

Bungee Barbie - Worksheet

By: Louise Lopes, based on the workshop investigation by Dorothy Yu

Introduction:

Bungee jumping is a super thrilling thing to try, but it can be very dangerous if a lot of planning and testing does not go into it. The cord length is a big consideration. You don't want it so short that the jumper doesn't get to fall for very long, but you also definitely don't want it too long either (ouch)!



Figure 1

Today you will be a bungee engineer and create the most thrilling bungee ride, which will also keep your rider safe. Your objective is to come as close as possible to the ground without actually hitting it. You will work in your lab to predict the best bungee cord length for a two-story jump.

Questions:

The question to this investigation has been set for you: **What is the optimal number of rubber bands to use for a two-story bungee jump with a Barbie® doll as a test dummy?** You will have to write up an Aim and a Hypothesis based on this question.

Write an **Aim**:

Write your **Hypothesis**:

Plan:


Here is your materials list:

- Barbie® doll
- 30 rubber bands of the same size
- Large piece of paper
- Measuring tape
- Square ruler
- Blotak

Write your **Method** below:

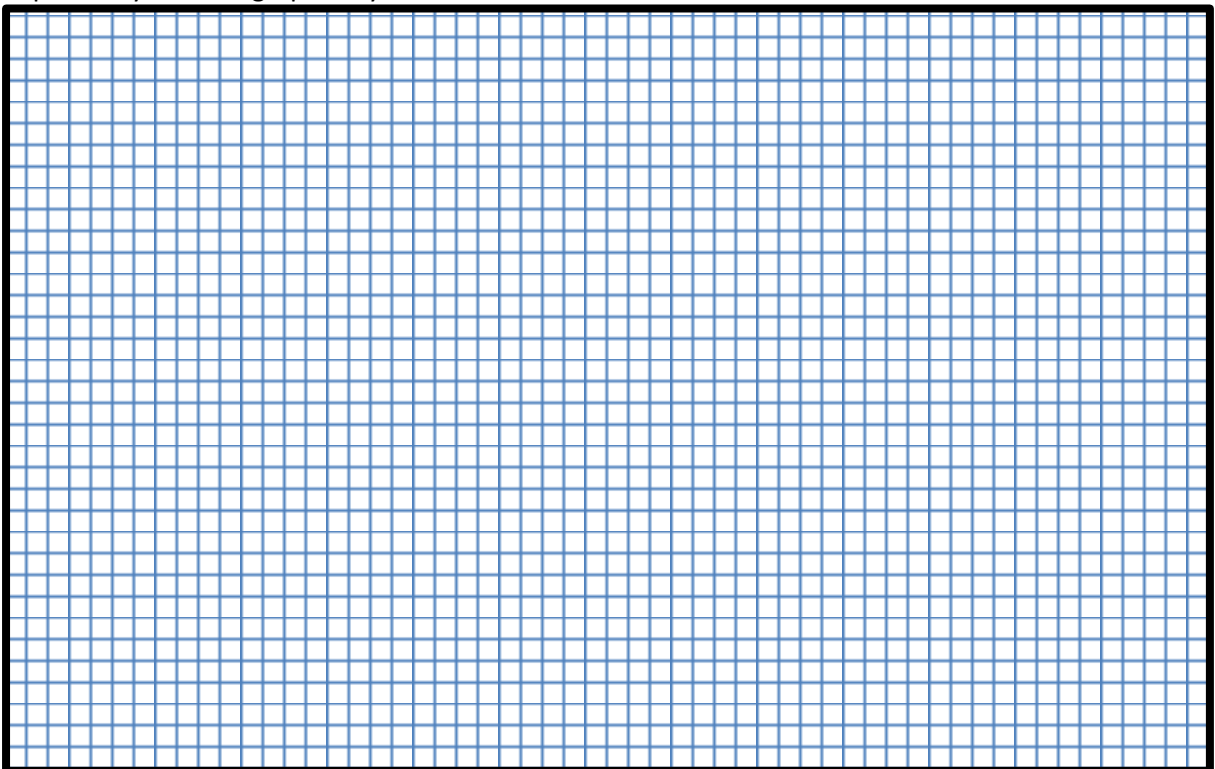
Conduct:

Record your **Results** below:

A large, empty rectangular box with a black border, intended for recording experimental results.

