

# Origami Grasshoppers

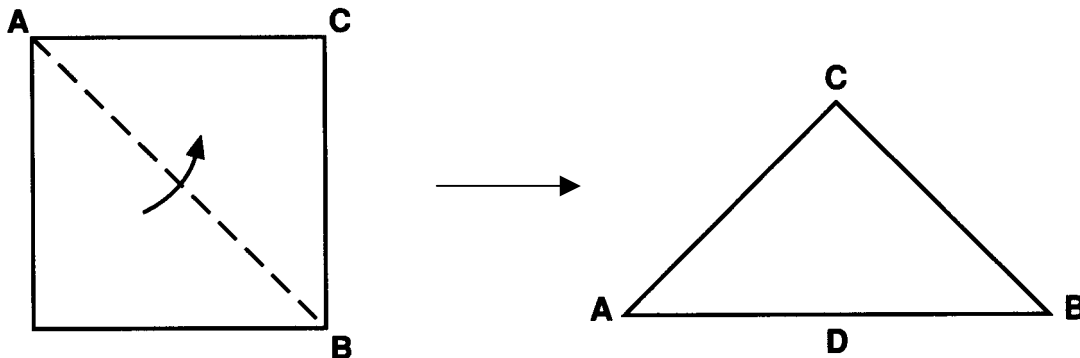
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1

Cut out three different sized squares all from the same kind of paper. Recommended sizes are 5 cm, 7.5 cm, and 10 cm (inches are OK too).

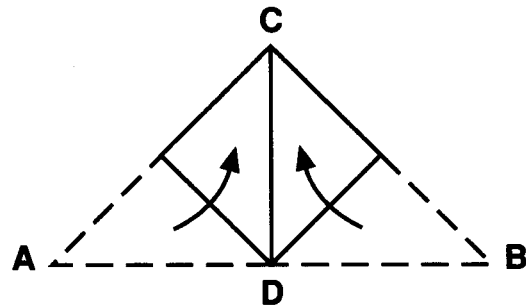
2

Make the largest grasshopper first. Take the square with 10 cm sides and fold it diagonally to make a triangle as shown.



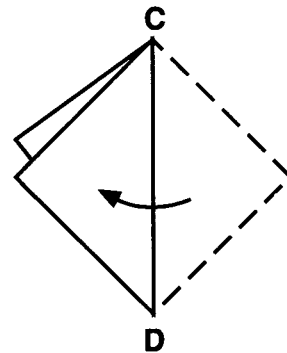
3

Fold up the corners labeled A and B until they touch C. The shape is now a diamond or square.



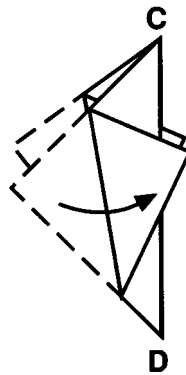
4

Fold inward along the center crease of the diamond from step 3. The shape is now a triangle again.



5

Fold up the two tips at the angle shown in the diagram to give the grasshopper its legs. Corner C is the grasshopper's nose. Be sure to make the creases very sharp.



6

Place your grasshopper on a flat table. Make sure its nose is higher than its tail as shown. Using your index finger, strike downward on its nose to make it flip. Strike the very tip of its nose to get the best flip.



Make a prediction. Which grasshopper do you think will hop the best? Why do you think this?

Practice hopping your grasshoppers and then hop each one 5 times. Record your data here:

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name

What was your group's definition of best? What quantity did you measure?

What is the median value for each grasshopper?

Was your prediction correct? Which grasshopper did hop the best?

Why do you think that that size grasshopper hopped the best?

List as many variables (things that were different or that changed) as you can.

Discuss how you might be able to "control" one of your variables.