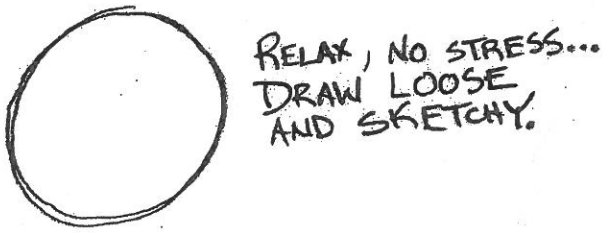
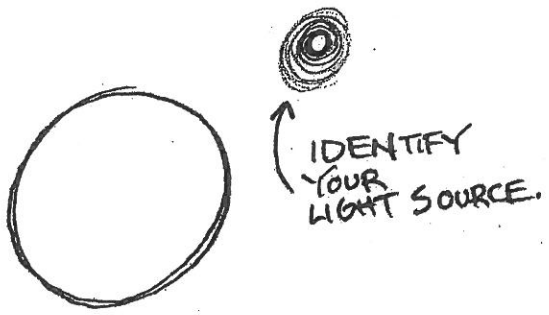
Learning how to draw is in large part learning how to control light in your picture. In this lesson you will learn how to identify where your light source is and where to shade objects in your drawing. Let's draw a three-dimensional sphere.

1. Turn to the next page in your sketchbook. Draw a circle. Don't stress if your circle looks like an egg or a squished blob. Just put the pencil to the paper, and draw a circular shape. If you want, trace the bottom of your coffee cup, or dig in your pocket for a coin to trace.



2. Determine where you want your light source. *Wait, what's a light source? How do you determine where a light source is? I'm feeling overwhelmed already! Ahhhh!* Don't throw your sketchbook across the room just yet. Read on.

To draw a three-dimensional picture, you need to figure out what direction the light is coming from and how it is hitting your object. Then you apply shading (a shadow) opposite that light source. Check this out: Hold your pencil about an inch above your paper, and notice the shadow it makes. If the light in the room is directly above the pencil, for example, the shadow will be directly below your pencil. But if the light is coming at the pencil from an angle, the shadow on the paper will extend out away from the light. It's pretty much common sense, but being aware of where

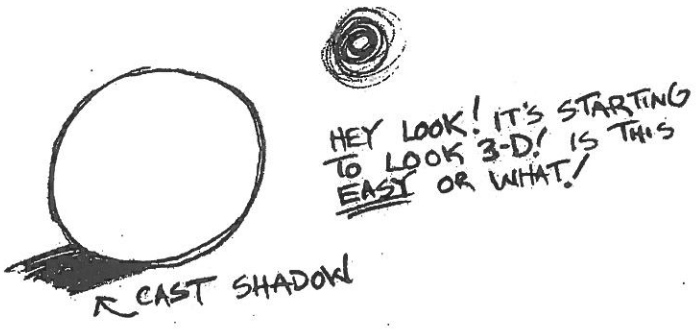


the light is coming from, and going to, is an amazingly effective way of bringing your drawings to life. Play around with your pencil and the shadow it makes for a few minutes, moving it around and up and down. Place one end of the pencil directly on your paper, and note the way the shadow begins attached to the pencil and is thinner and darker than the shadow cast when the pencil is in the air. The shadow is called (three guesses) a *cast shadow*.

For the purpose of our lesson, position a single light source above and to the right of your sphere like I have drawn here. Go ahead and draw a little swirly sun right on your sketchbook page.

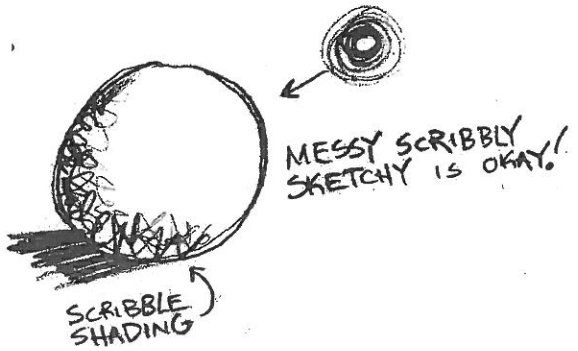
3. Just like the cast shadow your pencil created on the table, the sphere we are drawing will cast a shadow onto the ground surface next to it. Cast shadows are fantastic visual anchors that help secure your objects to the ground surface in your picture. Look how I have drawn my cast shadow off to the side of the sphere below. Now draw a cast shadow on your sphere opposite your light source position on your sketchbook page. It does not matter if you think it looks sloppy, messy, or scribbly. These drawings are for skill practice and your eyes only.

Just remember these two important points: Position your light source, and cast a shadow onto the ground next to the object and opposite the light source.

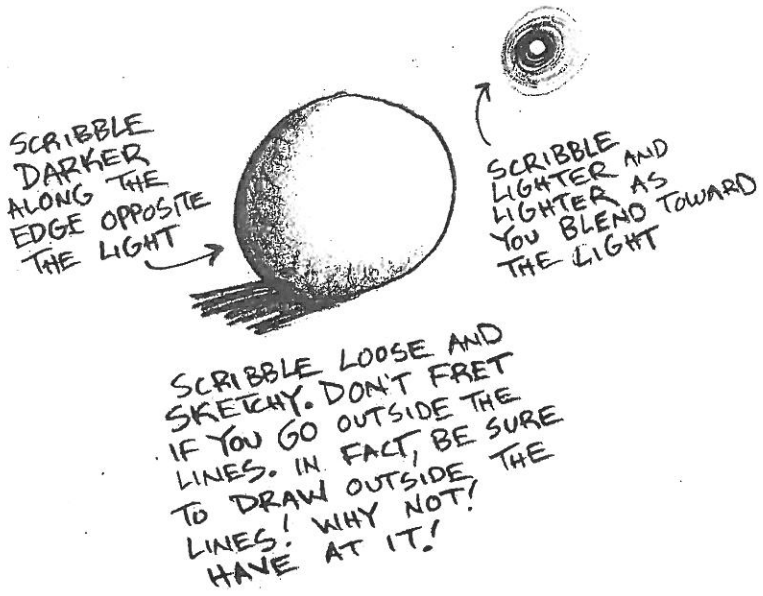


4. Scribble shading on the circle opposite the light source. It's okay to go outside the lines—don't worry about being perfect.

Notice how I have scribbled a bit darker on the edge farthest from the light source and how I have scribbled lighter as the shading curves up toward the light source. This is called *blended shading*. It is an awesome tool to learn to really create the "pop-out" illusion of three-dimensional drawing.



5. Use your finger to smudge-blend your shading like I have done here. Check this out: Your finger is actually an art tool similar to a paintbrush! Cool effect, isn't it?



Voilà! Congratulations! You have turned a scribbled circle into a three-dimensional sphere. Is this easy or what?

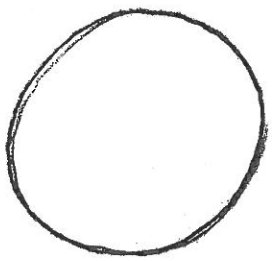
Here's what we've learned so far:

1. Draw the object.
2. Identify the light source.
3. Shade.

Easy as pie.

