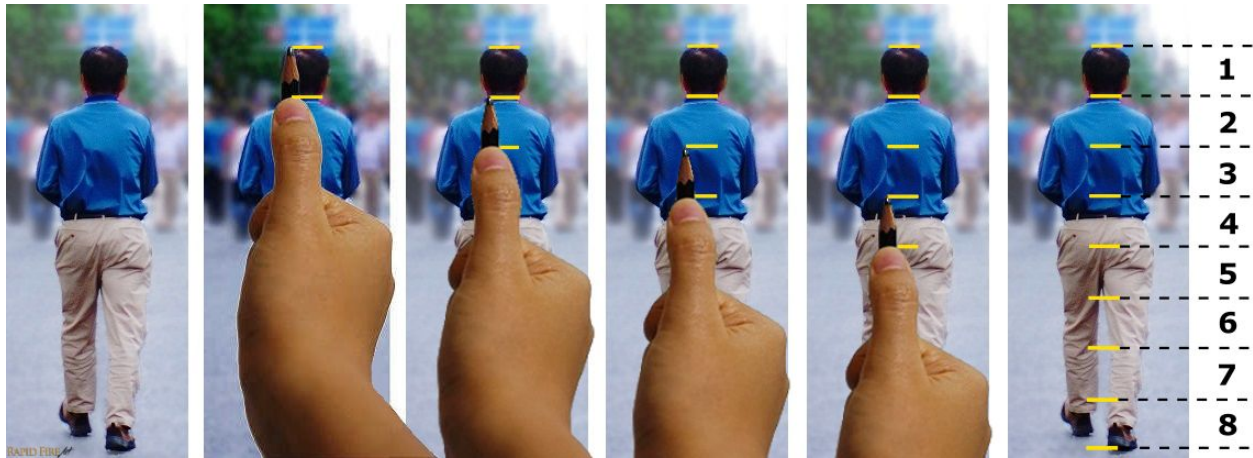


Raise your pencil up directly in front of your eye without bending your elbow. If you bend your elbow, it will be very difficult to maintain consistent measurements. This could result in compounding mistakes. Since your arm is pivoting from your shoulder, not from your eye, your measurements will not remain accurate throughout the process. To combat this, lower your eye as close to your shoulder as possible to get the most accurate measurements from start to finish.

If you're drawing from a reference image, there's no need to worry about bending your elbow or tilting your head because you can measure directly up against the reference photo.

If you're not comfortable measuring with a pencil, you can use a [proportion drawing tool](#).

Measure Your Subject's Length and Width



Length

Use the tip of the pencil and the tip of your thumb to measure the height of your subject's head. To find out how tall he is, move your hand down slowly, counting how tall your subject is in head units. For this example, my subject is equal to 8 heads. These units are relative, so you can draw the subject much larger or smaller compared to the original size of the reference image.

