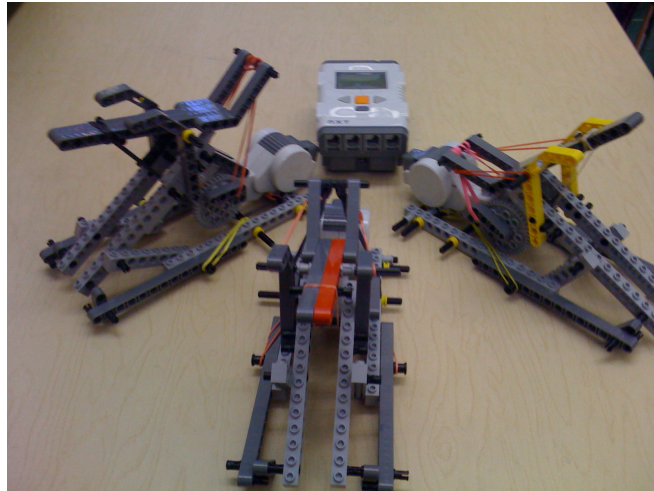


Name:

Date:

Grade:

## TREBUCHET EXPERIMENTS



Trebuchet – The French invented this engine in the twelfth century by the order of Napoleon. This was used as both a weapon and a supply engine because it could launch objects to those in need. The trebuchet has a lever and a pouch attached to it to launch the object. The object that is flying in the air is called projectile.

Hypothesis: What object will travel the farthest? Which variable will be the best?

I think the \_\_\_\_\_ travel the farthest because \_\_\_\_\_.

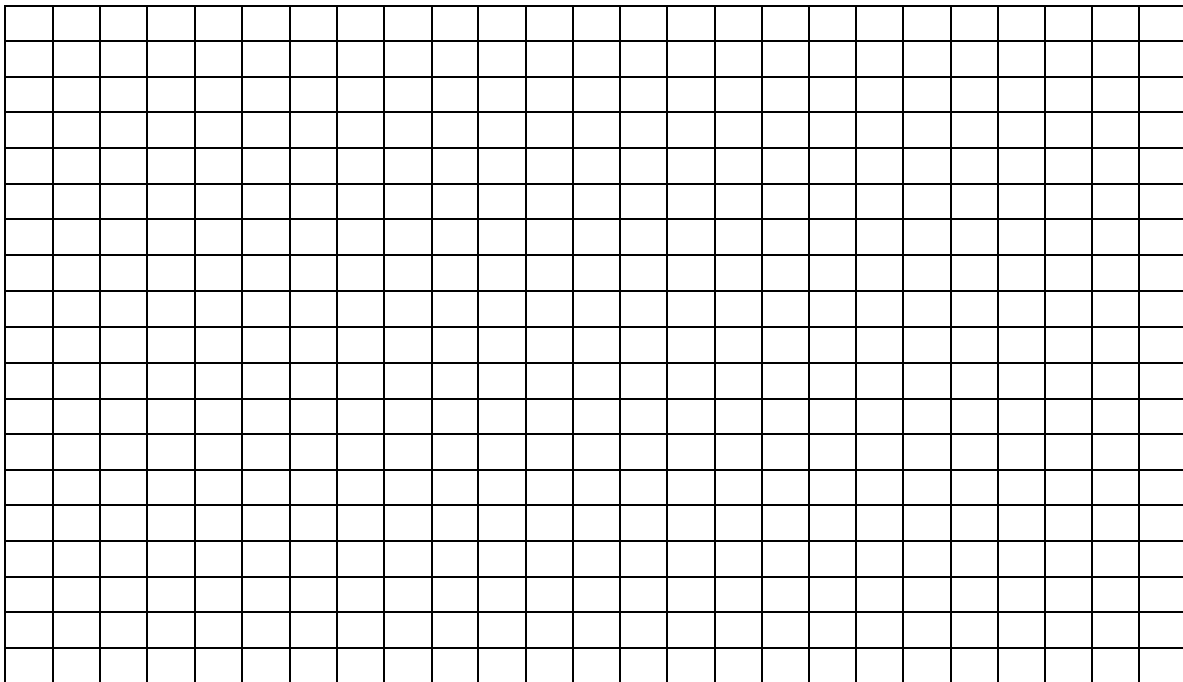
Materials: MindStorms NXT, NXT Brain, Lego Pieces to Build Trebuchet, Erasers Big (20.8 g) and Medium Size (11.8 g), Chapstick (17.1 g), Gum drop (13.1 g), Paper Ball (4.6), Hollow Ball (13.0g)included with Lego kit, and measuring tape.

