

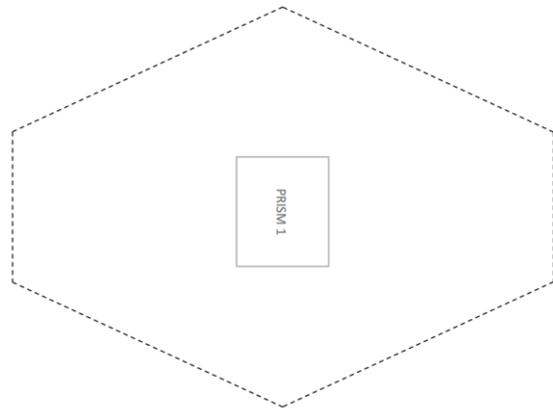
Simple Paper Model of the James Webb Space Telescope (JWST)

Materials:

- (5) Sunshield Layer Templates (printed on cardstock)
- (3) Straws
- (3) Plastic Coffee Stirrers
- (2) Prism Templates (printed on cardstock)
- (1) Mini Marshmallow
- (1) Primary Mirror (printed on cardstock)
- Tape
- Scissors
- Colored Pencils

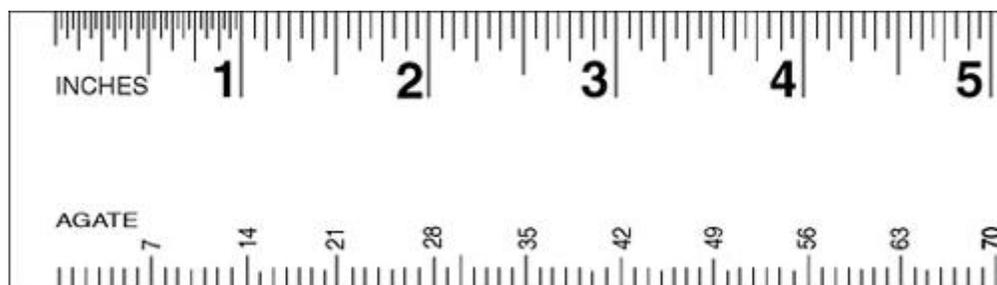
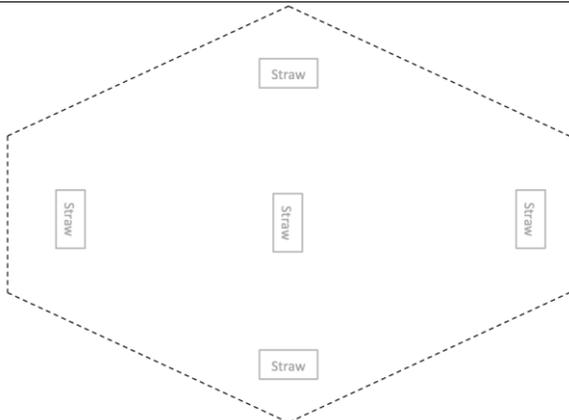
Instructions:

1. Copy or print the 5 sunshield layers on cardstock using the templates provided. Cut out each sunshield layer, cutting along the dotted lines.

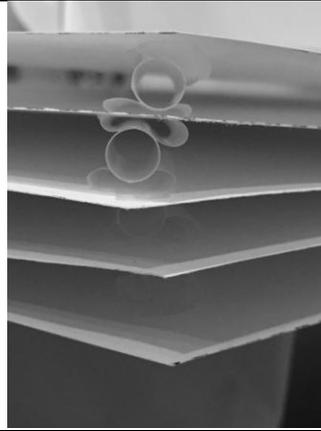


2. Cut the straws into 20 1-inch-long pieces. Use the ruler below to help you measure the proper length. Place the straws on the labeled spots of sunshield layers 2 to 5, and tape them down.

The boxes on the sunshield layers labeled "straw" are all 1 inch long.



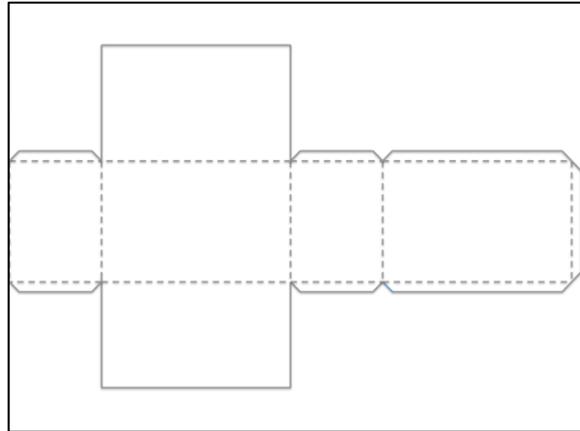
3. Construct the JWST sunshield by stacking the sunshield layers in order from 1 to 5, with sunshield layer 1 on the top. Tape each layer together where the straws touch the next layer. Use “tape loops” to keep the layers together, folding the tape into thirds, so that it sticks on all sides.



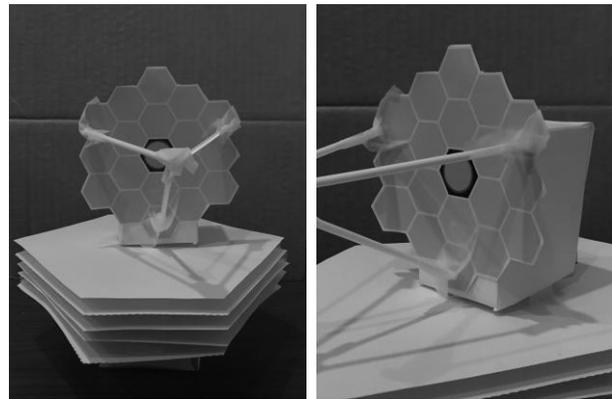
4. Copy or print the 2 prism patterns on cardstock using the templates provided. Cut out the 2 prism patterns by cutting along the **solid** lines. Construct the 2 prisms by folding along the **dotted** lines.

Using tape, attach prism 1 **vertically** on the top of the sunshield. Attach it inside of the box outline labeled prism 1. Place prism 2 **horizontally** on the bottom of the sunshield, and tape it to the center.

*Note: The box outline for prism 2 will not be visible on the bottom of the sunshield.



5. Next, copy or print the primary mirror on cardstock using the template provided. Use colored pencils to color the primary mirror yellow. Then, cut out the primary mirror, and tape it to prism 1, which is on the top of the sunshield. Align the mirror so that only one hexagon touches the top layer of the sunshield.



6. Take the 3 coffee stirrers and push them into the mini marshmallow. The mini marshmallow represents JWST’s secondary mirror. The coffee stirrers should form a tripod shape. Tape the open ends of the tripod to the primary mirror, as shown in the images.