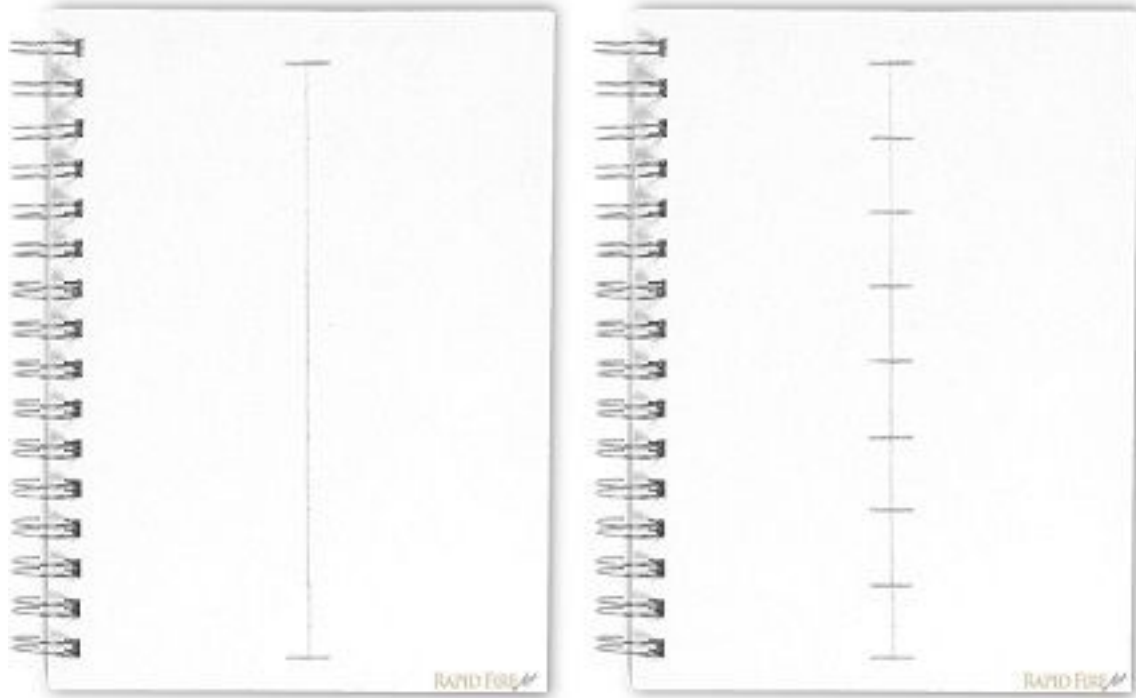
Let's say I already drew the head and then decided I might as well draw the rest of the body too. Since I know the man is 8 heads tall, all I need to do is measure the head in my drawing and multiply that by 8 to find out where I'll need to draw his feet.

Width

You can do the same thing for the width as well. Simply measure the head's length and then turn your pencil horizontally. You can figure out the width of the head as well as the shoulders, waist, etc.

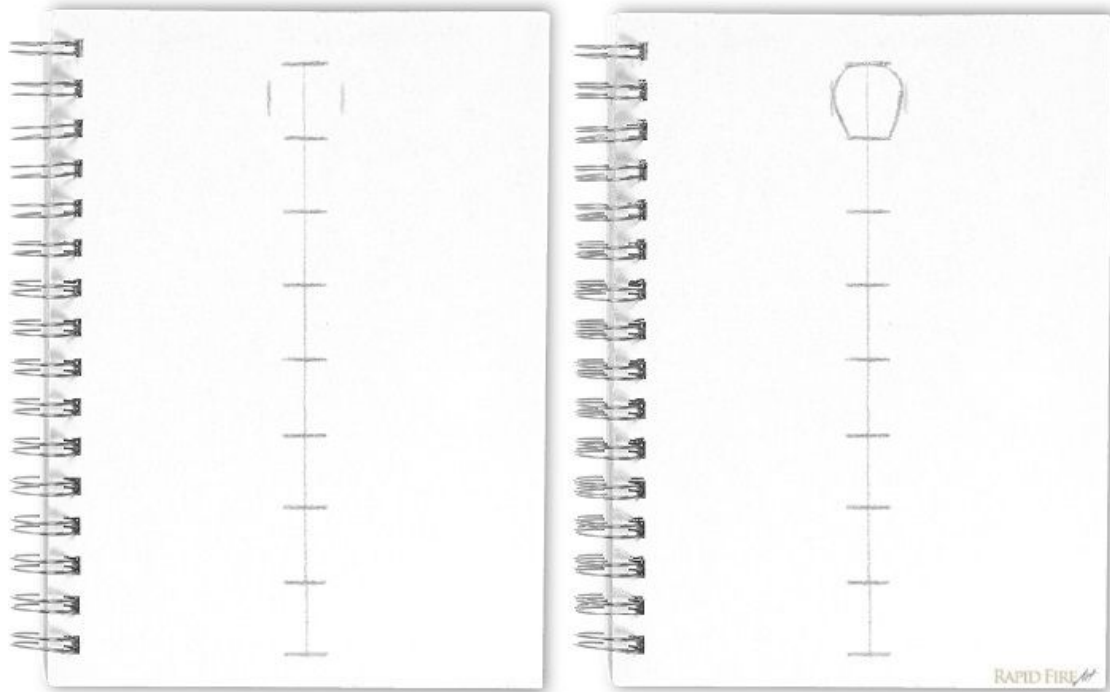
Note: Sometimes, the relationship between two body parts will not be a whole unit. In this case, you will need to search for other relationships or do your best to eyeball that part of the sketch.

