Origami Frog Lab Write-Up

PROBLEM: Can an index card Origami Frog be made to jump higher, farther, and make it down a track faster than other index card frogs?

INFORMATION: Origami Frog traditional model folding instructions. The science behind frog leaps is in the stretchy tendons of their legs

HYPOTHESIS: If I fold an index card into a modified origami frog **then** it will go farther and higher than my traditional folded origami frog. I think the modified origami frog will go farther because (specific folding modifications) will make the origami frog jump higher and farther than the traditional folded origami frog.

EXPERIMENT: Materials – 1. Index cards (2)
2. Meter stick
3. Timer/stopwatch
4. Calculator
5. Flat surface at least 1 meter long
6. Metric ruler

Procedure-

1. Create Hypothesis.
2. Answer pre-lab questions.
3. Get one index card and fold it in the traditional frog model (source "Origami with Rachel Katz")
4. Gently push on the back of the completed frog to make it jump. Practice making your frog jump a few times before beginning the timed trials.
5. Lay the meter stick down on a flat straight surface. Mark the starting line at one end of the meter stick and the finish line at the other end of the meter stick.
6. Start the frog at the starting line, marked at one end of the meter stick.
7. Have a partner use a stopwatch to measure the time it takes the frog to cross the finish line. Record your time for each trial in the data table, be sure to record units of measurement.
8. If possible do the lab indoors so wind and weather do not affect the results.
9. After 3 trials record your fastest time to the nearest 0.1 seconds _____.
10. Calculate the speed by dividing DISTANCE/TIME and record.
11. On the board record your group's track distance and best time to the nearest millimeter.
12. Get one index card and fold it into a frog shape using modifications to make it jump higher and farther than Traditional Frog.
13. List all of the modifications/differences between your Traditional Frog and your Modified Frog.
14. Measure the Jumping Height of Traditional Frog and Modified Frog, be sure to record units of measurement.
15. Measure the Jumping Distance of Traditional Frog and Modified Frog, be sure to record units of measurement.
16. Repeat Procedure steps #4-10 with your Modified Frog.
17. Records RESULTS in data table.
18. Write CONCLUSION. 1 PARAGRAPH (5 sentences minimum) *Discuss "My hypothesis was right or wrong because…" *Support hypothesis with data from your

results section. *List the steps you used to fold your modified frog. *Compare your frog types to each other. *Give your opinion of the lab. What did you like? What did you not like? Why?

RESULTS:

Frog	TRIAL #1 Time (sec)	TRIAL #2 Time (sec)	TRIAL #3 Time (sec)	TRACK DISTANCE	TIME	SPEED	JUMPING HEIGHT	JUMPING DISTANCE
Traditional Frog								
Modified Frog								
Group Winner	Traditional Frog							
Group Winner	Modified Frog							

CONCLUSION: