

SHADOW LAMP

Plan for 3D Printed Shadow Lamp
Prepared by Dr. Jones

OVERVIEW

This lesson will guide you through the construction of the shadow lamp.

STANDARDS

1. PhD in Creativity
2. Professional with hands on experience
3. Ultimate Patience and Confidence

OBJECTIVES

1. Read and follow all directions without complaining.
2. Work together with anyone helping with the construction.
3. Listen to others when they have an idea.
4. Create a lamp shade that Rocks 🤘

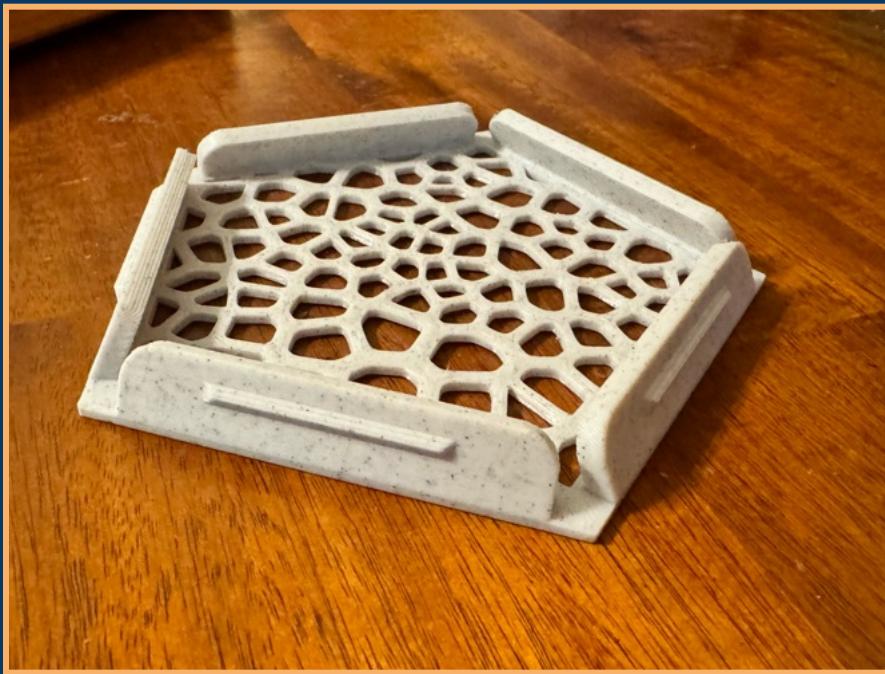
MATERIALS NEEDED

1. 1 Wooden Base with plug and switch
2. 1 LED Bulb
3. 60 zip ties
4. 10 black screws
5. 5 3d printed base components
6. 5 3d printed top components
7. 1 3d printed lid component