How to Transfer that Information to Your Sketchbook



What's the maximum length you want for your drawing? Once you decide, make a tick at the top and bottom of the sketchbook. It will help if you draw a vertical line down the entire page to align the ticks perfectly.

Since we know the man is equal to 8 heads tall, we can confidently divide the space into 8 equal sections vertically. Double check that the spaces are all even. You can use a ruler to do this. Now that I have my ticks, I know the exact height and width to draw the head.



Measure and Compare Other Parts of the Body

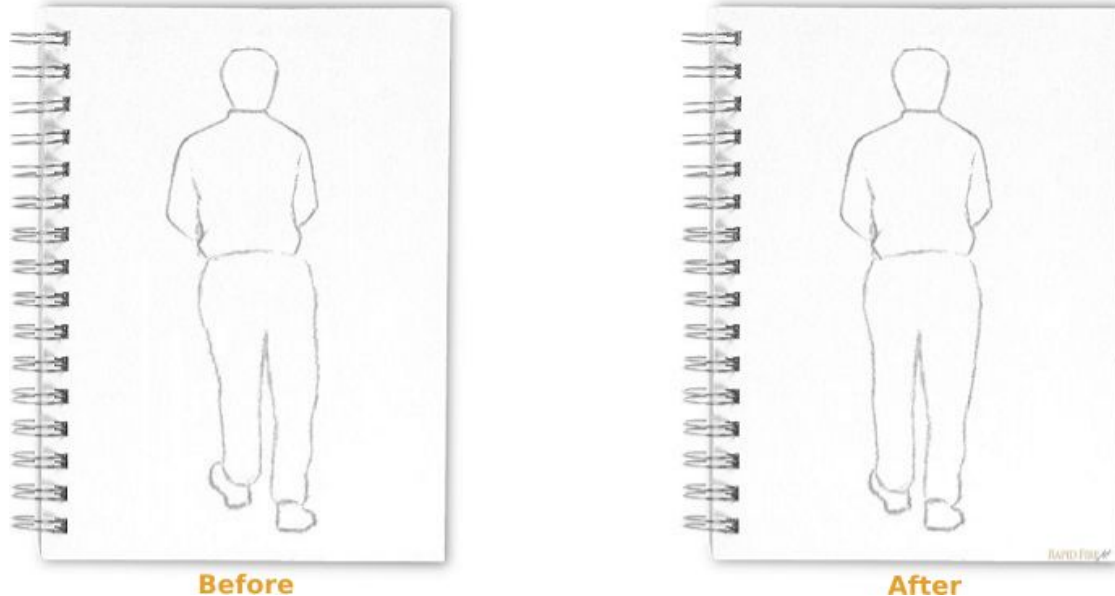
You can use this technique to measure all other parts of the body to get a good idea of the size relationships between each. This is very useful when you're drawing several people in one scene. How do you know how tall or wide to draw one person compared to another? How big do you draw a child's head compared to her parents? Example:



- The buttock is equal to 2 head units.
- The right shoe is slightly smaller in total width than the left shoe.
- Etc...

