

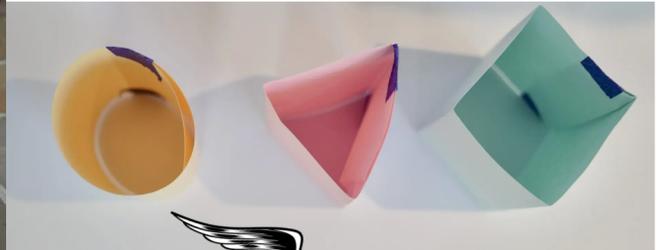
HOW CAN BIRDS FLY?



Birds can fly because they have wings, a streamlined body, strong muscles and very light, hollow bones.

You'll need

- Paper
- Tape
- Books
- Paper plate



Instructions

Roll one piece of paper into a circular column, one into a triangle column and one into a square column. Use the templates provided to help.

Stand the circular column up first and place books on the top until it collapses. Repeat with the other two shapes using the same books in the same order.

You should find the circular column is the strongest, as it doesn't have any edges so the weight is spread evenly through the column.

As an extension activity, roll three circular columns and place the paper plate on top of them. Place books on the plate until the columns collapse.

Results

The circular column held books before collapsing.

The triangle column held books before collapsing.

The square column held books before collapsing.

Birds' bones are very strong and perfectly adapted for flight. They have a dense, strong exterior and an interior strengthened with criss-crossing ridges and webbing.

The column is the strongest!

You should find the circular column is the strongest, as it doesn't have any edges so the weight is spread evenly through the column.

How can birds fly?



Build a square, triangle and circular column. Stand them upright and add books one by one to the top of each until they collapse.

Square Column

Cut along here

Fold here

Fold here

Fold here

G L U E / T A P E H E R E

Cut along here

How can birds fly?



Triangle Column

Cut along here

Fold here

Fold here

G L U E / T A P E H E R E

Cut along here

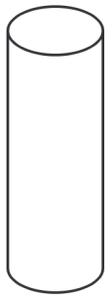


Fold, glue or tape and
stack books on top



How can birds fly?

Circular Column



Cut along here

G L U E / T A P E H E R E



What's happening?

You should find the circular column can hold the most weight. This is because it doesn't have any edges so the weight of the books is shared evenly by the circle.

The square and triangle support the books on their edges and corners meaning they collapse sooner.

Cut along here