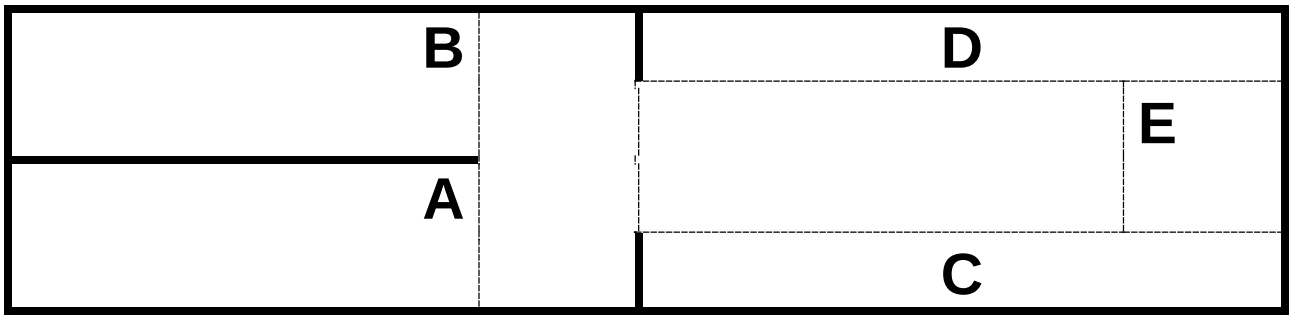
Hands on Helicopter Model Directions

Process:

1. Provide each participant with a pattern and scissors.
2. Instruct the participants on how to build a paper helicopter.
3. Have them follow your instructions with as much precision as possible.
    a. Cut along all solid lines;
    b. Fold A towards you;
    c. Fold B away from you;
    d. Fold C away from you and overlap it by folding flap D away from you;
    e. Fold flap E away from you and up;
    f. Launch by dropping from a high position.
4. Fold the propellers so they spin clockwise (above method);
    a. *Question:* Describe the direction that the helicopter spun.
5. Fold the propellers so they spin counterclockwise;
    a. Fold flap A away from you and flap B towards you.
    b. Drop helicopter again
    c. *Question:* Describe the direction that the helicopter spun
6. Create a faster spin
    a. Attach a paper clip to the bottom of the helicopter.
    b. Drop helicopter again.
    c. *Question:* What happened to the speed of the helicopter?
    d. Take off the paperclip.
    e. Change the direction of flap E.
    f. Drop the helicopter again.
    g. *Question:* What happened to the direction of the helicopter?

Questions:

1. What aspects of these flying machines relate to things you see in your every day lives?
2. What type of experiments did you run?
3. What kinds on modifications did you make to improve or change your design?



Adapted from The Great International Paper Airplane Book. J. Mander, G. Dippel and H. Gossage. Simon and Shuster, New York, N.Y., 1967.