Procedure: Please write the procedure for one object and draw a picture of the trebuchet with that object.

Data:

<b><u>Object</u></b>	Trial 1	Trial 2	Trial 3	Average
<b><u>Big Eraser</u></b>				
<b><u>Medium Eraser</u></b>				
<b><u>Chapstick</u></b>				
<b><u>Gum Drop</u></b>				
<b><u>Paper Ball</u></b>				
<b><u>Plastic Ball</u></b>				

Results: Please analyze you data by making a bar graph of your results.

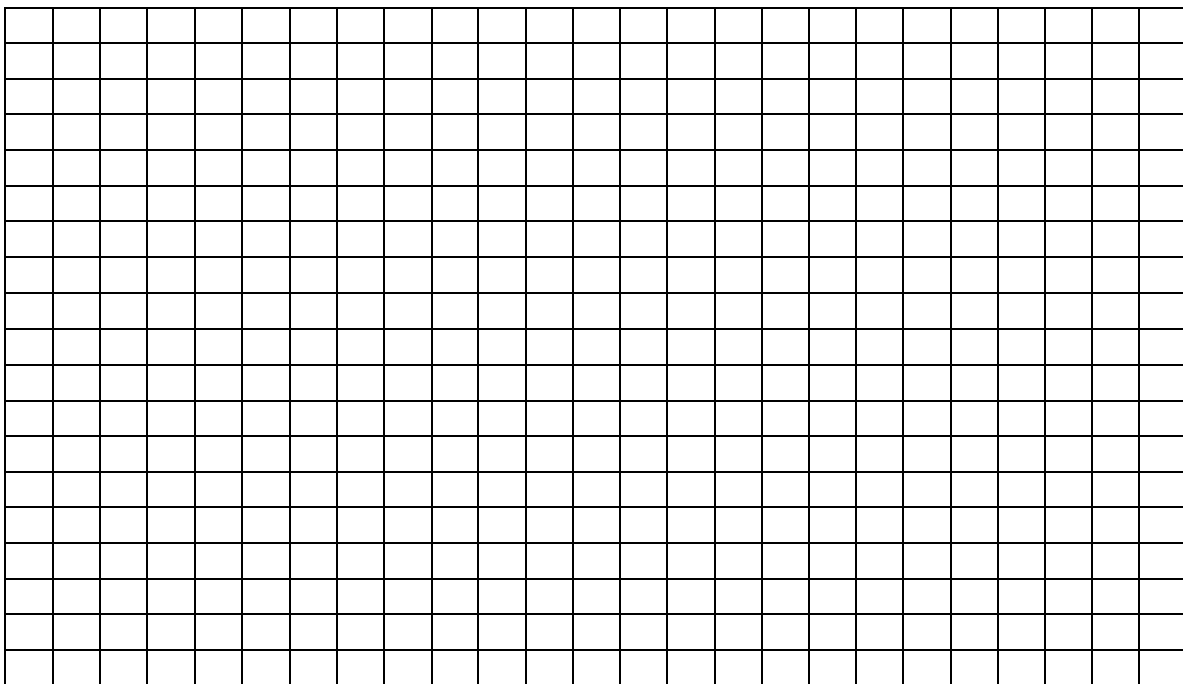


Object

Repeat the same experiments with changing the length of the arm.

