

Shapes that stop paper bending

engineering

What you need: paper strips cut from A4 (about 4 cm × 21 cm) · masking tape (small pieces to hold tube joins) · rolled poster tube · ridged card sample

Words to use

Stiffness · Tube · Concertina fold · V-fold

Our question

Which shape makes the same paper strip resist flopping best: a deep V, a tube, or fan folds?

I predict...because...

Words to sort

poster tube · ridged card (ridges like fan folds) · drainpipe or kitchen-roll tube · ridged crisp packet or egg box · chair or table legs that are tubes · any tube or ridged shape spotted in the room or through the window

Sort real objects into tube shapes and ridged shapes on two labelled board headings

Group 1	Group 2	Group 3

Which shape resisted flopping best?

What stayed the same in every test?

What does that tell us about shape and stiffness?