



Load-bearing tubes



What you need:

- SCISSORS
- PAPER
- TAPE
- SEVERAL BOOKS

PLEASE. NO MORE...

What to do:

ROLL FOUR PIECES OF PAPER INTO TUBES AND SECURE THEM WITH TAPE.
PLACE THEM ON A TABLE AS SHOWN IN THE PICTURE.
SLOWLY ADD BOOKS ONTO THE TUBES. SEE HOW MANY YOU CAN STACK BEFORE THEY FALL.
REPEAT THIS EXPERIMENT, BUT REDUCE THE HEIGHT OF THE COLUMNS BY HALF. BE READY TO ADD A LOT MORE WEIGHT!

What's going on?

A TUBE IS INCREDIBLY STRONG BECAUSE IT DISPERSES WEIGHT (A LOAD) EVENLY THROUGHOUT ITS SHAPE. THIS IS CALLED LOAD DISTRIBUTION. BUILDINGS AND BRIDGES ARE CONSTRUCTED BY ENGINEERS WHO CALCULATE THE LOAD DISTRIBUTIONS OF THEIR PROJECTS SO THAT THEY WILL NOT COLLAPSE.