You have completed Lesson 1! Way to go! Now, let's use that sphere skill of yours to draw globes all over the place.

1. Space permitting, continue on the same sketchbook page. Draw a circle.



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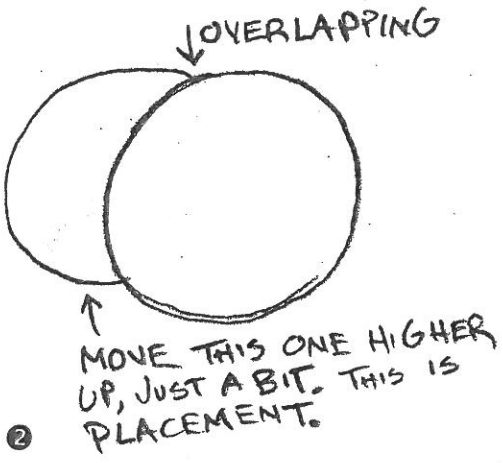
2. Draw a second sphere behind the first one. How? As you draw this second sphere, you will be using three new drawing laws. Three at once!! Have no fear: We will take them one concept at a time, and it will take far longer to read about them than to use them. Take a look at my example below. I have drawn the second sphere a bit smaller than the first sphere, a bit higher up on the paper, and tucked behind the first sphere. In doing this, I've used three drawing laws: size, placement, and overlapping. Go ahead and write these notes in your sketchbook.



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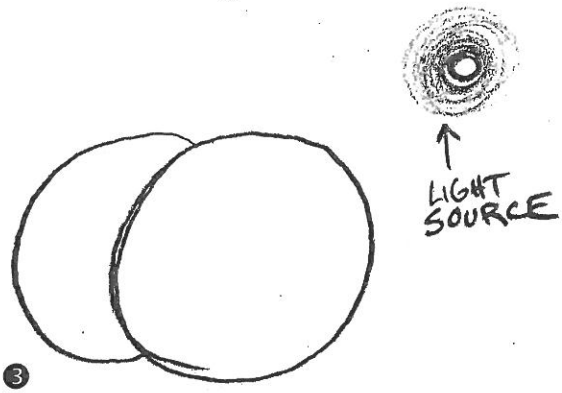
Size = Draw objects larger to make them look closer; draw them smaller to make them look farther away.

Placement = Draw objects lower on the surface of the paper to make them look closer; draw them higher up on the paper to make them look farther away.

Overlapping = Draw objects in front of or partially blocking the view of other objects to make them look closer; draw them tucked behind other objects to make them look farther away.

Go ahead and draw the second sphere smaller, higher, and behind the first one like my sketch below.



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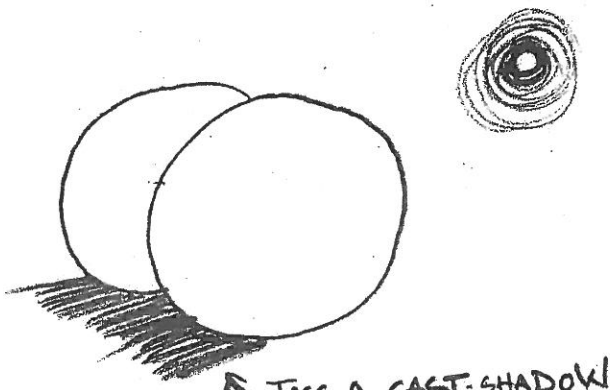
3. Determine where your imaginary light source will be positioned. This is probably the most important step in drawing realistically. Without a determined light source position, your drawing will not have consistent shading. Without consistent shading, your drawing will not pop out and look three-dimensional.

4. Keeping in mind the position of your light source, draw a cast shadow. Remember that it goes off to the side, as if it is on the ground, in the direction opposite the light. You do not need a ruler to determine the exact mathematical angle. Just eyeball it for now. As I said earlier, a good solid cast shadow will anchor your drawing to the surface of your paper.

Remember that if at any time you get a bit confused by my text explanation, simply look at my sketch example and copy what I have done. Be patient—all this information will be repeated throughout.



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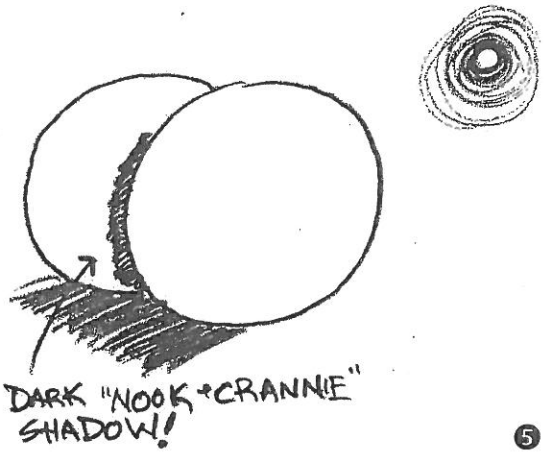
5. To separate objects in your drawing, draw a dark defining shadow in between the two spheres (I call this a nook and cranny shadow). This will help identify the depth between the two objects. Notice how I defined the dark nook and cranny shadow on the farthest sphere. Nook and cranny shadows are always applied under and behind near objects. For example, clasp your hands together on the table in front of you. Take a look at the tiny very dark nook and cranny shadows that define the edges of each finger and knuckle. In your sketchbook write, "Nook and cranny shadows: Separate, define, and identify objects in a drawing."



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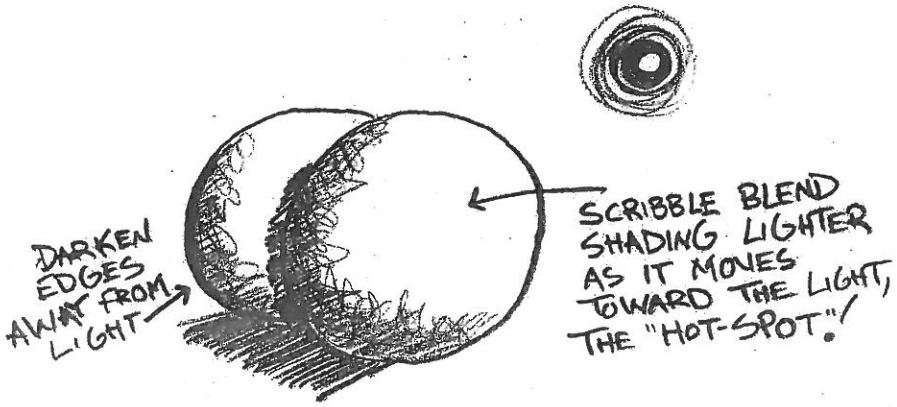
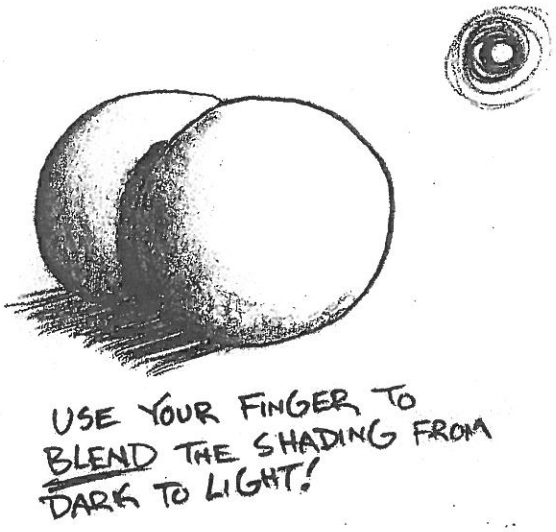
6. Hold your pencil loosely, and scribble the first layer of shading on both spheres. Shade the surfaces opposite your light source. When I shade, I make several passes over my drawing. This is our first "rough" shading pass. You'll notice that my shading lines below are all lined up away from the sun, but your shading lines do not have to be lined up. Just scribble in the dark area any way you want as long as it is opposite your light source.

