

Assembly Instructions for the 1.25" PVC Ra Connector Kit

Please note: This connector piece is made from 100% all-natural plant-based PLA plastic. While it can handle being outside in the weather just fine, it could potentially warp in extremely hot weather if left out in the direct sun for prolonged periods of time. Partial shade should be fine.

You will need eight 1.25" PVC pipe of any length that you desire. In the United States, there is regular pipe and what is called schedule 40 PVC pipe. While both styles have the same outside diameter and will work just fine, I recommend schedule 40, as it has a thicker wall and will therefore be stiffer. 1.25" PVC pipe has an outside diameter of 1.66", which, if you are in a country that uses the metric system, that is equivalent to your pipe having an outside diameter of 42.164mm. If you can find pipe that has an outside diameter of 42mm, that should work well, but you have to make sure it is the *outside* measurement, because just like in the United States, what the size of your pipe is labeled as may be different from its outside diameter actually is.

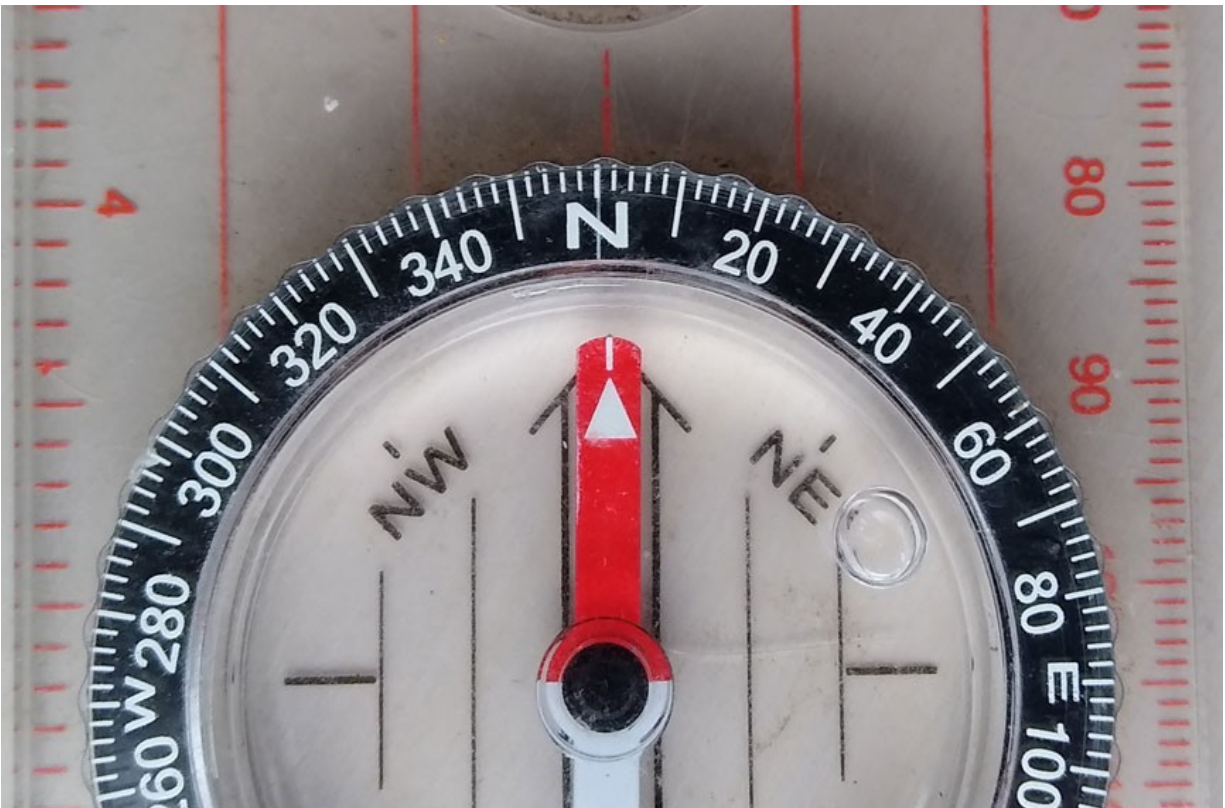
The PVC pipe rising toward the apex will be slightly longer than the pipe on the bottom. To find the length of your bottom pipe, divide the length of your rising pipe by 1.115. So, for example, if you decide to use 10-foot (120") long pipe for the rising legs of your pyramid, then to calculate the length of your bottom pipe: $120" / 1.115 = 107.623"$ (or about $107+5/8"$). **So if you decide to use 10-foot pipe for the rising legs of your pyramid, then your bottom PVC pipe will be $107+5/8"$.** Keep in mind that PVC pipe that is sold in 10-foot lengths isn't necessarily exactly 10 feet long. In my experience, it can actually vary by up to $1/2"$. In that situation, I recommend choosing the four pipe for your rising legs out of your eight total that are the closest in length to each other, and you might be able to find four that are within $1/16"$ or $1/8"$ of 10 feet. But let's say that you end up with four rising pipe that are 120.5" long. Then to calculate the length of the bottom pipe, divide: $120.5" / 1.115 = 108.072"$ (or about $108+1/16"$).