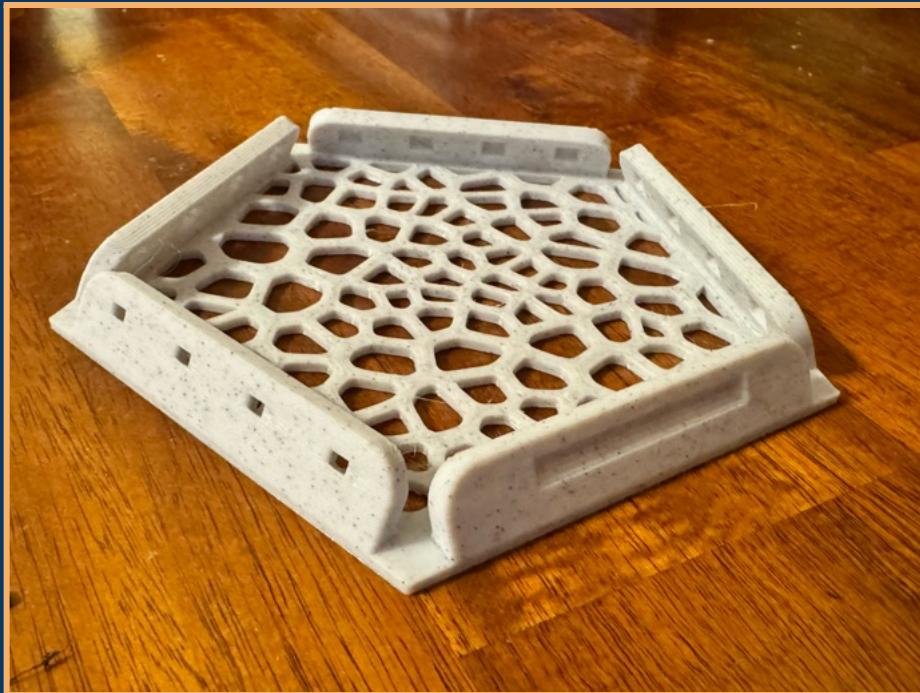


VERIFICATION

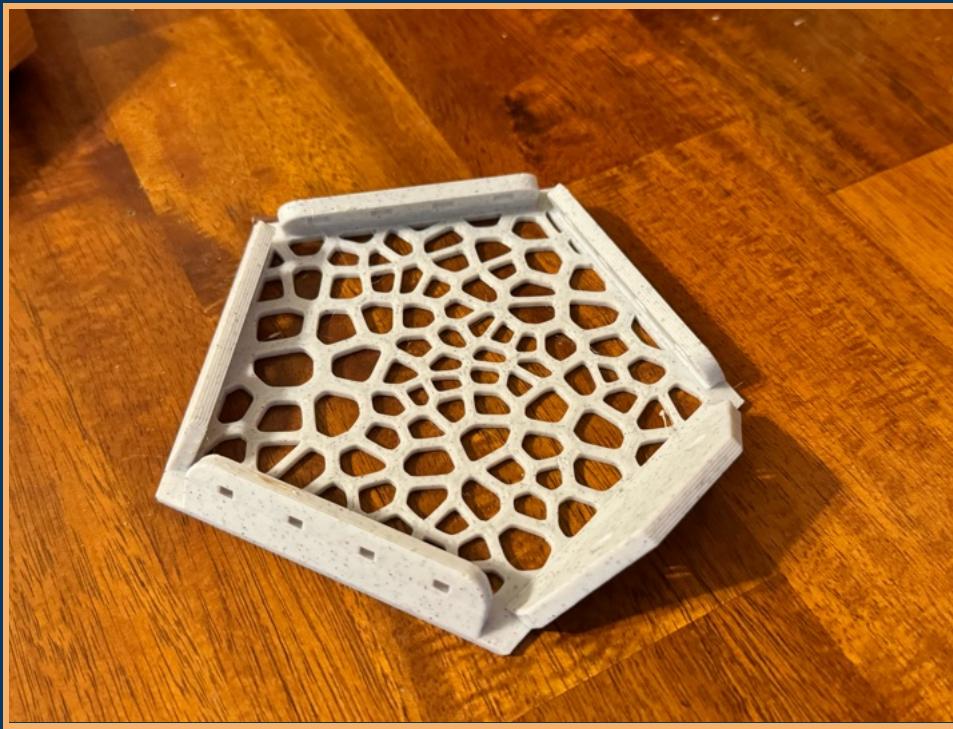
1. *This is your **Lid**. Notice the extruded notches for each side of the pentagon.*



2. *This is your **Top Component**. Notice the internal notch on a single side of the pentagon. Make sure to keep this side at the top. More on that below.*



3. This is the **Base Component**. Notice the side with the obtuse angle and long tab. This will connect to the wooden base. More on that later.



4. 60 Zip ties. These will be the glue that keeps it all together.



DIRECTIONS

*Now that you have all of your components you're ready to start.
Take your time. Be careful as these elements can break.*