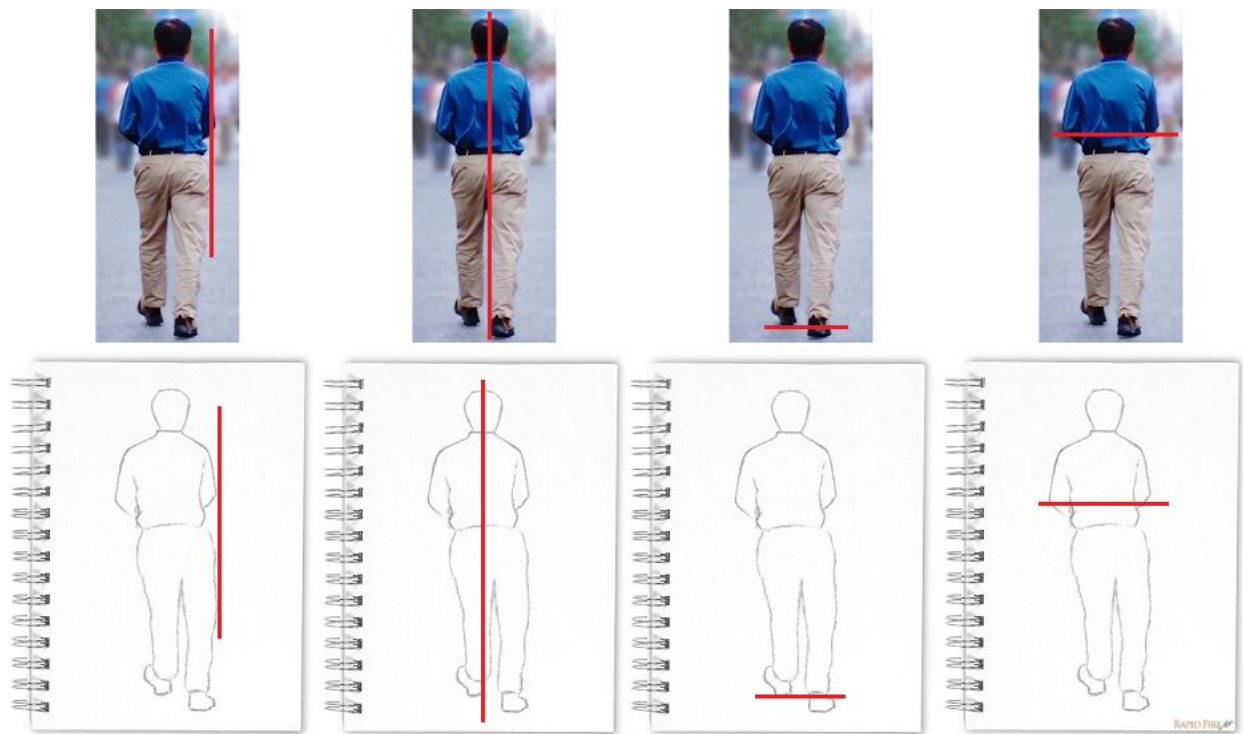
If there's another person in the scene, you can compare the 2 bodies against each other so you know how wide to draw the second person or how big their head is compared to person #1.

#2: Check Relationships Between Objects on the Vertical and Horizontal Axis



Getting the sizing right is great, but it's also important to know where to align everything. Let's say you already jumped ahead and made a rough sketch. You got the length and width of each body part right, but something just doesn't seem quite right.

In the examples below, I'm using vertical and horizontal lines to find out where certain body parts are aligned.



If you look at the first row of images, you'll find that the following statements are true:

Image 1: The right shoulder and right buttock are aligned perfectly on the vertical axis.

Image 2: The middle of the head is in line with the inner side of the right foot.

Image 3: The bottom of the left shoe comes down to the middle of the right shoe.

Image 4: The left elbow is lower than the right elbow.

If you compare the top row to the bottom row, you'll notice that 3 of these observations do NOT match the sketch. Now I know what's wrong with my sketch and what I need to fix.

Tools you can use

To get accurate vertical/horizontal measurements of your subject, you can use the following tools:

- A pocket level tool
- A weight on the end of a string, aka a plumb bob + line (works for vertical measurements only)
- Your pencil: Put your pencil up in front of your eye and align it with a straight horizontal or vertical edge, lock that angle in place and then move your hand back over to your subject. You can reference a straight edge such as a flat horizon line or perfectly straight pole if you're outside. If you're indoors you can reference the edge of the floor or the side of a wall. Make sure your vertical/horizontal references do not change!

