



Stem Student packet



Name _____

Section _____



STEM “Mazes” Vocabulary

1- Dead End:

2- Labyrinth:

3- Obstruction:

4- Maze:



STEM- **Marble Maze**

Building Background Knowledge

Working Packet

Directions: After watching the videos in class, answer the following question.

1- What did you learn about mazes? Make a bulleted list. (Example: Mazes can be people sized.)



Respond

1. What is energy?
2. What is motion?
3. Explain Newton's Laws of Motion. (Use our class Quizlet)



STEM- **Marble Maze**

Research

Working Packet

Group # _____

Section: _____

Student Name: _____

Partner's Name: _____

Challenge: Engineer a maze using only the supplies provided. You will have a box, construction paper, and tape. Supplies may be replenished, but you are encouraged to make the supplies work in some way. Use the materials to create the walls and pathways of your maze. Your maze must contain at least 2 dead-ends, 2 right angles, and obstructions in pathways, as well as some creative turns or objects in the paths.

Research

(Sources: **Science Notebook, Elevate Science Textbook, and/or Discovery Education.** Note the **sources** you used, including **page numbers, titles, and/or links** in the provided space below.)



Group # _____

Section: _____

Student Name: _____

Partner's Name: _____

Give your project a title:

Design the Prototype

(Create a labeled diagram of your prototype.)

Materials



Group # _____

Section: _____

Student Name: _____

Partner's Name: _____

Test your Prototype - Collect your Data

How long did it take for the marble to go from one end of the maze to the other?

		Time in seconds	
Trial 1			
Trial 2			
Trial 3			



Group # _____

Section: _____

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Partner's Name: _____

Give your project a title:

Redesign the Prototype

(Create a labeled diagram of your prototype.)

Materials



Group # _____

Section: _____

Student Name: _____

Partner's Name: _____

Test your Prototype - Collect your Data

How long did it take for the marble to go from one end of the maze to the other?

		Time in seconds	
Trial 1			
Trial 2			
Trial 3			



Reflection Questions

1. In what way did you improve your prototype?

2. Do you expect the improved prototype to pass the challenge? Why?

3. What did you learn? Discuss your success or lack of success and reasons for it.



Make a Keynote – Use *Keynote* to create a presentation following the instructions below.

Parameters:

- ⇒ At least five slides with colorful background
- ⇒ A title slide with the group number and team members
- ⇒ A slide transition.
- ⇒ Three pictures of their designs
- ⇒ 1 video of their testing
- ⇒ 1 recorded audio explaining if their prototype worked and why they think it did or didn't.