CONNECTING YOUR FIRST PIECES

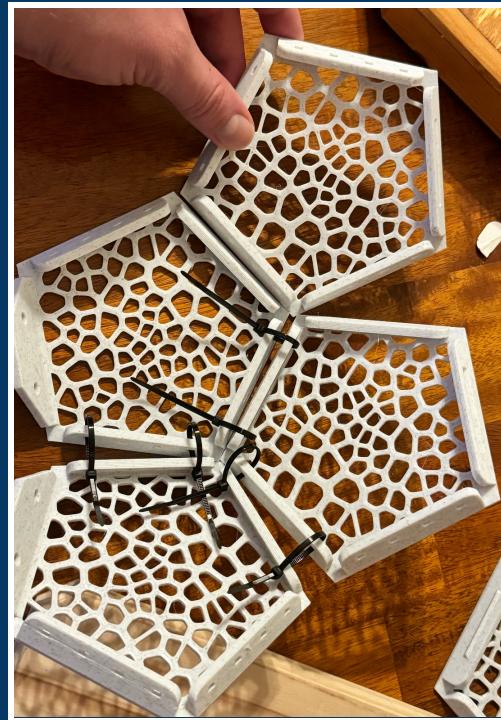
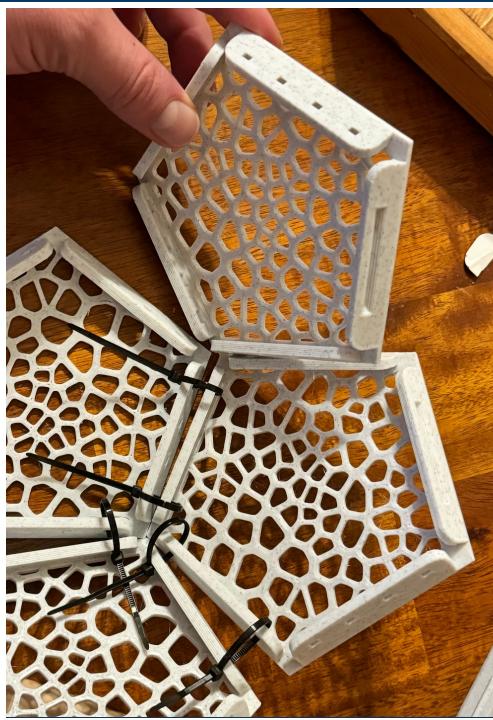
To start you'll want to take 2 Base Components and a single Top Component. The Top Component orientation will need to have the internal notch **OPPOSITE** of the 2 joining edges. You should only need to use 2 zip ties per edge as displayed below. Do not tighten the zip ties too tight.



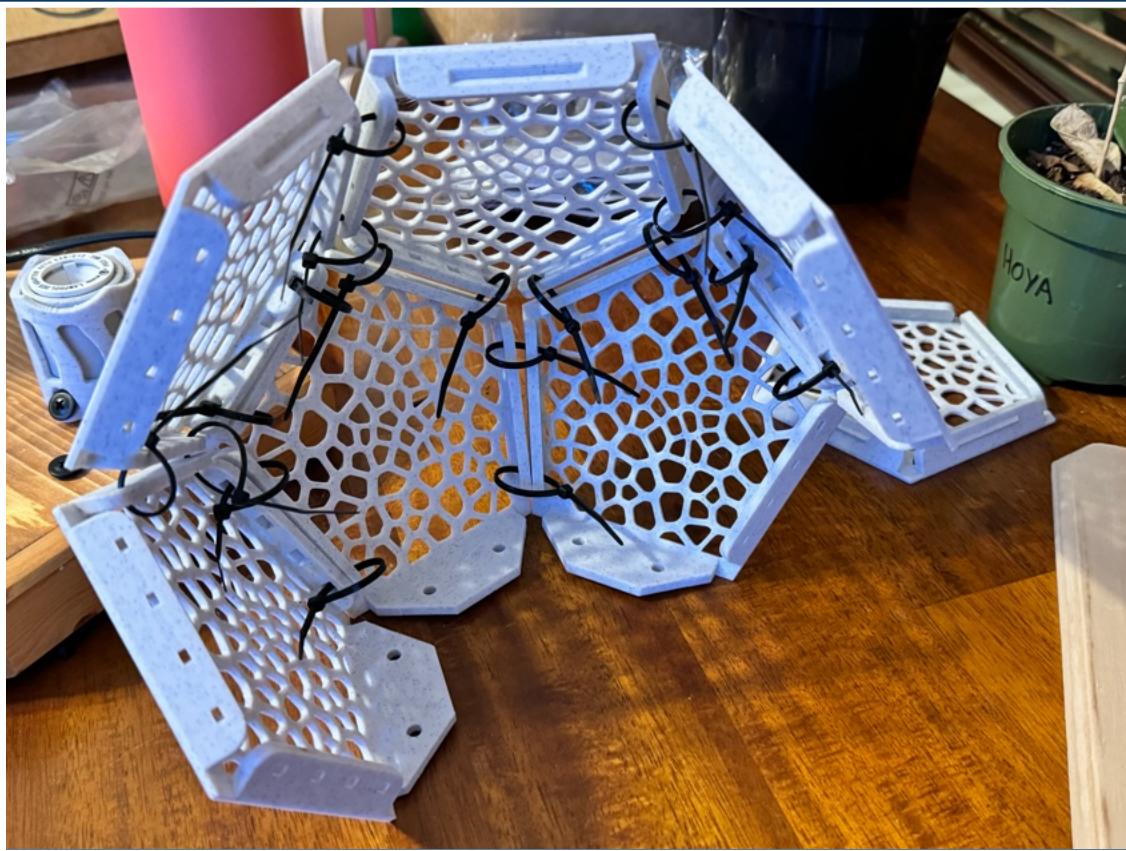
You can see below that the zip ties are left loose. This is to ensure you have space and flexibility to put all of the remaining pieces together.