6

7. Make a second darker, more focused shading pass over the spheres. Detail in the very dark edges, and let your scribbles get lighter and lighter as you move slowly toward your established light source. Look at my sketch below, and notice where I have pointed to the brightest spot on the near sphere. I call this the "hot spot." The hot spot is the area on an object that gets hit with the most direct and brightest light. Determining where the hot spot is in a drawing is v important when you are applying the shading.



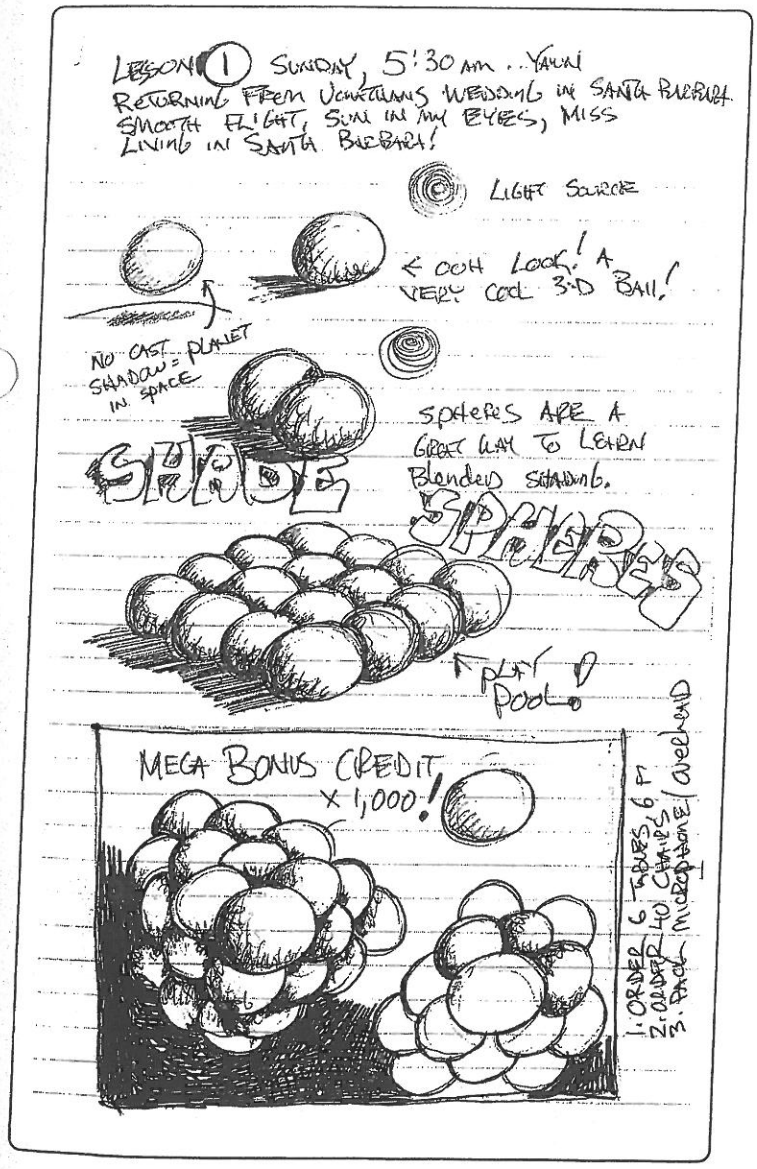
8. Go ahead and make several more scribbles (blending shading passes) over these two spheres. Now for the fun part! Using your finger, carefully blend the shading from dark to light, trying to keep the hot spot crisp white. Don't worry if you smudge the shading outside the lines or into the hot spot. If you feel like it, use your eraser to clean the excess lines and smudges.

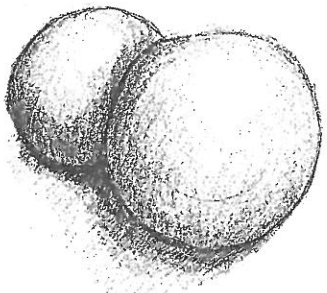


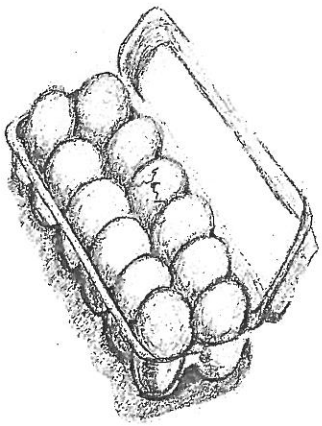
Awesome job! Look at your beautiful three-dimensional rendering! A masterpiece suitable for any in-home refrigerator art gallery. You can be proud to display this great drawing on your

fridge, right next to your kids' work. If you don't have kids, put this drawing up on your fridge anyway. You will enjoy seeing it with each trip to the kitchen, not to mention the oohs and ahs you will get from your friends!

Take a look at a parent student of mine, Suzanne Kozloski's Lesson 1 sketchbook page. Now, take a look at how Suzanne Kozloski applied this lesson to drawings from real life.





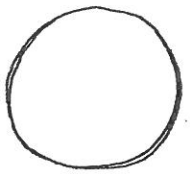


By Suzanne Kozloski

Here is my sketchbook page as I created Lesson 2.

You see? With just a few additional items in your drawing bag, you have raised your lesson enjoyment level exponentially. Enough about products and tools. Let's get back to producing. Put in your music earbuds and settle in. . . . Let's draw.

1. Look at the drawing at the beginning of the chapter. Looks fun, eh? Looks complicated? Looks difficult? Naw! It's easy when drawn one circle at a time. It's like building a Lego tower, one bumpy little brick at a time. Start with your first circle.



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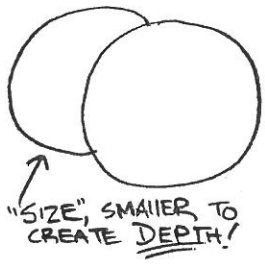
2. Draw another circle behind the first. Push it up a bit (placement). Tuck it behind the first (overlapping). Draw it a bit smaller (size). Yes, you've done this already. This redundancy is very important and intentionally built into the thirty-lesson plan strategy.



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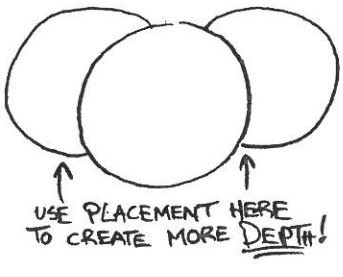
3. Draw the next circle over to the right behind the first one, push it up, tuck it behind, and draw it a bit smaller than the first circle.



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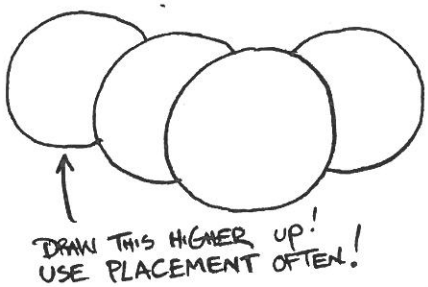
4. Onward into the third row of spheres. You'll notice this row is definitely getting smaller and much higher on the page as you move away from the front sphere.

When you draw objects smaller to create the illusion that they are deeper in your picture, you are successfully using the fundamental drawing law of size. As you draw this next row of spheres, you need to draw them a bit smaller than the row in front. Size is a powerful tool to create depth.



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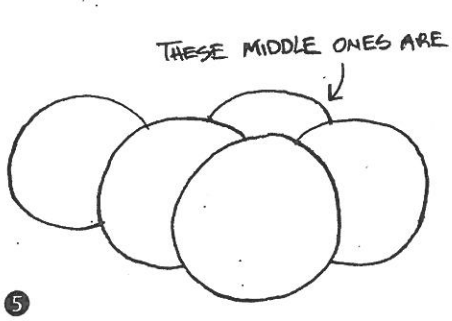

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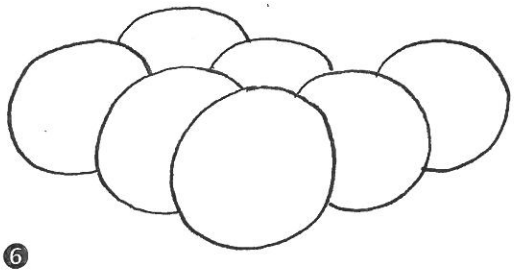
5. Fill in the far gap with a peeking over-the-top sphere. Remember that smaller equals deeper. This is also a great example of the potency of overlapping. By drawing a simple curved line "peeking" from behind, you effectively create a three-dimensional illusion, and you haven't even begun to add shadows, shading, or blending. Overlapping is an awesome, powerful tool to understand. Yet with great power comes great responsibility. . . . Oops, wait, wrong book. I started channeling Marvel Comics for a moment.



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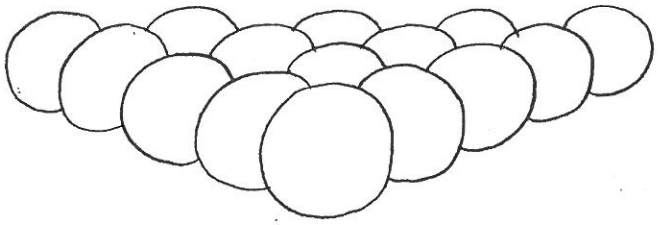
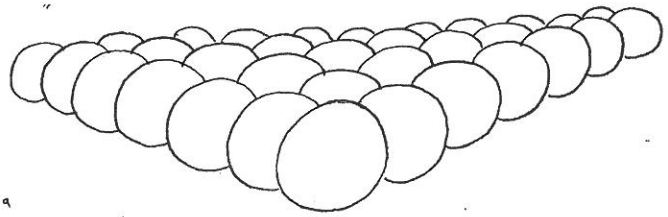
6. Complete the third row with the end sphere smaller, higher, and behind. Are you beginning to notice a recurring mantra here? Much of learning how to draw in 3-D is in repetition and practice. I trust you are finding this repetition of drawing spheres to be rewarding, fun, and relaxing. (I'm enjoying drawing these lesson steps even though I've drawn each step perhaps 5,000 times in classrooms during the last thirty years!) Practice can be tedious, but if you can push through, you'll soon delight in the results.

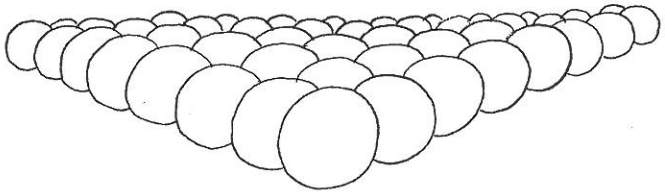
7. Draw the fourth and fifth row of spheres. Pushing each row deeper into your picture with size, placement, and overlapping. We haven't even begun to shade the drawing, and yet it is already starting to pop off the paper in 3-D.



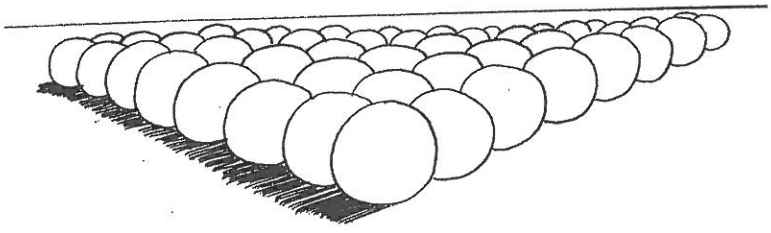
8. Go ahead, go crazy, go wild—draw rows six and seven really receding into the depths of your sketch page. Size really kicks in on these distant rows. You can definitely see the size difference between the front sphere and the back row. Even though the spheres are all the same size in our imagination, we have created the successful illusion that they are receding far away into the sunset.



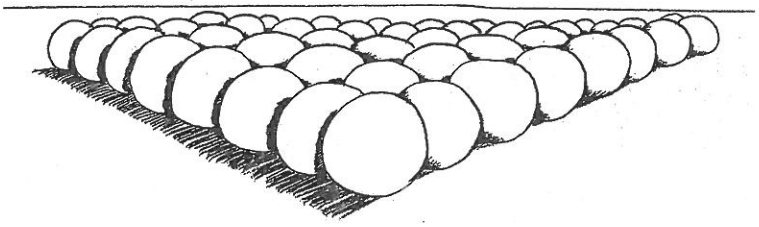
9. I was shooting for twenty rows of spheres, really trying to impress you. However, I lost sight of the spheres at row nine. What a great visual treat. This mob of spheres looks very three-dimensional, and we haven't even determined the light source yet. You can see how powerful these concepts are: Size, placement, and overlapping create effective depth all on their own.



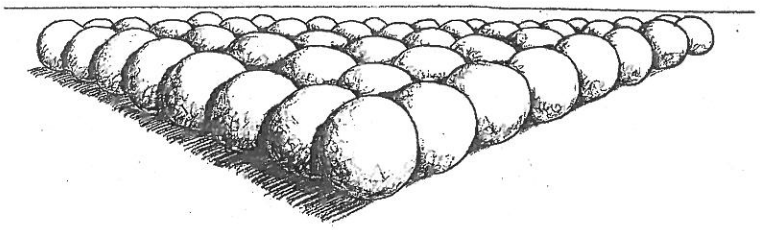
10. Finally, we get to determine the position of our light source. For consistency we will keep the light positioned in the top right. You can mess around with this light position on your own. Try experimenting with this mob of spheres with the light source positioned directly above or over in the top left. If you want to try something really challenging, position the light source from within the sphere mob, making one of the middle orbs glowing hot bright. We will get into moving the light source position around in later lessons. Go ahead and toss some cast shadows off to the left, on the ground, opposite your light source position. Now, draw the horizontal background reference line; this is called the "horizon line." The horizon line will help you create the illusion of depth in your drawing.