After you have determined what length you will be cutting your pipe at, I would **strongly** encourage you to use a pipe cutter designed for that purpose instead of using a hacksaw or a miter saw. Not only will it result in much cleaner cuts and will allow your pipe to insert into the holes easier, but it will also significantly reduce adding more microplastics into the environment, which, by the way, can now be found in every part of the body, in almost every human on the planet. You can purchase a pipe cutter on Amazon designed to easily cut through pipe of this size without leaving any microplastics in the environment for less than \$10 here: <https://amzn.to/3Es8mhn>

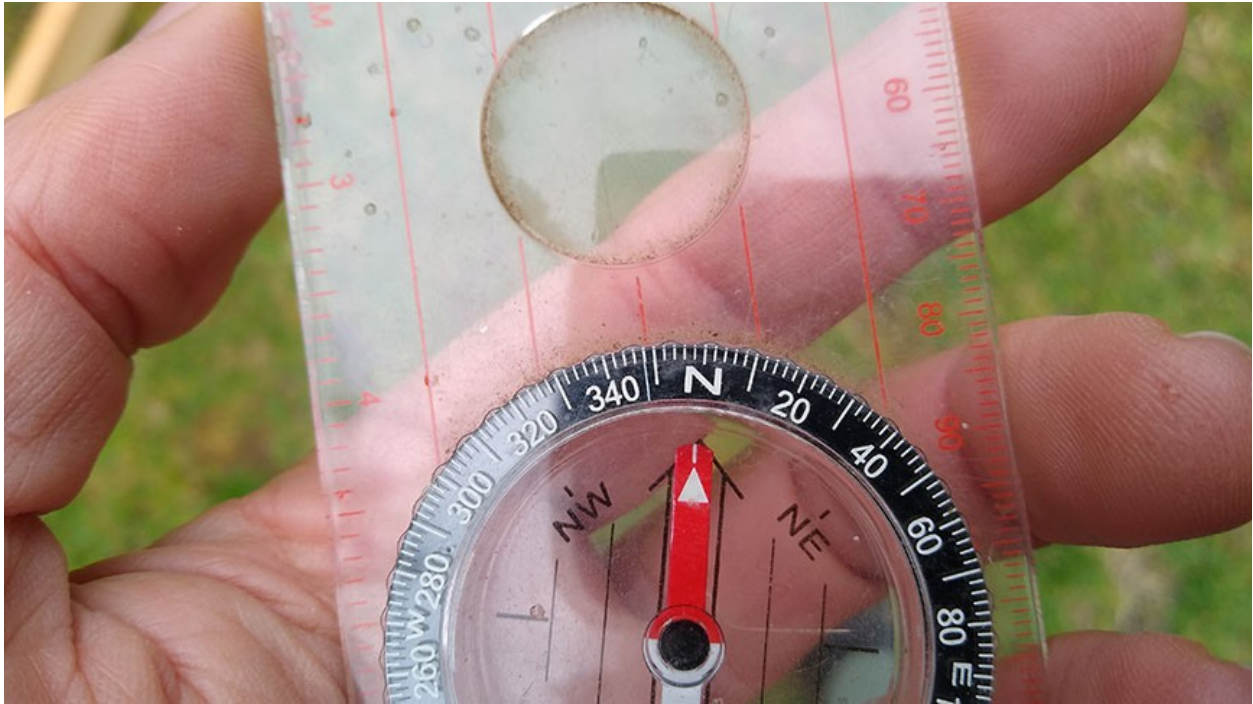
To make your pyramid as effective as possible, I recommend aligning your pyramid to either true north or magnetic north. To do this, insert two of your bottom connector pieces at each end of one of your slightly shorter bottom PVC pipe:



If you want to align the pyramid to magnetic north, set the bezel ring of the compass to 0° . You can see the thin white line going through the “N” on my compass in the picture below:



If you want to align it to true north, go to www.magnetic-declination.com to find your declination. If it is, for example, $+12^{\circ}\text{E}$, then rotate the bezel 12° *to the right, or clockwise*. In the picture on the next page, you can see that after rotating the bezel to the right, the little white line of my compass is 12° *to the left* of the N, at 348° . (The bezel is in 2° increments, so six ticks to the left of “N”.)