Next you want to get another Top Component, again making sure the orientation is correct. The 2 Top Component joining edges to the Base Components are opposite of the internal notch.



Continue to connect 3 - Top Components and 3 - Base Components together with loose zip ties remembering to keep the internal notch of the Top Components opposite of the connecting edges to the Base Component as displayed below.



Separately, connect the remaining 2 - Top Component and 2 - Base Components together with loose zip ties and correct orientation.

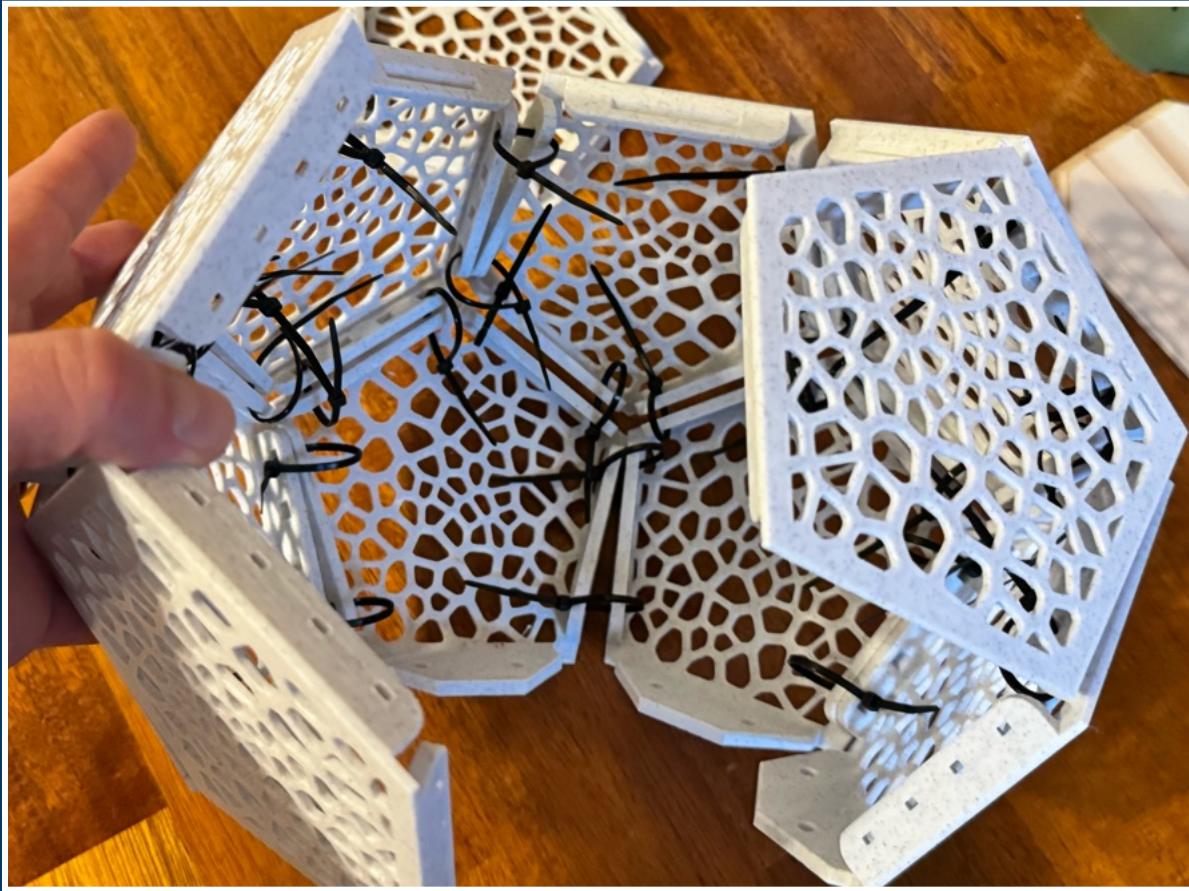


