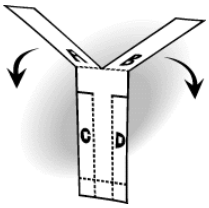
Building a Rotocopter (Paper Helicopter)

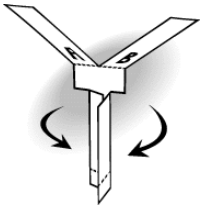
Instructions are written in steps. Each step starts with a _____.

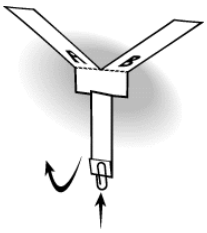
1. Cut out the rotocopter pattern at the bottom of this sheet.

2. Cut along the solid lines – between A and B, and above C and D. You will be folding along the dotted lines.

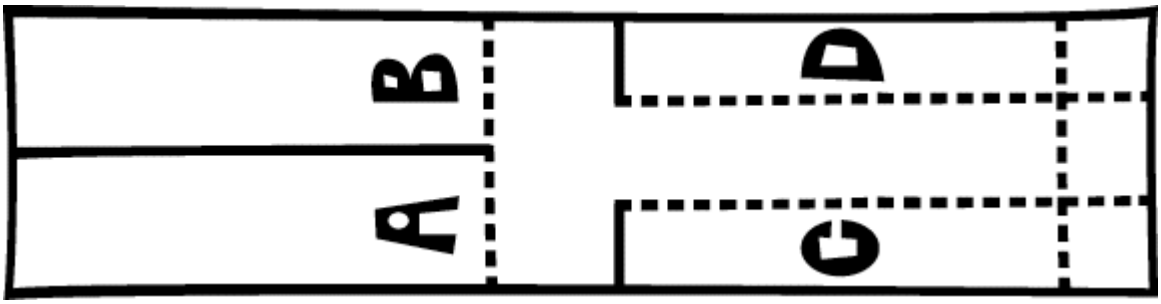
3. 

Fold A toward you and fold B away from you, along the dotted line.

4. 
Fold C and D over each other, so they overlap.

5. 
Fold the bottom segment up and hold in place using a paperclip.

6. Decorate your rotocopter, hold it up, and release it to let it fly.



Name: _____ Date: _____

THE ROTOCOPTER EXPERIMENT – Introduction to Scientific Inquiry

CHALLENGE: What can we do to make the rotocopter touch the ground faster?

1. **Things I can change (these are called the Independent Variable.)** (2 marks)

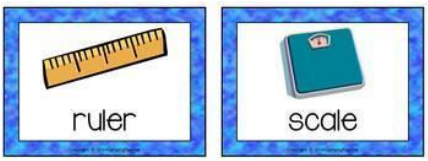
You will change the same independent variable first. You will have the choice of changing a different independent variable after.

2. **Things I can measure (These are called the Dependent Variable.)** (1 mark)

3. **Things I keep the same throughout the experiment (These are called Controlled Variables.)** (2 marks)

All the above variables are **measurable (i.e. they have units)**, especially the *dependent variable*.

Give an example of a quantity that is measurable: (1 mark)



Why do we need to keep everything else the same and only change the independent variable at a time? (1 mark)

Let's watch: Video: https://youtu.be/iaewZmc4TYQ

4. **Hypothesis (= a testable explanation for why something is happening)** (3 marks)

When I change _____,

I predict that _____

because _____

5. **DATA TABLE:** (5 marks)

Data table's title: _____

	Dependent variable I measured was:			Average
	Trial 1	Trial 2	Trial 3	
The control (first version of the rotocopter) Tested 3 times.				
What I changed: _____ Tested 3 times				

Why do we need to do multiple trials of an experiment? (1 mark)

