



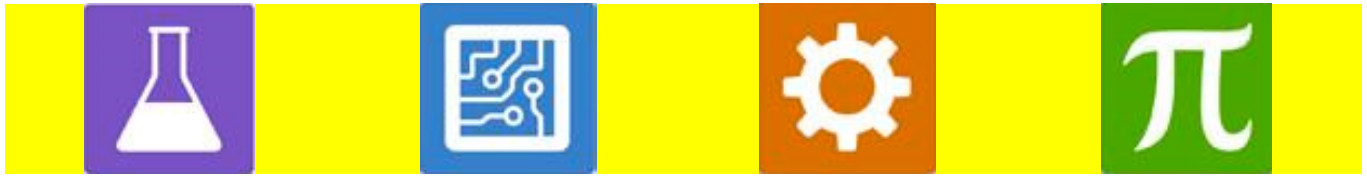
STEM Student packet

Car Launcher



Name _____

Section _____



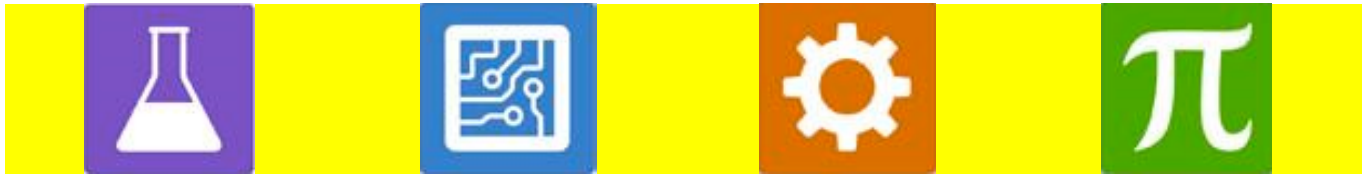
STEM Vocabulary

Speed

Distance

Units of measurement

Rounding of number



STEM- Car Launcher

Building Background Knowledge

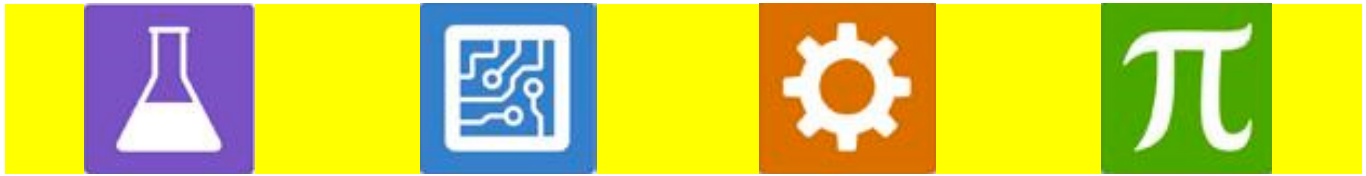
Working Packet

Directions: Watch the video by Florida PBS Learning Media about relationship between distance, time, and speed and respond to the following questions.

<https://florida.pbslearningmedia.org/resource/vt107.math.measure.rate.calcspeed/calculating-speed/>

Respond

1. What does speed mean?
2. What are the two parameters that need to be measured to find the speed of an object?
3. How do you calculate speed once you have the distance traveled and the time taken to travel?



STEM- Car Launcher

Research

Working Packet

Group # _____

Section: _____

Student Name: _____

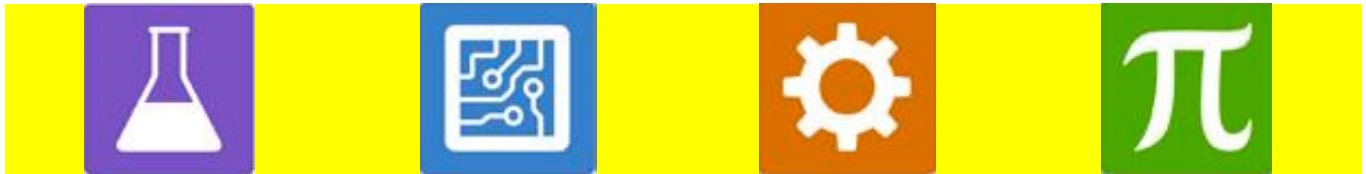
Partner's Name: _____

Challenge:

Design a car launcher using popsicle sticks, rubber bands, paper clips, index cards, and tape that launches a given toy car from a given launch point. The toy car must travel at a speed of at least 50 cm per sec.

Research

(Note the **sources** you used for research, example **titles**, and/or **links** in the provided space below. Specify briefly what you found)



Group # _____

Section: _____

Student Name: _____

Partner's Name: _____

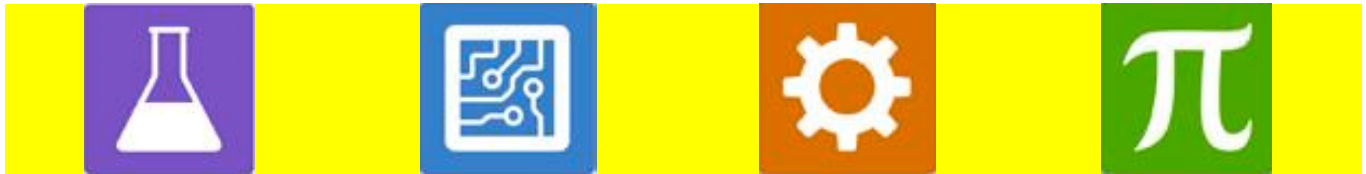
Give your project a title:

Design the Prototype

(Create a labeled diagram of your prototype)

Materials (include the count)

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Group # _____

Section: _____

Student Name: _____

Partner's Name: _____

Improve the Prototype

(Re-design your Prototype. Create a labeled diagram of your improved prototype.)

Materials (include the count)

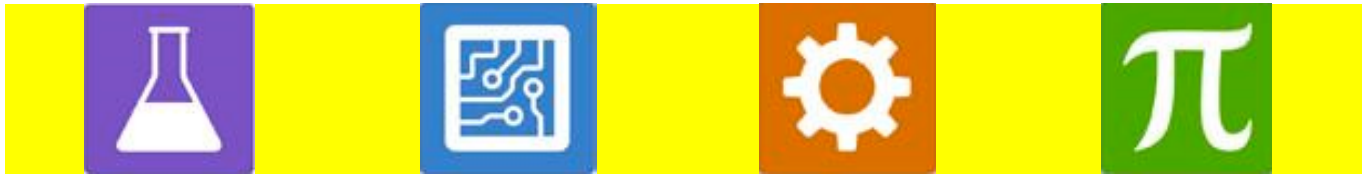
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Paste picture of your improved model during testing below.

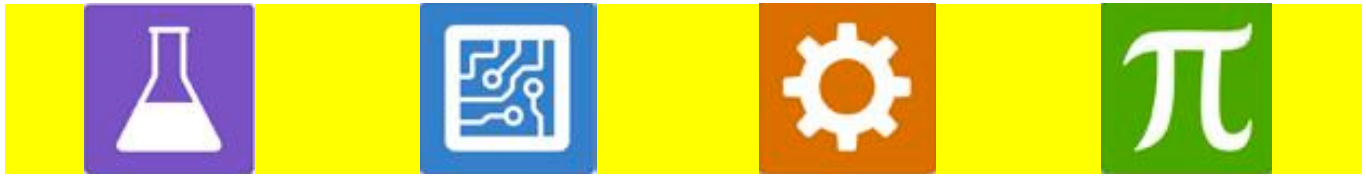
Did your improved prototype succeed?

If yes, what was the average speed of your car?

	Your data
Distance (rounded to nearest cm)	
Time (rounded to nearest sec)	
Speed = Distance ÷ Time (Show long division)	
Speed (cm per sec)	



Group # _____ Student Name: _____ Partner's Name: _____ _____	Section: _____
Reflection Questions	
1. List two specific changes that your group made to improve your prototype? Explain the reasoning behind each of the changes.	
2. Did your improved prototype pass the challenge? Why?	
3. What did you learn during the engineering process? Discuss your success or lack of success of your model giving two specific reasons for it.	



Make a Keynote Presentation – Use *Keynote* to create a video presentation following the instructions below. Share the movie or presentation on **Seesaw**.

Instructions: Create a Keynote Presentation that has the following:

1. At least 5 slides including each below:
 - **Project title** and names of team members
 - **Materials used** to build prototype (include specific count for each material)
 - Pictures of **building prototype** including initial prototype
 - Video of **testing** initial prototype that includes the distance, time, and speed of the car
 - Pictures of **building improved prototype**
2. Slides must have transitions
3. Each slide must have a background theme
4. Each slide must have at least three embedded photos
5. There must be one slide that has the video of testing embedded