With the 2 groupings of components, you can begin to connect them together with zip ties. Start with one edge first.





Continue to connect edges together in the correct orientation remembering to keep zip ties loose.

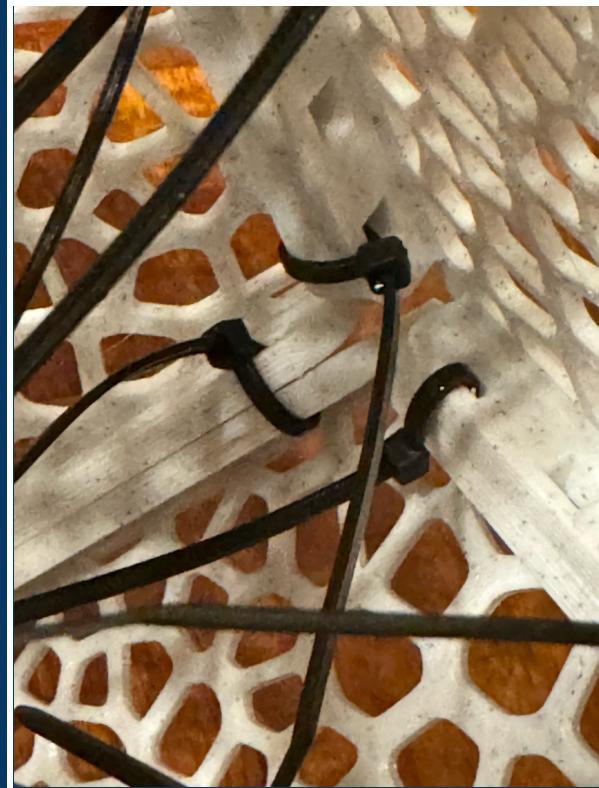


Finally using your hand through the top and bottom, start connecting the final edges together with loose zip ties.

Lose edges that need to be tightened.



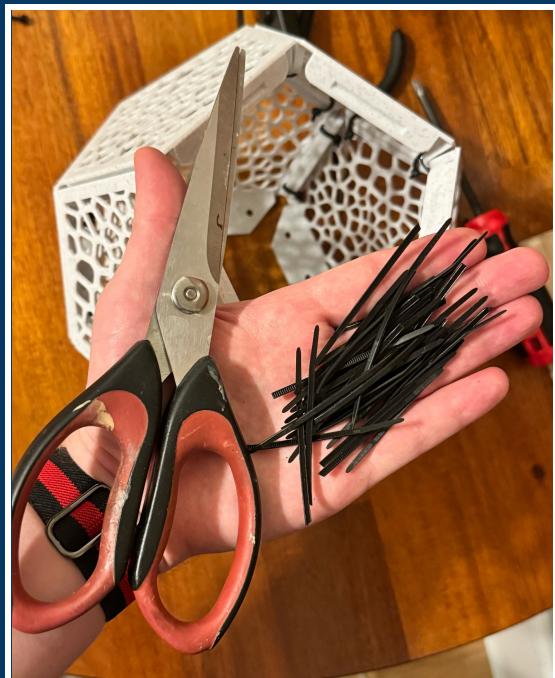
The Dodecahedron will be loosely put together but now time to tighten up those zip ties using the openings in the top and bottom.