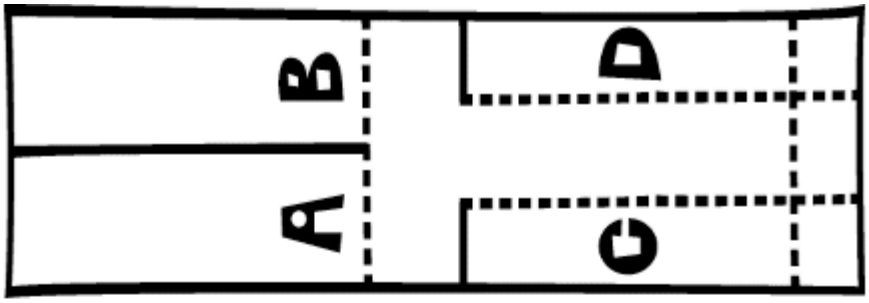
How do we calculate the average? (1 mark)

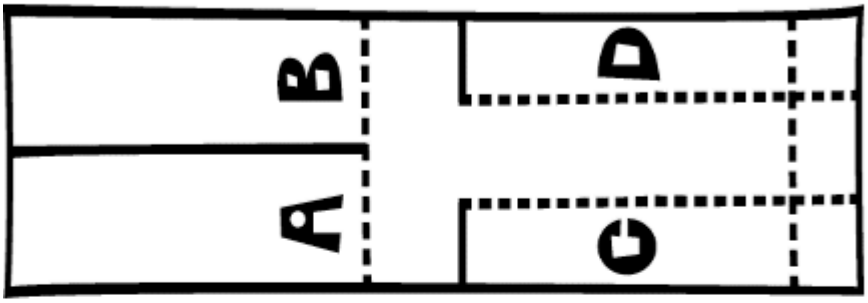
7. **Conclusion:** (2 marks)