If you're drawing from a photo reference, you can simply use a ruler or pencil. Press the ruler flat up against the photo and align it to the edges of the paper. For super accurate measurements, you may want to try a drawing board with an inbuilt transparent ruler.

If you're drawing from a digital reference, you can use an image editing software to draw lines directly onto the photo.

#3: Check Angles



Angles are especially hard to eyeball. For this dilemma, I use a sliding technique. What you want to do is hold your arm out between your eye and the subject without bending your elbow and then tilt your pencil at an angle until the edge of the pencil matches the angle you're checking. Then carefully slide your hand in front of your drawing while holding the pencil as still as possible.



Important: Your sketchbook must be in a fairly upright position, sitting on something stable such as an easel and aligned fairly close to your subject for accurate results. As a beginner, you want to minimize the amount of travel time while you're moving your hand from the subject to the sketchpad.

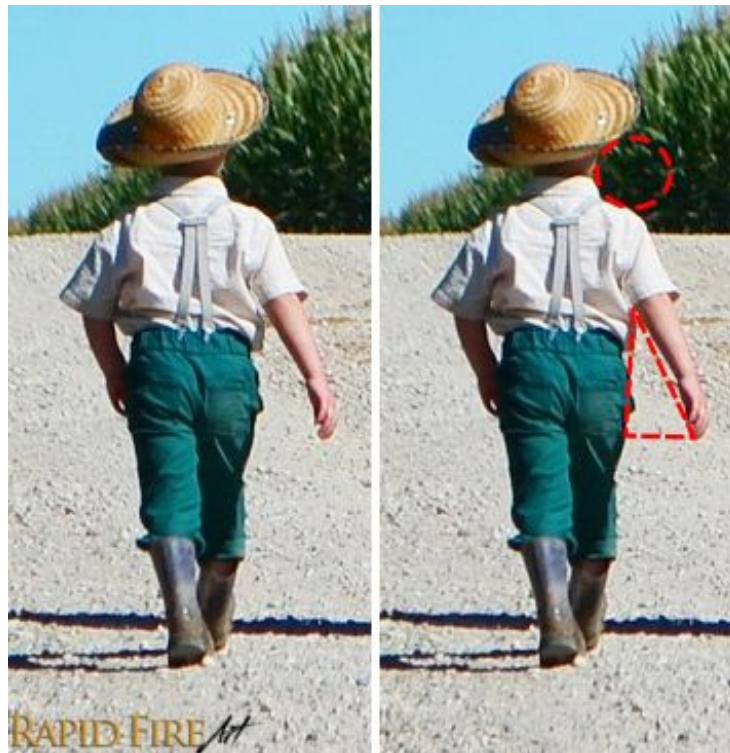
If you lost your grip and lost the angle, don't worry. Sketch it anyway by making your best guess, then verify your line by repeating the process above until you get the angle just right.

You can use the same sliding technique to measure the relationship between several body parts. For example: the angle from the bottom of the seagull's foot to the end of its tail feathers.

No doubt this is a tedious process. The more you do it, the faster you'll become. Over time, you will tune your eyes to draw more accurately, allowing you to do all of this at a quick glance.

#4: Observe Negative Space

If you find it easier to draw geometric shapes like squares, triangles or circles than it is for you to draw detailed subjects like people and animals, here's a useful technique you can add to your drawing process.



Look at the negative space around your weirdly shaped subject to find familiar shapes such as triangles or circles that are easy for your brain to recognize. Shifting your focus from the subject to the space around it will change the way you see, perhaps simplifying it, which will allow you to make more sense of things.

Important things to remember

#1: Don't press too hard

Keep your lines light. Make sure everything is in the right place before you start adding details and shading.

#2: Always triple check and cross-check

Measuring once or twice is not enough. Small errors that you make in the beginning can add up to bigger mistakes in the end. So make sure you do your due diligence. I like to measure my subject before, during and even after I've completed the drawing.