<b><u>Object</u></b>	Trial 1	Trial 2	Trial 3	Average
<b><u>Big Eraser</u></b>				
<b><u>Medium Eraser</u></b>				
<b><u>Chapstick</u></b>				
<b><u>Gum Drop</u></b>				
<b><u>Paper Ball</u></b>				
<b><u>Plastic Ball</u></b>				

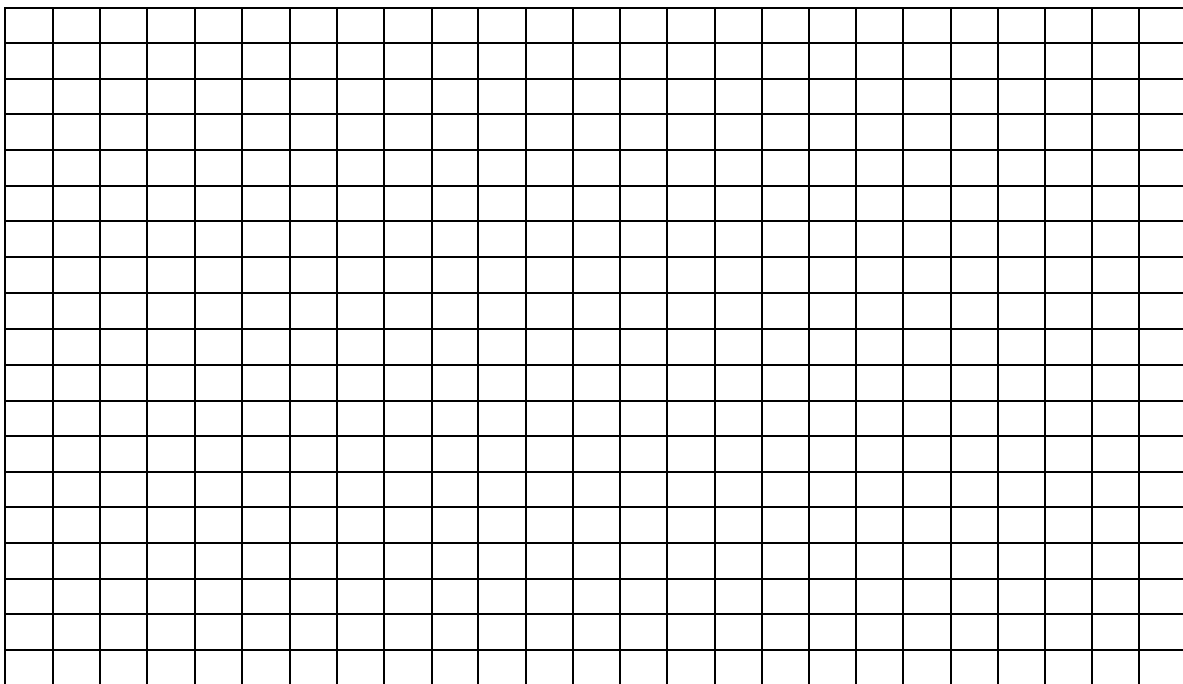
Results: Please analyze you data by making a bar graph of your results.



Repeat the same experiments changing the angel of the arm.

<b><u>Object</u></b>	Trial 1	Trial 2	Trial 3	Average
<b><u>Big Eraser</u></b>				
<b><u>Medium Eraser</u></b>				
<b><u>Chapstick</u></b>				
<b><u>Gum Drop</u></b>				
<b><u>Paper Ball</u></b>				
<b><u>Plastic Ball</u></b>				

Results: Please analyze you data by making a bar graph of your results.



Now, discuss what your results show.

Conclusion:

What do your results show?

What is your hypothesis?

Were you right about your hypothesis?

How could the experiment be better?