

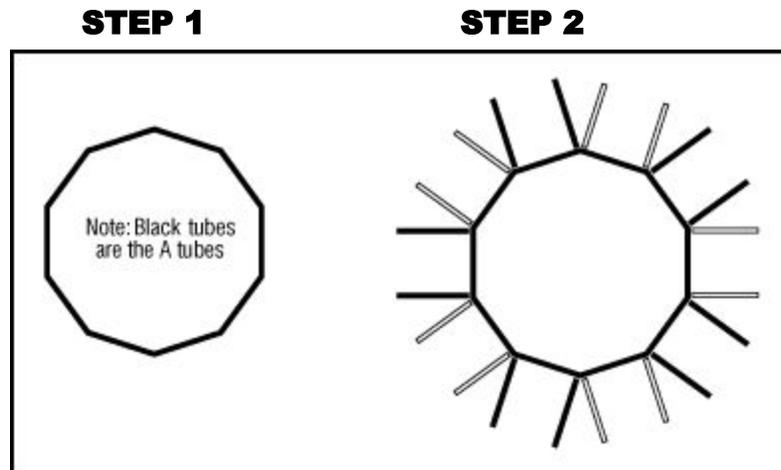
Constructing a Geodesic Dome

Getting Started...

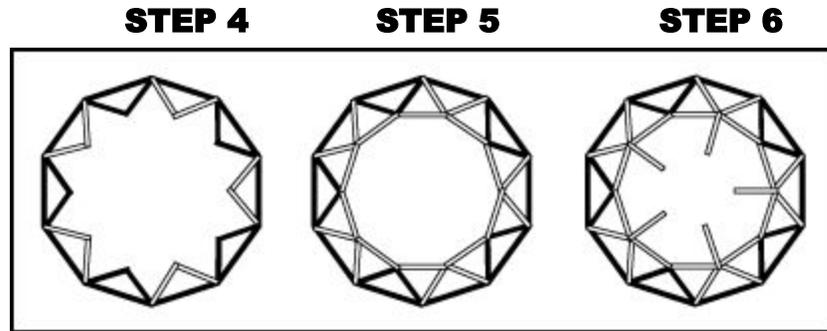
1. Stack **three** flat sheets of newspaper together. Starting in one corner, roll the sheets up together as tightly as you can to form a tube. When you reach the other corner, tape the tube to keep it from unrolling. You will need to roll **65 tubes**.
2. Cut the tubes on **both ends** to make **35 long** struts and **30 short** struts.
 - **Longs:** Cut off both ends of a tube until it is 71 centimeters long. Use this tube as a model to create 34 more long struts. Use the marker to label the **longs** with a **yellow dot** so you can tell them apart from the shorts.
 - **Shorts:** Cut off both ends of another tube until it is 66 cm long. Use this tube as a model to create 29 more short struts. Use the marker to label the **shorts** with a **green dot**.

Once 10 long yellow struts are completed, some students should start constructing the dome while others continue to make the newspaper rolls and struts.

Building the Geodesic Dome



1. **On the floor, arrange 10 long yellow struts in a “circle” to form the base of the dome. (*See Step 1 diagram.*) Tape them together.**
2. **Arrange a long yellow strut and a short green strut at each joint connection. Arrange them so that there are two long yellow struts next to each other, followed by two short green struts, and so on, as shown (*See Step 2 diagram.*)**
3. **Tape a long strut and a short strut to each joint.**



4. **Pick up two of the long yellow struts and form a triangle with them and one of the long yellows already attached to the “circle.” Tape the tops together. Continue doing the same thing with the rest of the tube pairs. You should end up with a circle of triangles poking into the air. Tall yellow triangles should alternate with short green triangles. (See Step 4 diagram.)**

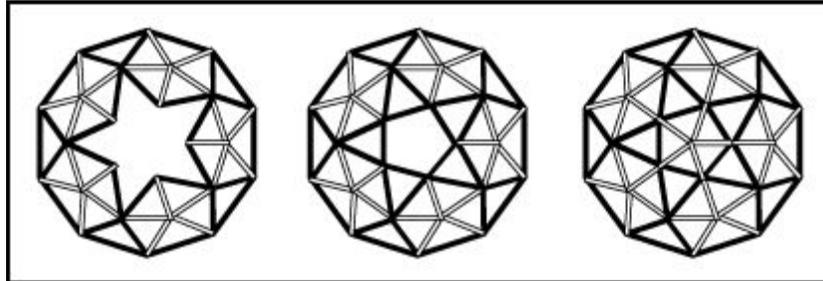
5. **Connect the tops of these new triangles by adding a row of short green struts across the top triangles. (See Step 5 diagram.) The dome will start curving inward. **WARNING: This geodesic dome will not bear your weight!!! Be careful not to bend or lean on the structure as you work.****

6. **At each joint where four short green struts come together, tape another short green sticking straight up. (See Step 6 diagram.)**

STEP 7

STEP 8

STEP 9



- 7. Connect the short green struts to the joints on either side by using two long yellow struts, one attached to each adjacent joint, forming new triangles. (See Step 7 diagram above.)**
- 8. Connect the tops of these new triangles by placing a row of long yellow struts across the top and taping them together. (See Step 8 diagram.)**
- 9. Finally, finish the dome by adding the last five short green struts. These tubes come from the five joints and meet at a single point in the center of the dome. (See Step 9 diagram.) You might need to stand inside the dome to tape them together.**

YOU DID IT!
YOU BUILT A GEODESIC DOME!