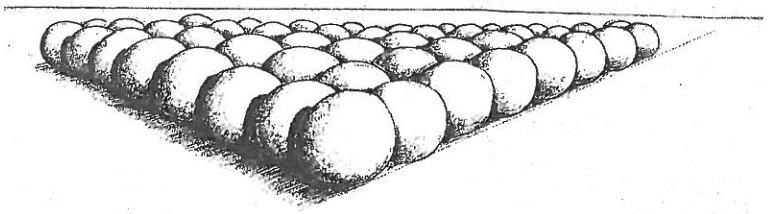
11. My favorite step has arrived, the nook and cranny phase. Push hard on your pencil, and darken the nooks and crannies. Notice the immediate "punch-out" visual effect. Wham—nook and cranny shadows work their wonderful magic once again.



12. Continue your shading process with a first pass over all the objects, scribbling the shading lightly over all opposite edges away from the light source.



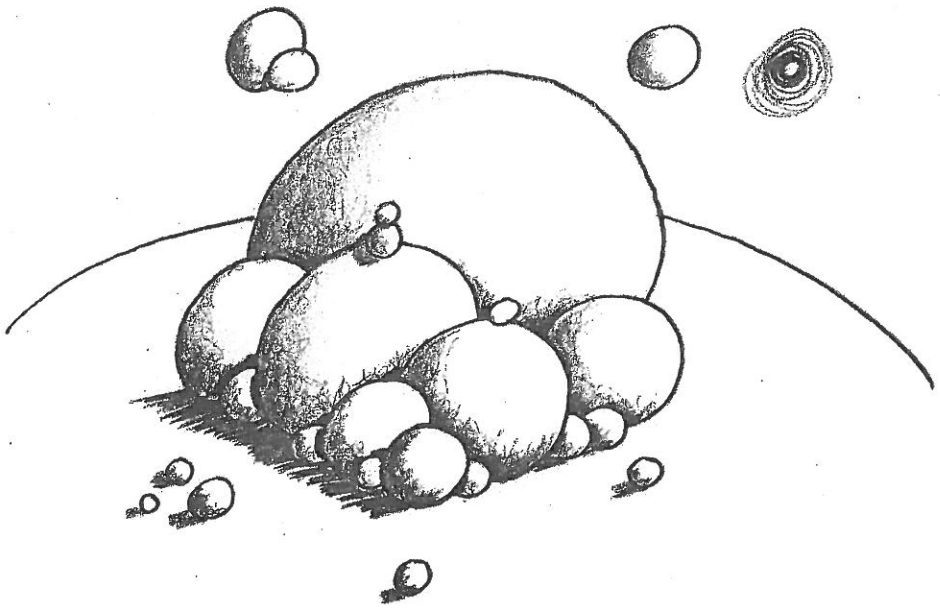
13. Make several more scribble shading passes. With each consecutive pass, darken the edges farthest away from your light source while scribbling lighter and fainter as you move toward the light source. Blend the shading with your finger. Carefully smudge the dark shaded areas up toward the hot spots, lighter and lighter as you go. Erase the excess pencil lines to clean up (if you want to). Dab the hot spots with your eraser, and watch what happens. Pretty cool, huh? The spots you dab with your eraser will create a very distinct, easily identified hot spot. Now we are getting into some fancy art terms such as "graduated values" and "defined reflection." Don't you feel like a collegiate fine arts grad student? All this fun and we are only finishing Lesson 3 and you are still with me! Way to go!



In three lessons you have learned a lot:

Draw objects larger to make them look closer.
Draw objects smaller to make them recede.
Draw objects in front of other objects to punch them out in 3-D.
Draw objects higher in the picture to make them look farther away.
Draw objects lower in the picture to make them look closer.
Shade objects opposite the light source.
Blend the shading on round objects from dark to light.

Lesson 3: Bonus Challenge



Take a look at this drawing.

Whoa! I broke just about every lesson rule so far! The largest sphere is the farthest away.

The smallest sphere is the closest.

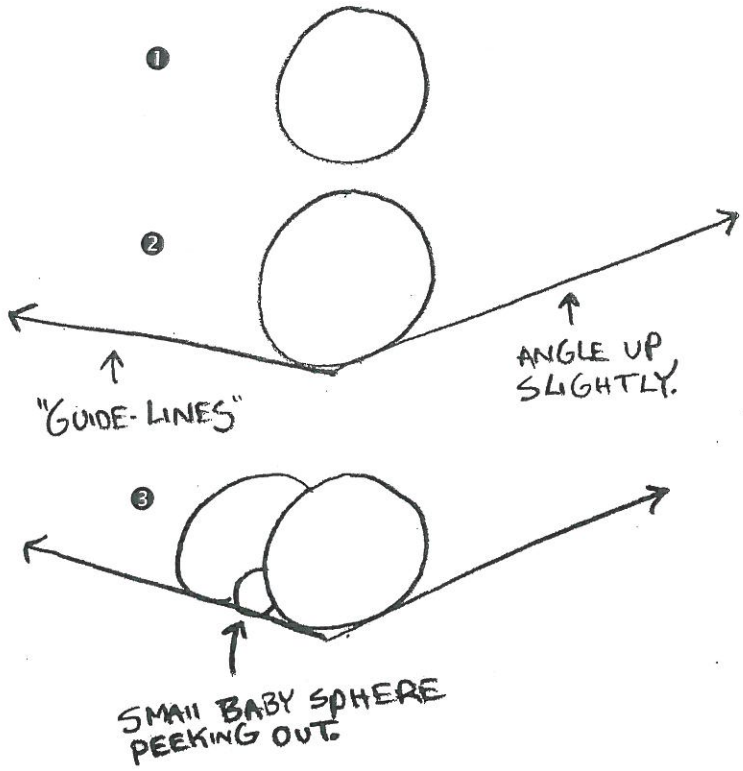
This is madness! Has everything you've learned over the past few lessons been thrown out the window? Absolutely not. I created this drawing specifically to illustrate how some of the drawing laws hold much more visual illusion power than others.

I compare this varying level of visual power to a few of my son Anthony's fun obsession with Yu-Gi-Oh cards (an expensive obsession for sure . . . up to $60 for a CARD!). Each Yu-Gi-Oh card has varying strengths to defeat an opponent's card. Say you have a Yu-Gi-Oh card titled "Marshmallow Musher." Let's say "Marshmallow Musher" has attack power of 1400 and it attacks an opponent's card, "Pickled Gnat Brain," with a defense of only 700. Well, poor Pickled Gnat Brain gets totally destroyed, wiped out, stomped, crushed. Correlation here: Each of the drawing laws has varying power over other drawing laws. . . . If you draw a smaller object in front of any other object, even a Jupiter-size planet, overlapping will prove to be all powerful and will prevail in appearing to be the closest. Some drawing laws have more visual illusion power than others, depending on how you apply them.

