



MAKING PAPER HELICOPTERS

Use up those extra office supplies while giving your kids a quick science lesson

“Falling with style” is how Woody famously described Buzz Lightyear’s flight in “Toy Story,” but he might have been describing these paper helicopters too.

Paper helicopters are a fun activity that demonstrates gravity, drag and thrust. Using paper, scissors, and a few paper clips to make helicopters, you too can design something to fall with style. Use the attached template for the design of the helicopters, or design your own! Even Woody and Buzz would be impressed.



GATHER THIS:

- Paper
- Scissors
- Paper clips
- Color pencils

THEN DO THIS:

1. Cut along all of the solid lines of the helicopter pattern.
2. Fold the lower sections (C & D) toward each other along the dotted lines.
3. Hold the folded sections and place a paper clip at the end.
4. Fold the top blades (A & B) in opposite directions.
5. Hold the helicopter high above your head. Release!
6. Try shaping your blades or using different amounts of weight. You can also try uneven blades.

ASK THIS:

- Did the helicopter rotate clockwise or counter-clockwise?
- How can you make it rotate in the opposite direction?
- Does the height you drop it from affect its flight?
- How does the weight (paperclips) affect the flight?
- If you cut the blades unevenly how does it affect the helicopter’s travel? How?

WHAT IS HAPPENING?

When the helicopter falls, air pushes up against the blades and bends them up just a little. When air pushes upward on the slanted blade, some of that thrust becomes a sideways – or horizontal – push.

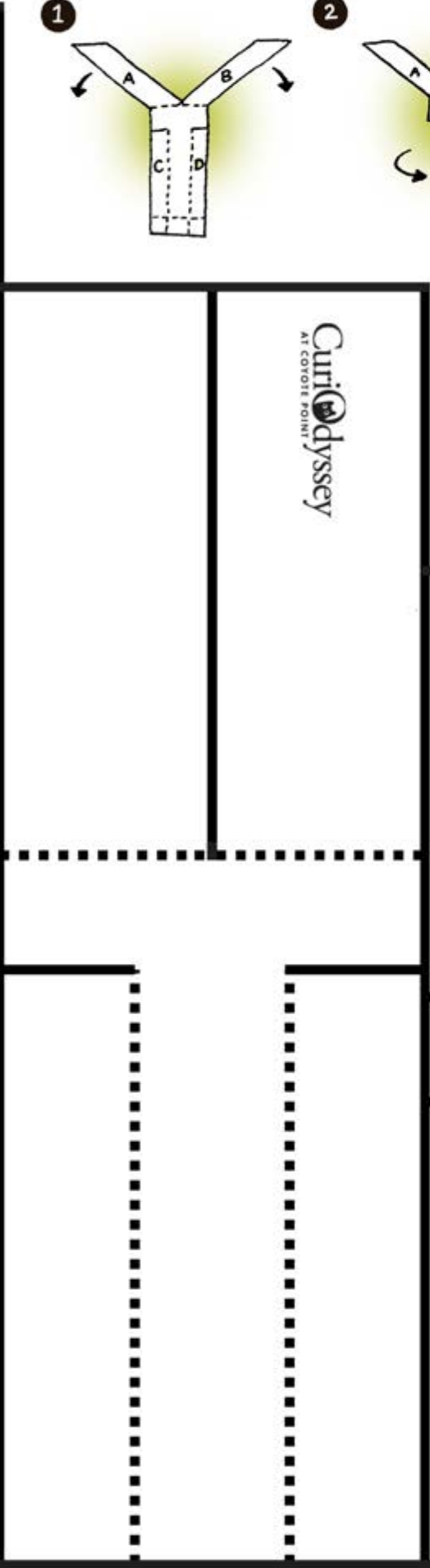
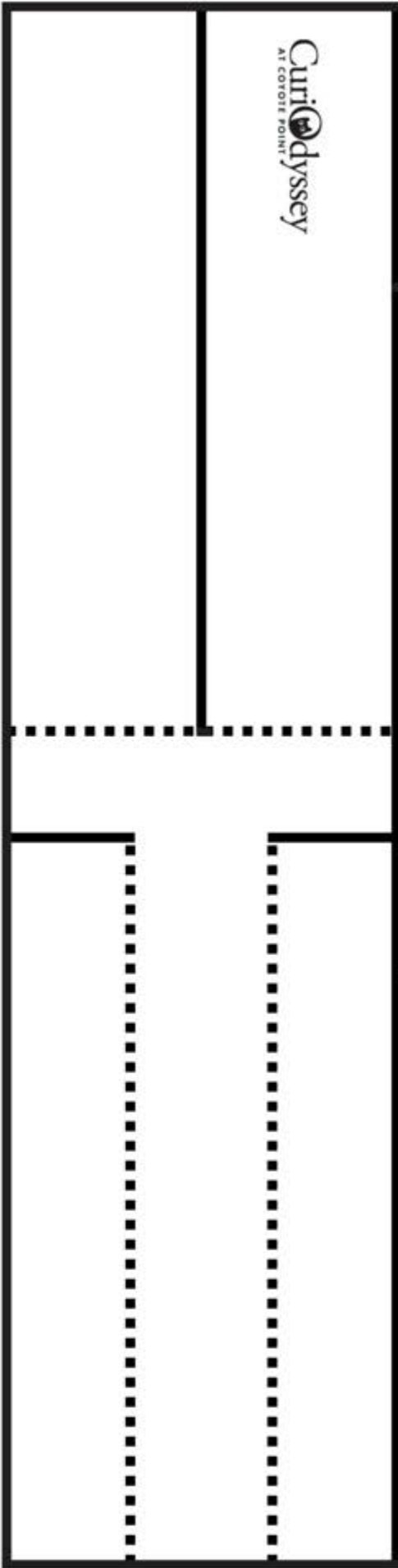
The helicopter doesn’t move sideways through the air because there are two blades, each getting the same push but in opposite directions. The two opposing thrusts work together to cause the toy to spin.

WHAT THIS TEACHES:

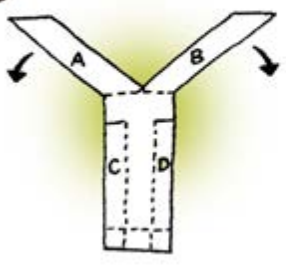
Skills: Scientific process, fine motor skills, observation
Themes: Gravity, drag, lift

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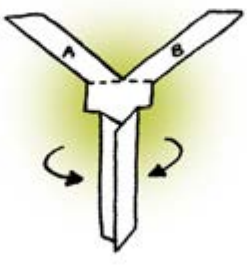
SCIENCE
PLAYGROUND
& ZOO



1



2



3

