



Cross-sections

What the knife meets

- Today: name the flat shape you get when a solid is sliced.

A cylinder, sliced straight down

- What shape is the cut face?

Turn & talk: circle or rectangle?

Don't picture the solid. Follow the knife.

- Flat face met $\rightarrow$ straight edge.
- Curved surface travelled AROUND $\rightarrow$ curved edge.

Vertical cut: a rectangle

- Flat top, flat bottom, two straight cuts up the wall.
- Four straight edges.

Cutting ACROSS a curved wall gives a straight line.

Same cylinder, sliced flat: a circle

- Now the knife travels all the way AROUND the curved wall.

One solid. Two directions. Two different shapes.

Your turn

- A cone sliced vertically through its point. What shape?
- Thumbs up when you have it.

Two special cases

- Prism: all faces flat $\rightarrow$ always a rectangle, any direction.
- Sphere: curves the same everywhere $\rightarrow$ always a circle, any direction.

Everything else depends on which way you cut.

Now you

- → In-class practice sheet