

DAREDEVIL OF THE SKY

Activity Objective: Learn and practice basic design skills through making paper airplanes.

Toward Leadership Outcomes:

Through this activity, girls will:

- ✓ Gain practical life skills – Girls will have increased confidence in their ability to succeed in math and science. **(Discover)**

Experience Overview:

2 minutes	<i>Introduction (Talking Points)</i>
40-45 minutes	<i>Daredevil of the Sky</i>
5-10 minutes	<i>Reflection/Discussion</i>

Supplies Needed:

- ✓ Scissors
- ✓ Paper clips

Prepare Ahead:

- ✓ Make copies of the “Daredevil of the Sky” handout.
- ✓ Review (or make copies of) the “What Makes an Airplane Fly?” handout.
- ✓ Read over the entire activity before you meet with girls.

Step-by-Step Instructions:

» Introduction (Talking Points) (2 minutes)

- ✓ Say something like this: “As you know, every product we buy or use, from our toothbrush to our backpack to the jeans we wear, has been designed by someone. Today we will think about basic design and engineering concepts through the fun activity of making paper airplanes.”

SCIENCE & TECH
ACTIVITY 4

DISCOVER:

» Gain practical life skills

» Daredevil of the Sky (40-45 minutes)

- ✓ Distribute scissors, paper clips, and the “Daredevil of the Sky” handouts.
- ✓ After cutting and folding the basic airplane, have girls work in pairs to experiment with the size, shape, angle of the wings, rudder position, and weight (add a paper clip).
- ✓ Ask girls to try to make a plane that can fly in a straight path. After they have tried, ask girls: “What is the best design to make a plane fly straight?” (To make a plane fly straight, make sure that its weight is evenly distributed from side to side and front to back. The more streamlined the design, the smoother and straighter the flight.)
- ✓ Ask girls to try to make a plane that can fly in a loop. (Remind girls to not aim their planes at each other.) After they have tried, ask girls: “What is the best design to make a plane fly in a loop?” (To make a plane fly in a loop, cut flaps into the back of each wing. Experiment with folding the flaps up or down until the plane flies in a loop.)
- ✓ Encourage girls to try some aerobatic stunts such as spirals, loops, and stalls.

» Reflection/Discussion (5-10 minutes)

Ask girls:

- ✓ “What did you learn about design and engineering from this activity?”
- ✓ “How do you think each fold or crease in the airplane helps it to stay up in the air?” (Use the “What Makes an Airplane Fly?” handout to guide you—and consider distributing copies to the club for a group discussion.)