Setting Up the Box

1. Take the 8-32 tap and put it in the tap wrench. Tap out all the screw holes that are located on each side of the box in a triangular pattern. Tap the holes until the tap comes out a little bit on the other side of the hole so that there is a slight bump in the 3D print material.
2. Next, tap the four holes located on the inside of the box. Use the 4-40 tap to tap these holes on the bottom of the box. Make sure to empty the plastics shavings from tapping the holes into the trash.
3. 10:04 Next, tap the smaller holes on the side using the npt 3/8 in by 18 tap. There are two holes to tap with this tap. They are located on the left of the side with only two holes and on the top for the side with three holes.
4. Screw the smaller, 3/8-18 npt, connectors into the box. You will put on two of these in the holes you have just tapped. Make sure you put the O-ring between the box and the connector. Tighten them as much as you can with your hand then use a wrench to finish tightening them.
5. Next, screw in the larger Skintop M20x1.5 connectors, making sure you take the nut off the connector. You will put three of these on the box in the remaining holes on the outside. You may need to adjust the smaller connector located in the top hole when you are trying to put the Skintop connector beneath it.
6. Take the four gold clasps and the 3/32 by 3/16 screws and screw the clasps into the triangular set of holes on each side of the box. You may need to adjust the smaller connector again so that it is parallel to the gold clamp to fit everything on the side with three connectors.

Setting Up the Weather Station

1. Now that the box is set up you can set up the actual weather station. First, tap out the hole on the stand using a 12-24 tap.
2. Attach the legs to the center of the stand and put the weather station into its base. Next, use a 12-24 Philips head screw and screw it into the hole on the base once the stand is at the correct height.
3. Next, grab the red board. You can place the red board into the box to see which way it needs to be oriented, but don’t screw it in yet. You want the side of the red board with the soil moisture and soil temperature sensors to be facing the side of the box with two holes. The red board is labeled to tell you which sensor goes in which spot.
4. To put the soil moisture sensor in, unscrew the long twisty portion of the small npt connector. Place the three crimped wires through this portion of the connector then into the box. Once the crimped wires are in the box you can attach them to the connectivity header with the red wire going in first to the side with the arrow, followed by the green then the black wire. If you can’t insert the wire all the way into the connectivity header you may need to use a small flathead screwdriver to remove the crimped wire and try again. Once all the wires are in, you can the insert the connectivity header into the part of the red board marked soil moisture.
5. Next, put in the soil temperature sensor. You do this the same way as you did the soil moisture sensor except when inserting the wires into the connectivity header, the red wire goes into the part with the arrow followed by the white then black wire. You can then insert the connectivity header into the part of the red board marked soil temperature sensor.
6. Next, insert the wind sensor. Unscrew the top of one of the Skintop connectors then put the wind sensor through it and into the box. If it is too hard to get the sensor in, it may be necessary to take the small grey part of the connector out and put it over the sensor first before putting the sensor in to the box. Plug the sensor in to the part of the red board marked wind.
7. Similarly, you will need to plug in the rain sensor. Follow all the same steps as the wind sensor except plug it in to the spot marked rain on the red board.
8. Next, put the micro USB into one of the Skintop connectors. You will again need to remove the outside of the Skintop connector and put the micro USB through it before putting it in the box and plugging it into the photon.
9. Now that everything is plugged into the red board, you can screw the red board in place using 4-40 by 3/16 in screws.
10. Once the red board is in, tighten all the connectors on the outside of the box so that they are water tight.
11. You can then put the O-ring in the groove at the top of the box and put the lid on. Use the gold clasps to close the box and keep the lid in place.