As another example, if it is -14°W , then rotate the bezel 14° to the left, or counterclockwise:



Next, pushing the baseplate of the compass against the middle of your PVC pipe, align it so that the red magnetic needle matches the arrow on the baseplate. Make sure there is no metal within 6 feet of the compass, including phones, watches, jewelry, glasses, keys, etc. In the example on the next page, the compass is set to $+14^{\circ}\text{E}$:



For more specific instructions on how to align your pyramid, go to www.PrecisionPyramids.com and click the “Alignment” link at the top. Also, if you need a compass, here is a link to the one that I use (shown in the picture above), which is inexpensive and of a very decent quality: <https://amzn.to/3E6qxc6>

With your PVC pipe and its two bottom connector pieces aligned to true or magnetic north, you now have the location for the first two corners of your pyramid. If it is inside, mark them with masking tape. If it is outside, use nails (which should be pushed all of the way into the ground so as to not get in the way while setting up your pyramid):

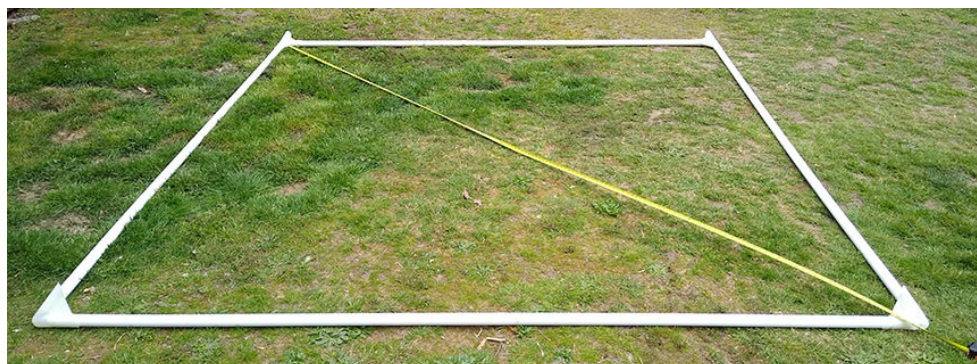


If your pyramid will be outside on uneven ground, you will need to find your remaining two corners and then level them all. If your pyramid is inside or it is outside on extremely level ground, you can skip the following steps and go to the >>> on the bottom of page 6.

To find your other two corners, connect your three remaining bottom PVC pipe along with your two remaining bottom connector pieces to form a square with the other pipe that already has the two connector pieces attached to it. It is important to make sure that you fully insert your pipe into the connector pieces. It can be very helpful to have an assistant for this step, where one person pushes on one end while you push on the other end for each of the four sides. Push with moderate force, but of course, don't push with all of your strength, as you might break something. Once they are all fully in, check to make sure the square still matches up with your two nails.



Then you will need to measure each diagonal with a tape measure. If it is a perfect square, you will have the exact same measurement. If one diagonal is longer, then with your helper, slightly push on that diagonal making it a little shorter and then remeasure. The person who is at one of the corners with one of the nails should keep their corner in place while the other person slightly pushes their corner diagonally opposite of them just a little bit. Don't push too hard with this step! Once both diagonals are the same length *and* the first two corners match up with their nails, then insert nails at Corners #3 and #4. I have found in my experience that it is easier to measure the diagonal at the inside faces of the bottom pieces:



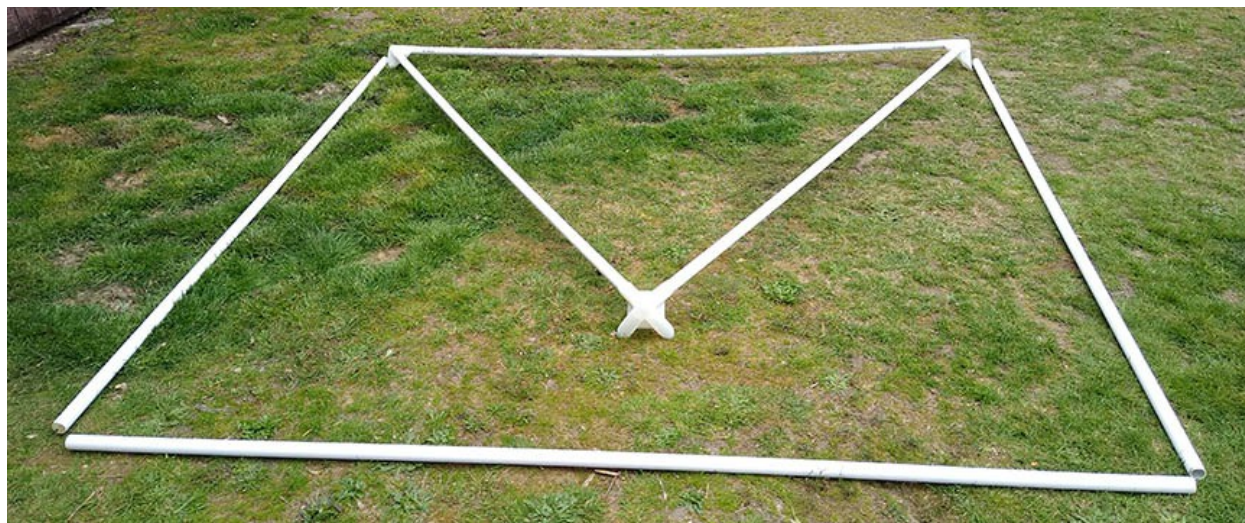
In order to level your corners, start with the highest corner and with a level placed on top of one of the adjacent pipes in the middle, have your assistant insert shims, stone tiles, or blocks of wood underneath the lower corner until it is level. Then repeat for the other adjacent side to the highest corner. Then repeat for the fourth and final corner. If any of your corners need to be raised up 2" (50mm) or more, I would recommend using patio blocks and/or cinder blocks in addition to the shims for greater stability. I would also encourage you to place blocks or shims under the middle of each pipe to make sure they do not sag.