As I changed _____,

I observed that _____

Total : _____ / 19


B
D
A
C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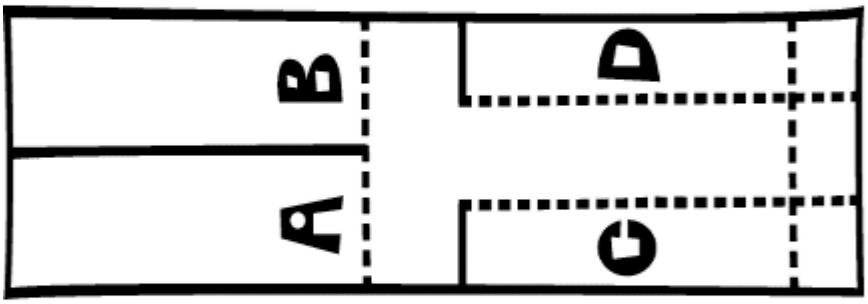
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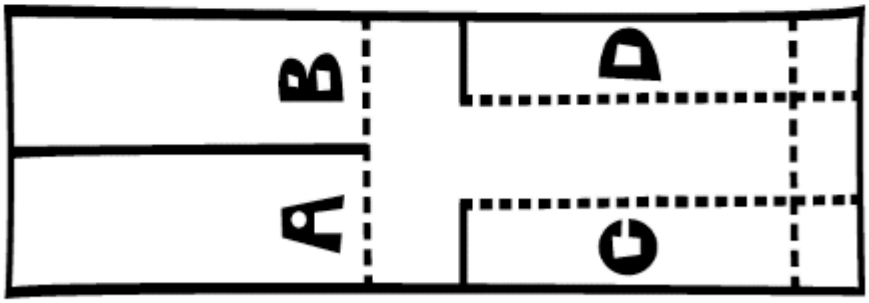
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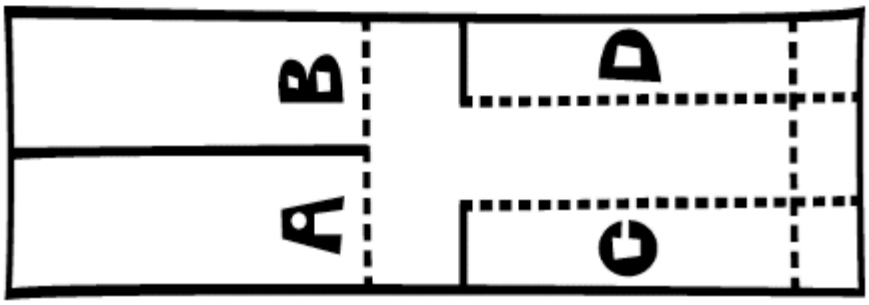
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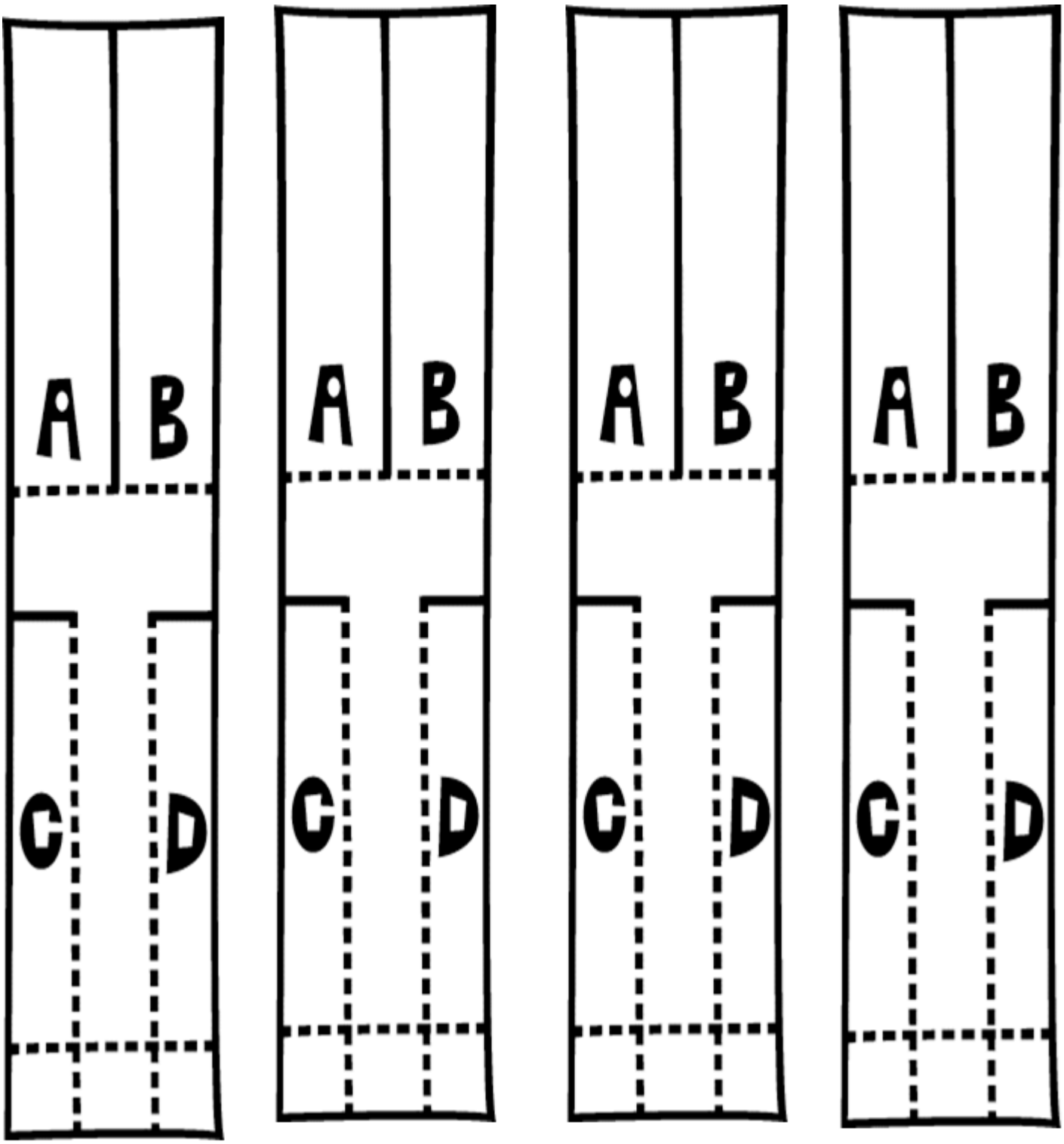
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