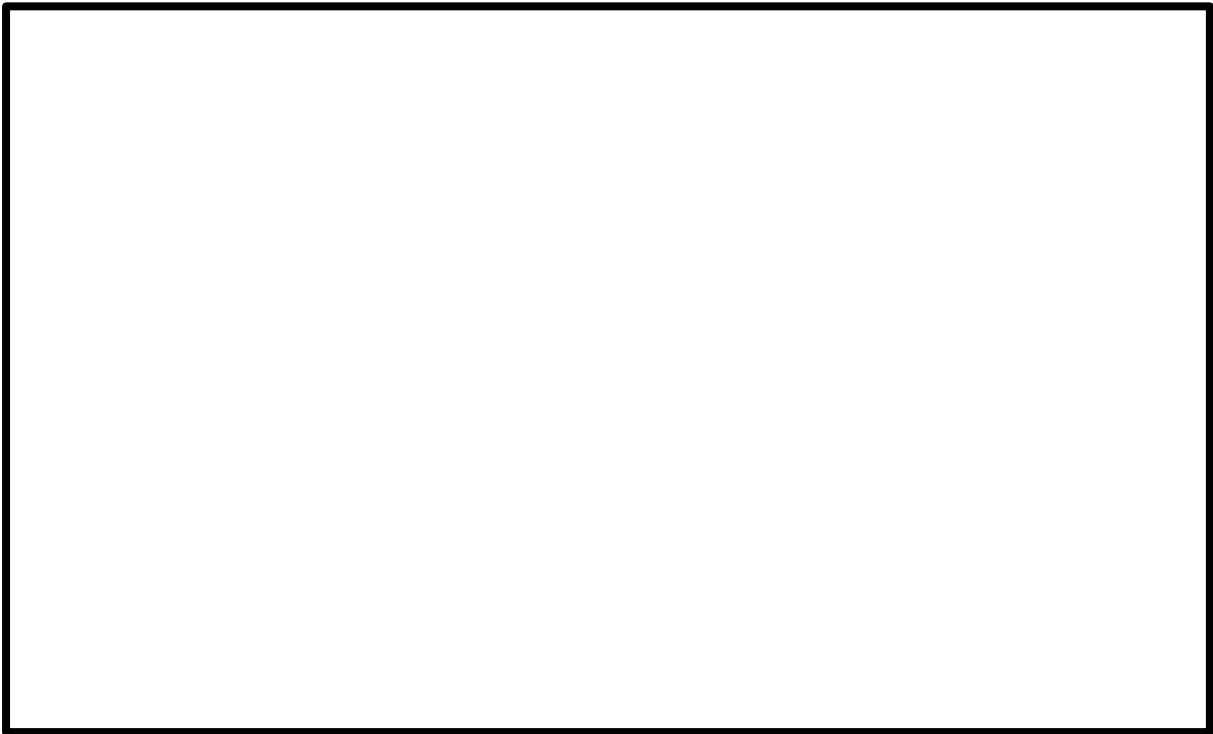
Analysis:

Represent your data graphically below:

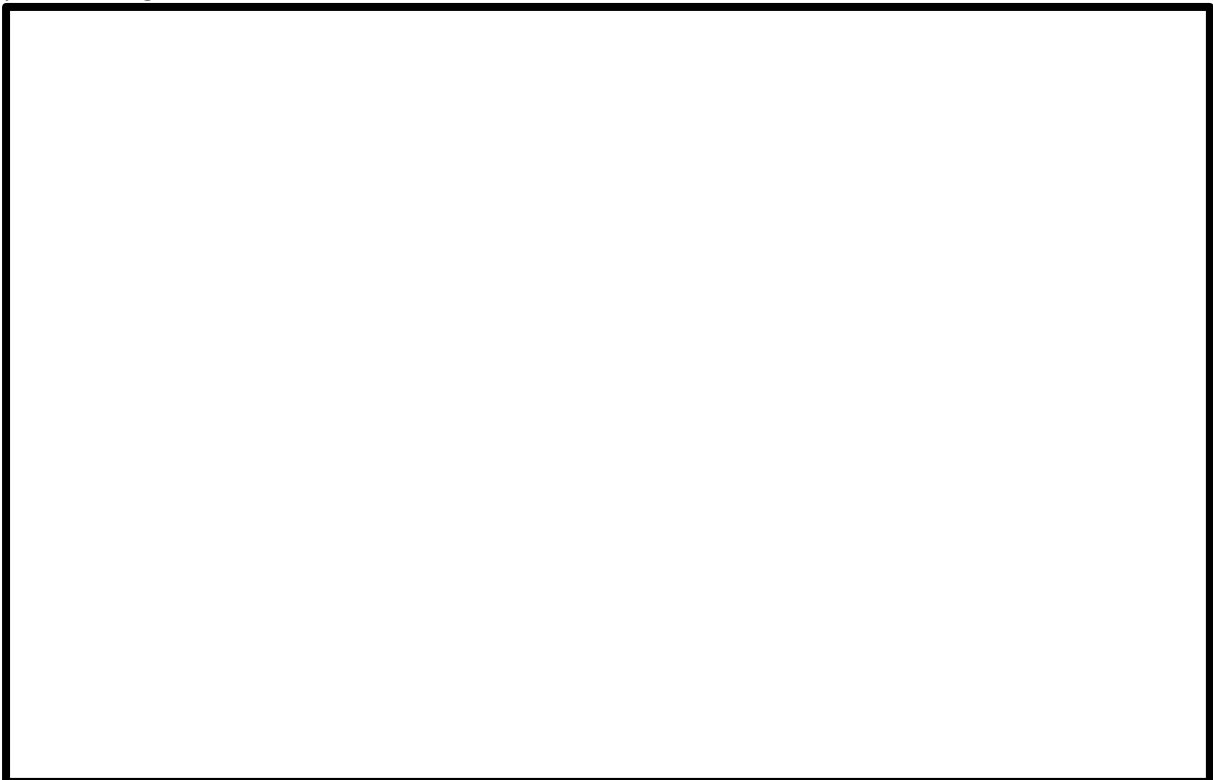
A large rectangular area filled with a light blue grid pattern, used for graphically representing data.

Problem-Solving:

Discuss your results and explain the flow of energy involved in a bungee jump using your scientific understanding.



Assess the reliability of your experiment. Where there any sources of error? How would you improve your investigation?



Conclusion:

Conclude your investigation by writing an answer to the Question:



Image Reference

Figure 1 - jonhmin_lee, <https://pixabay.com/en/bungee-jumping-limit-bungee-619139/>
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