

# Gumdrop Dome

## What You Need

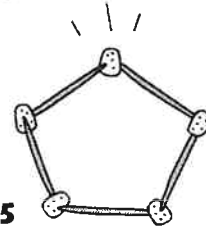
- 25 toothpicks
- 11 gumdrops

## Engineering Scoop

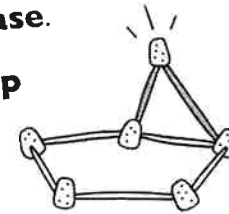
Engineers often use **triangles** when they design buildings. Did you notice that your dome is made up of lots of triangles? That's because triangles are **stable shapes**. That means they **don't bend, twist, or collapse easily** when you push on them. A square is not as stable as a triangle. Test it. Make a **square** and a **triangle** out of toothpicks and gumdrops. **Press** down on **one corner** of each shape. How do the two shapes **compare**? Does one bend, twist, or collapse more easily than the other?



**1** Use gumdrops to **connect 5 toothpicks** in a ring. This is your **base**.

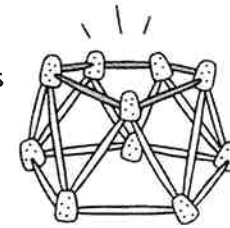


**2** Use **2 toothpicks** and **1 gumdrop** to make a **triangle** on one side of the base.



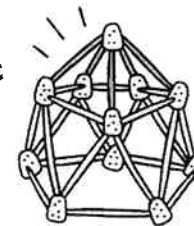
**3 Repeat** all the way around the base until you have **5 triangles**.

**4** Use toothpicks to **connect** the gumdrops at the **tops** of the triangles. Now **how many triangles** do you have?



**5 Push** 1 toothpick into each of the **top gumdrops**.

**6** Use one last gumdrop to **connect** these toothpicks at the **top**.



Now it's time for you to **experiment**. What happens if you make a **base** with six sides instead of five sides? Or, what happens if you build **squares** rather than triangles on top of the base? Choose one thing to change (that's the **variable**), and **predict** what you think will happen. Then **test it** and **send** your results to ZOOM.