#3: Spend A LOT of time measuring to get the best results

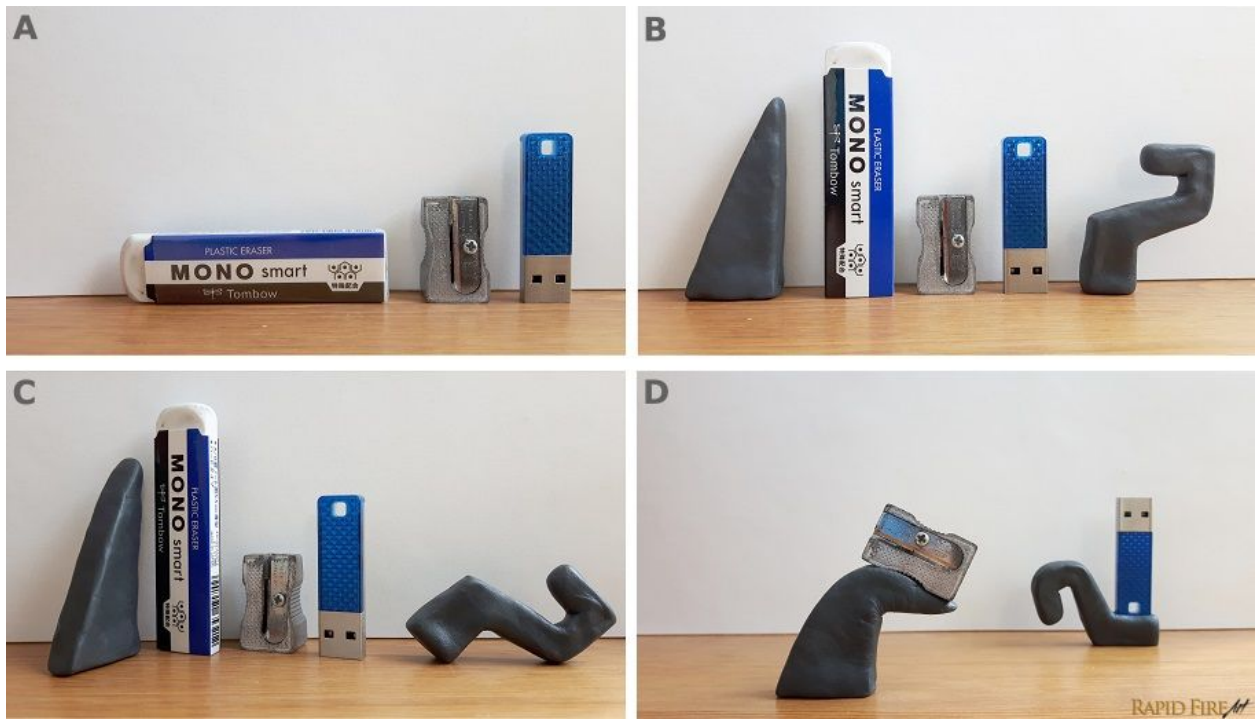
The more time you spend, the more accurate your drawing will be.

#4: Use all the techniques above In any order you want

...just make sure you try all of them.

Homework Assignment

I have 4 images here, each with an increasing level of difficulty. Your homework this week is to use the techniques in this lesson plus what you learned in the previous lessons to draw your most accurate representation of each image.



Once you're done, you can post your work on the [RFA Facebook](#) page, which is where I'll post my left-handed homework assignment as well. If you submit your 3 drawings on Facebook, I will feature your work down below with a link to your facebook page so other readers can check you out. Feel free to draw other subjects or scenes as well!

If you want constructive feedback, please write "constructive feedback request" somewhere in your facebook reply :)

If you love RapidFireArt tutorials and want to support what I do, check out my [Patreon](#) page where you can support RFA and earn cool rewards at the same time!

Happy drawing!

Read more:

<http://rapidfireart.com/2017/05/17/lesson-4-how-to-draw-with-accurate-proportions/>