Next take your hand and put it through this tickle machine.



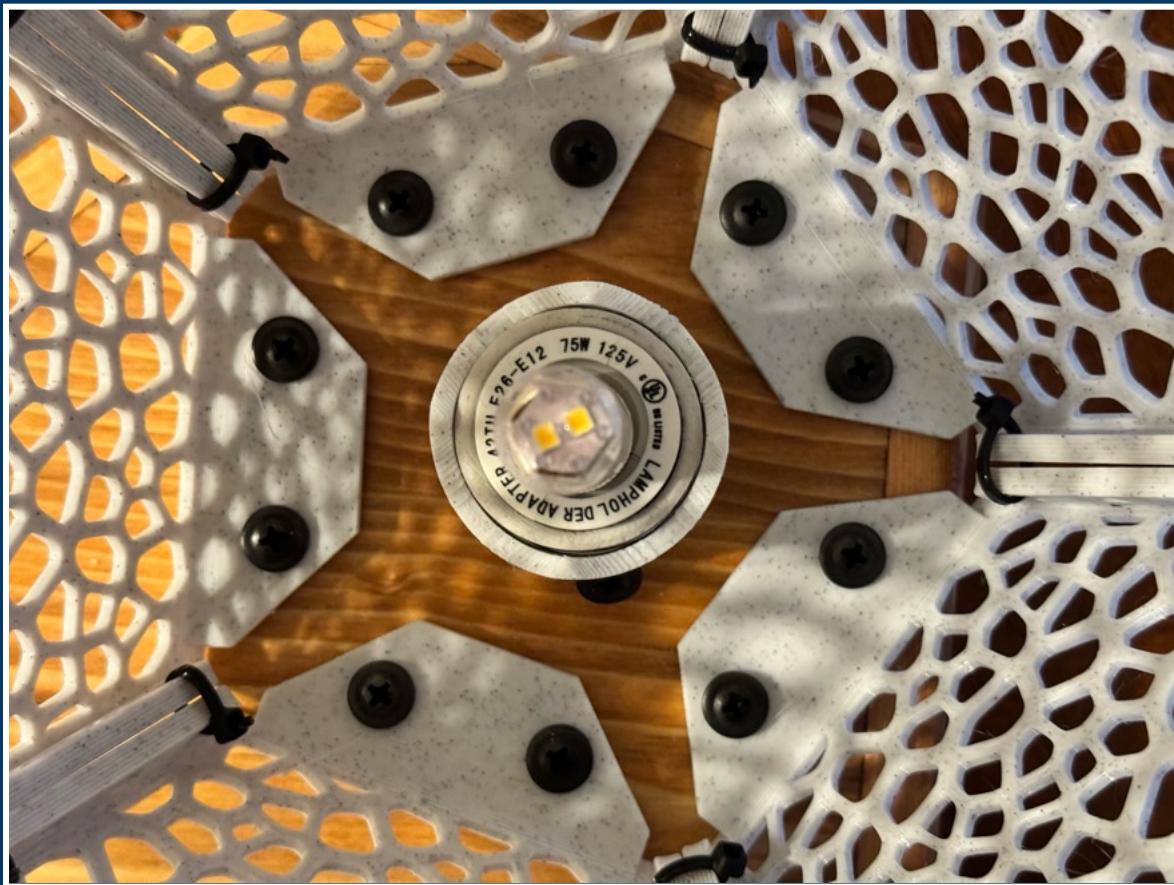
When you're satisfied from your tickle torture chamber it's time to take some sissors and start snipping all the extra plastic from the zip ties.



Grab the base and the light bulb and screw it all in. Plug it into the wall, flip the switch and make sure everything works.



The last steps will be to place the shade on top of the wooden base. With a long screwdriver and the black screws, carefully screw in the lamp shade to the base. Be sure not to over tighten the screws and strip the wood.



Place the cap on top to complete the Dodecahedron, plug in the lamp and turn on the switch. Enjoy this lamp that provides a cool shadow pattern in a dark room!