Once your four corners are marked and level, disconnect the three PVC pipe, but leave your original pipe with the two bottom connector pieces lined up with your first two nails. >>>For those who skipped the leveling steps above, create a rough square with your three remaining bottom PVC pipe, in addition to the one with the bottom pieces already attached to it, making sure that it is lined up with your two corner marks:



Place two of your slightly longer rising PVC pipe and the apex connector piece so that it forms a triangle opposite of the pipe with the two bottom connector pieces attached to it. Then have your assistant rotate each bottom connector piece towards you so he or she can partially insert each rising PVC pipe into it. Then you partially insert the opposite ends of the rising pipe into the apex connector piece on your end. Once both ends of each pipe are part of the way in, then with your helper lightly pushing on one end and you on the other, push them all of the way in. (The following pictures show a pyramid being set up in the Giza dimensions. Even though the angles are slightly different, the concept is still the same.)



Next, insert the two remaining bottom connector pieces into the two remaining rising PVC pipe. If they fit loosely, add 1 or 2 layers of packing tape or duct tape on the ends to tighten them up. You only need them to fit tight enough where they won't easily fall out on their own. There is a good chance they won't need any tape at all, or maybe even just part of one layer if you are using duct tape.



For the next step, you will probably need a ladder. You will be having your assistant raise up the triangle and hold it in place while you bring over each rising PVC pipe to insert into the apex piece. But before you do this step, after your assistant has lifted up the triangle and is on the ladder, check the bottom of the triangle to make sure it is still in line with the first two corner marks, and make any adjustments as necessary. Then bring the third rising PVC pipe over for your assistant to partially insert into the hole while you

place the bottom end with the connector piece near to one of the corners based upon your rough square (or nails if you marked all four corners). If the pipe isn't going in at the top, it is probably at the wrong angle. If it doesn't want to go in, don't force it; adjust the angle instead.

Once your third rising pipe is partially in, your helper needs to make sure that it, and the first two pipe (which should be all of the way in) stay in place while you bring over the fourth pipe and place it at the right angle so your assistant can partially insert that one into the apex piece as well. Once the third and fourth rising PVC pipe are partially in, your assistant can insert them all of the way in by *lightly* pushing down on the apex piece.



After all four rising PVC pipe are fully inserted into the apex piece, the next step is for you to insert the opposite bottom PVC pipe into the bottom connector pieces while your helper on the ladder makes sure that all of the pipe stays connected up top:



Then insert the remaining two bottom PVC pipe while your helper makes sure everything stays in place:



After everything is connected, have your helper on the ladder make sure all of the rising pipe is fully inserted into the apex piece while you go around at the bottom making sure the pipe is fully inserted into all three holes of each bottom connector piece. If your pyramid is inside or on perfectly level ground, the bottom pipe will be raised up about 1/8" (3mm) by the bottom connector pieces. You can insert 1/8" thick shims under the middle of each bottom PVC pipe to make them as straight as possible. This is optional and certainly not necessary. If your pyramid is outside, remove the four nails, as the metal could interfere with the energy. You can replace each nail with a toothpick or part of a skewer if you wish. This will allow you to know if the pyramid gets moved out of position, and also allow you to easily set it up again if you need to take it down for some reason. And if you do wish to take it down, follow these exact steps in reverse order, or damage could result to your pyramid.

May you have magical adventures. If you should have any experiences or experiments you would like to share, please join our community forum at www.PrecisionPyramids.com/forum

And please be sure to recycle any packaging. If it came in plastic bubble wrap, including the envelope, they can be recycled with your plastic bags at local grocery stores like Walmart and Safeway.