Look at the preceding drawing. Even though the farthest, deepest sphere is the largest, the smaller spheres overlap it, thus trumping the visual power of size. Overlapping is always more powerful than size.

Look at the drawing again. See the nearest sphere is drawn the smallest. Typically this would mean it would appear the farthest away. However, because it is isolated and placed lowest on the paper, it appears closest. Simply stated, placement trumped both size and overlapping.

I do not intend for you to commit these visual power variations to memory. These fun freaky wrinkles in the rules will naturally absorb into your skill bank as you practice.

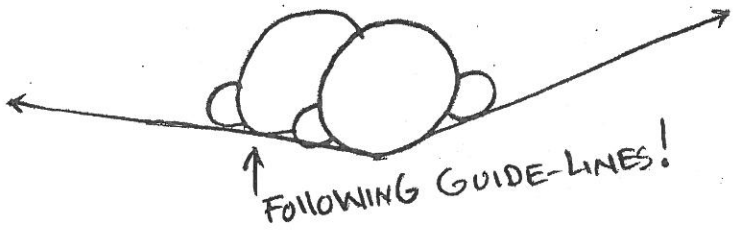


1. Draw a circle.

2. Draw guide lines shooting off to the right and left. These guide lines will help you position the group of receding spheres. We will be using guide lines a lot in upcoming lessons. Draw these guide lines at just a slight angle upward, not too steep.

3. Using your guide lines, position a few more spheres behind your first. Draw the tiny one peeking out like I did below. Notice how I made use of the guide lines to position the spheres.

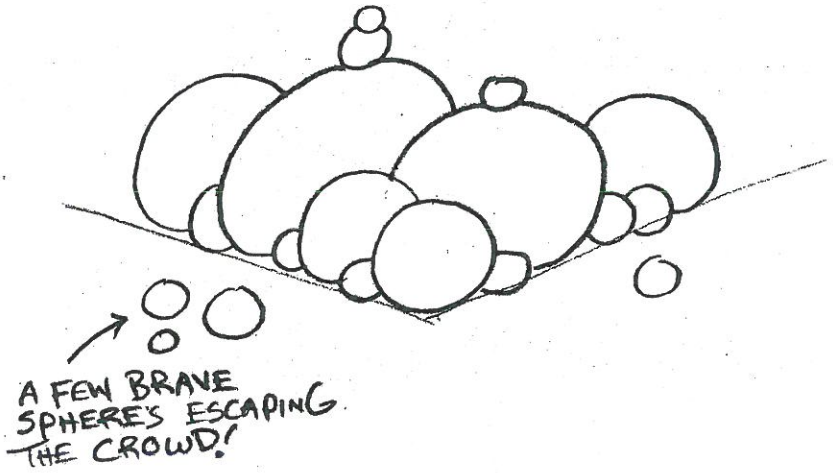
4. Continue to use your guide lines as a reference, and draw a few more spheres, varying the sizes. Notice how the guide lines help you place the spheres higher up in proper position (placement).



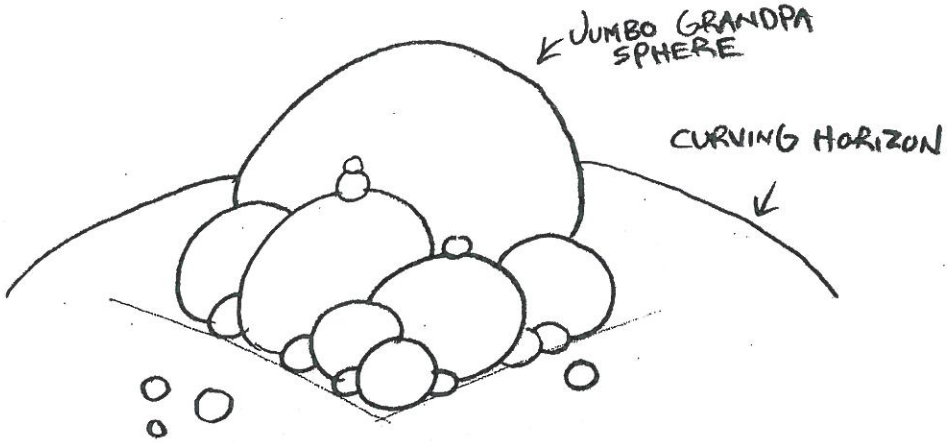
5. Throw some Big Mama spheres in there. Overlapping is the power principle here; even though some of the spheres are very small, they still overpower the larger spheres to appear closer. Overlapping is trumping the power of size!

6. Because this drawing is all about enjoying yourself, go ahead and stack a few spheres on top.

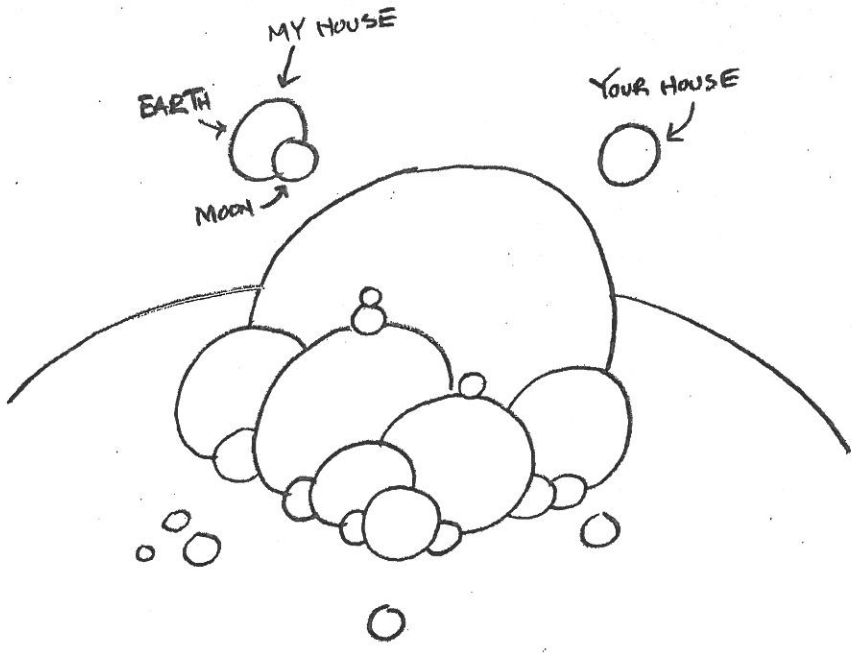
7. Some of the spheres are breaking from the pack, seeking a less crowded, less congested life. Brave solitary spheres are establishing the first rural outposts.



