

## Flying Ring

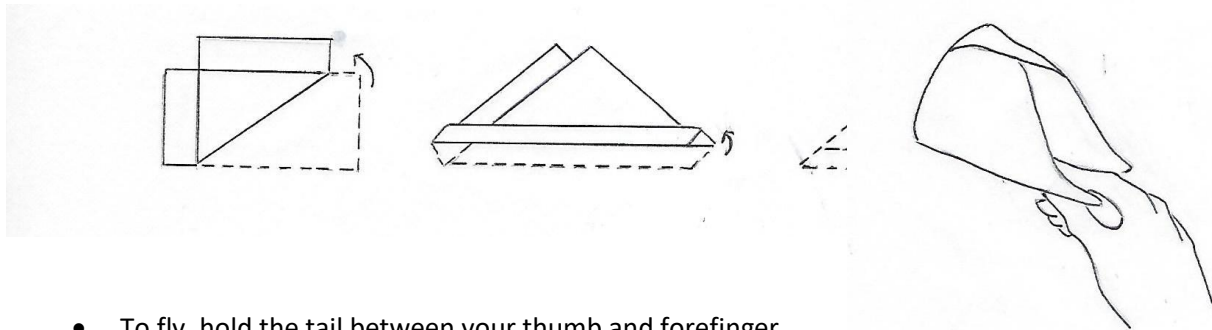
The *Take Flight* exhibit explains how things fly. You can build your own flying machine; make this ring of paper that glides easily through the air.

What you will need:

- A regular piece of paper (8.5" x 11")
- Piece of tape

Directions:

- Fold an 8.5" x 11" piece of paper diagonally so that you leave about 1" along the top and side.
- Fold the folded edge up about 1".
- Bring the outside edges together, tucking one inside the other to make a ring.
- Secure this with a piece of tape.



- To fly, hold the tail between your thumb and forefinger. Hold the ring above your head with a straight arm. Gently throw overhand, releasing the ring when your forefinger is pointing straight ahead.

**Tip:** Gentle launches work best to produce a long glide.

### Why it Works:

The ring flies because air is flowing over and under the paper to create lift. Airplane wings are specifically designed to create the most lift, but different shapes can also fly.

### Go Beyond:

Look closely at how the ring flies. Test your observations with experiments.

- What is the best way to launch the Flying Ring?
- What effect does wind have on the flight?

Think about how the Flying Ring is put together. Try making some changes. If something you try does not work, use what you have learned and try again.

- Try making the Flying Ring out of other types of paper. Which one(s) work best?
- Try holding a different part of the Ring when you launch it. Does it work better? Worse?

What other things are like the science and engineering principles used in the Flying Ring?

- Observe real planes. Ask yourself why they have different shapes of wings? Pictures of unusual aircraft can be found on the internet or in books.
- Find a book or site on how to fold paper planes. What shapes are good gliders? What shape goes fast? What shapes can make the plane do loops or turns?