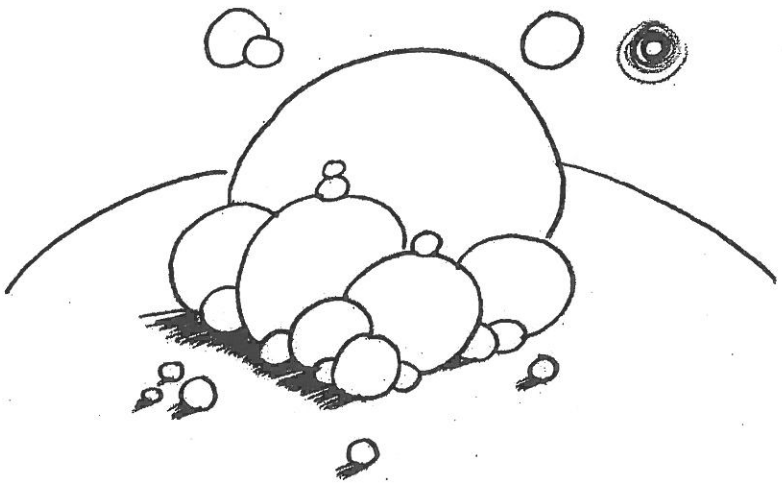
8. Here's the greatest sphere of all, except, of course, for the enormous Jupiter-size sphere the entire group is settled on. And now for the new drawing term: "horizon." Drawing a horizon line adds an effective reference line for your eye, establishing the illusion that objects are either "grounded" or "floating." Usually I draw the horizon line with a very straight line behind my objects. In this picture I want to create the planet feel, so I've curved it quite a bit. Looks cool, eh?



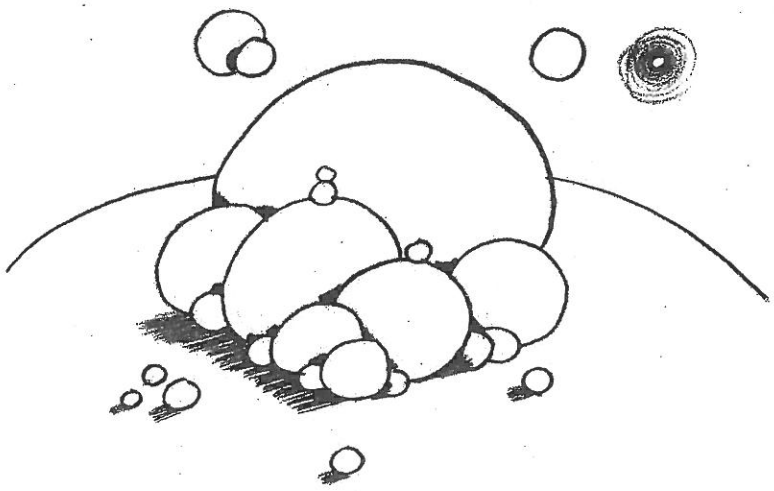
9. Go ahead and draw a few more planets in orbit above the sphere pile. Take this idea of "adding extras" as far as you want. Go ahead and draw a row of thirty-seven planets in the sky overlapping down to the horizon.



10. Identify the position of your light source, and begin adding cast shadows opposite your light position. For consistency I'll keep my light source positioned in the top right, even though I'm tempted to slap it over to the left side just to throw a curve ball at you! I'll save that sudden light source position change for some later lesson. . . . You are now forewarned!

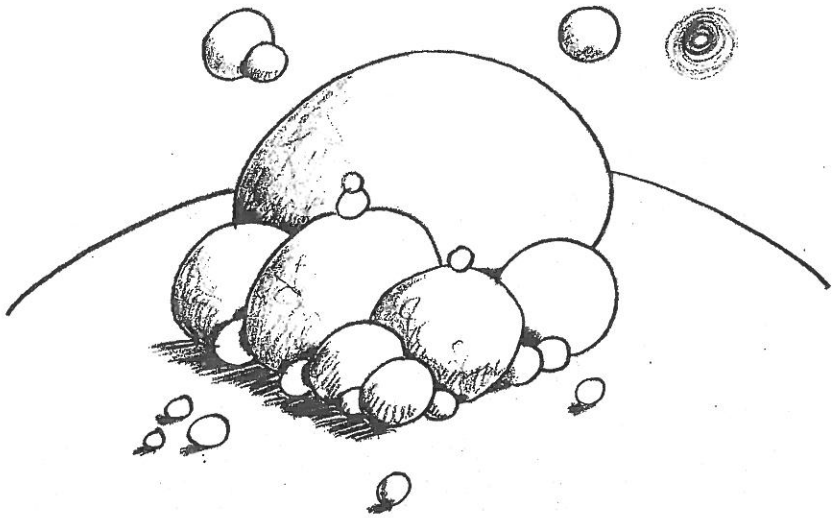


11. This nook and cranny step will take some thinking. Keep darting your eye between your light position and the objects you are shading. Put some pressure on your pencil, and get a really nice dark shadow into all the nooks and crannies. Take your time; this is a fun step in the lesson, so enjoy yourself!



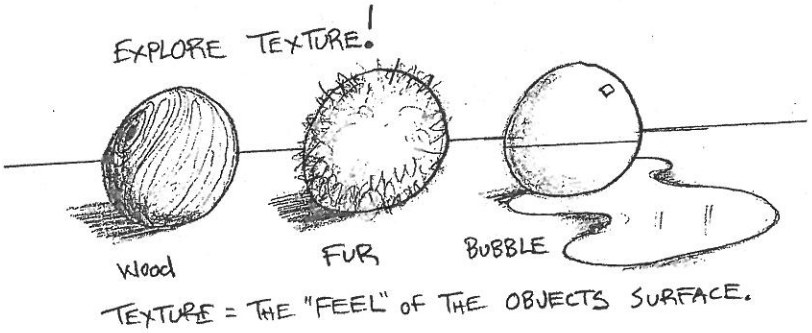
12. On the first shading pass, let your pencil fly over the spheres, just lightly shading the large areas opposite the light source. Don't worry about the blending yet; just lay down a base layer to work from.

Make several more shading passes over all the spheres. Really work the dark edges, the dark nook and crannies, and the dark spaces on the ground between the spheres and the cast shadow. Work the blending slowly up toward the light. Constantly dart your eyes back to confirm the position of your light source. Take your time, work this well, and enjoy the exhilarating punch-out effect you are creating. You see? Drawing in 3-D is easy with me!

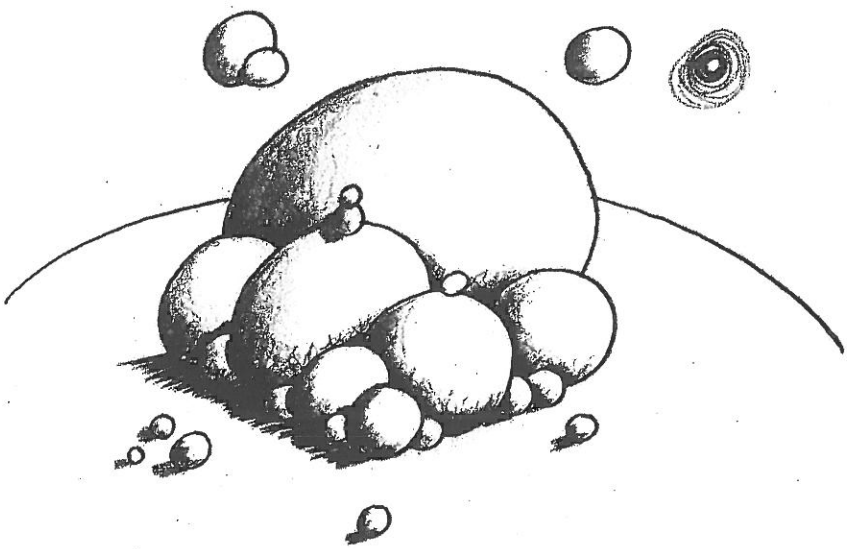


13. Blend your shading as smooth as glass. If you haven't had time to purchase a handful of blending Stomps, your finger will do just fine. Use controlled, careful pressure to smudge and smear the shading, blending it lighter and lighter from the darkest dark edges to the lightest brightest hot spot on each sphere. Work this for a while. The smoother you make the blended light transition from dark to light, the more "glasslike" the surface will appear. "Smooth as glass" is a nice segue, allowing me to introduce another great term: "texture."

Texture gives your objects a "surface feel." You could draw curving, spiral, wood-grain lines all over these spheres and create the illusion that they are made of wood. You could scratch a ton of hair onto each sphere, and suddenly you would have a very strange looking alien family of furry blobs. Texture can add a lot of identifying character to your drawing. (More on this great principle in later lessons.)

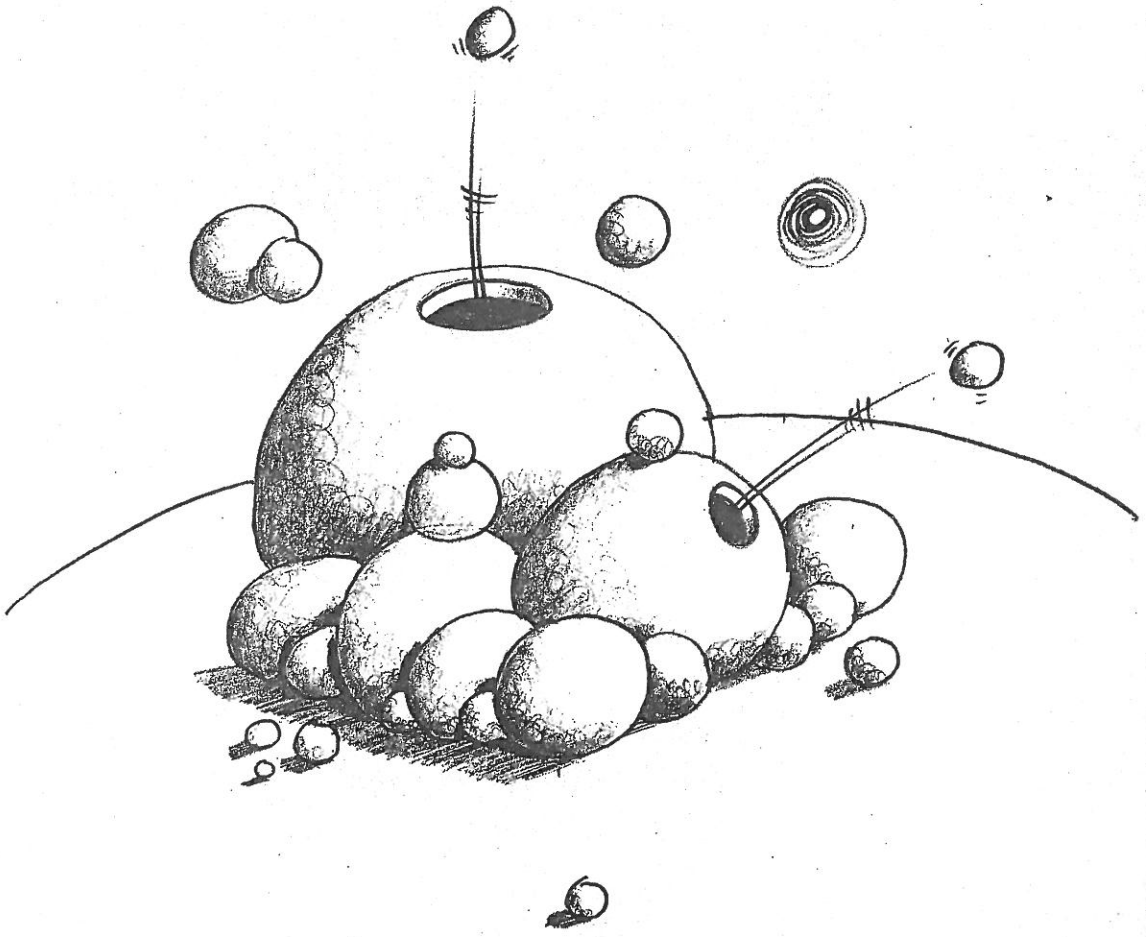


14. Adding extras to your drawing adds another layer to your learning. I can and will teach you the specific skills you need to create technically accurate three-dimensional drawings. However, the real learning, the real fun, the true enjoyment of drawing come from you internalizing the skills and externalizing your creative imagination.



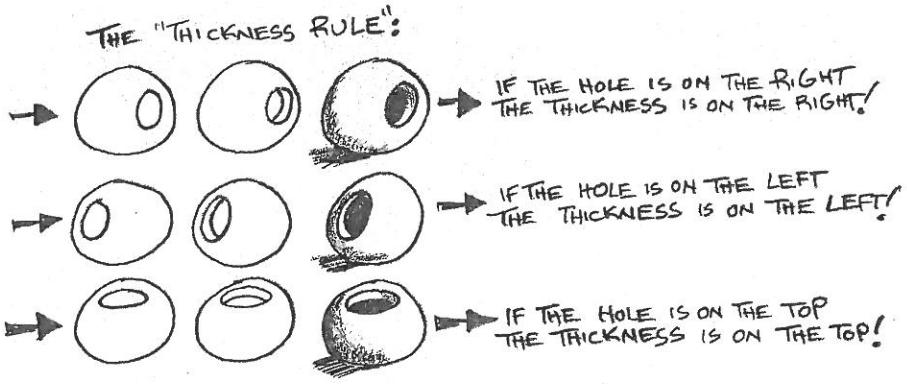
I've been driving my four-year-old son around a lot lately, hour-long commutes to downtown Houston. As soon as we start the trips, he happily demands, "Elmo! Elmo! Elmo!" So off with my preset NPR, and in with the Elmo CD. I've got the songs memorized now; I hear them in my head, my dreams, my nightmares! However, there is one song that I really like, even after 1,500 listening sessions: "It's amazing where you can go with your imagination! The things you will see, the sounds you will hear, the things you will be!"

Who knew? Elmo is a little red furry dude of wisdom. I can teach you how to draw, easy, no problem. The fun part is how you launch from this starting point by practicing, practicing, practicing . . . all the while adding, adding, adding tons of your own brilliant creative imaginative extras.



Try drawing a few holes in the larger spheres. Holes and windows are great practice exercises for learning how to draw thickness correctly. Here is an easy way to remember where to draw the thickness on windows, doors, holes, cracks, and openings:

If the window is on the right, the thickness is on the right.
If the window is on the left, the thickness is on the left.
If the window is on the top, the thickness is on the top.



You can see I had some fun with this lesson. I started going crazy and added windows with boulders launching from them. I was about to draw a bunch of doors, skateboard ramps, and hamster travel tubes between the spheres. I pulled my pencil back at the last second, not wanting to overload you with too many ideas, too fast. Then again, why not? Go for it!