

INVESTIGATION  
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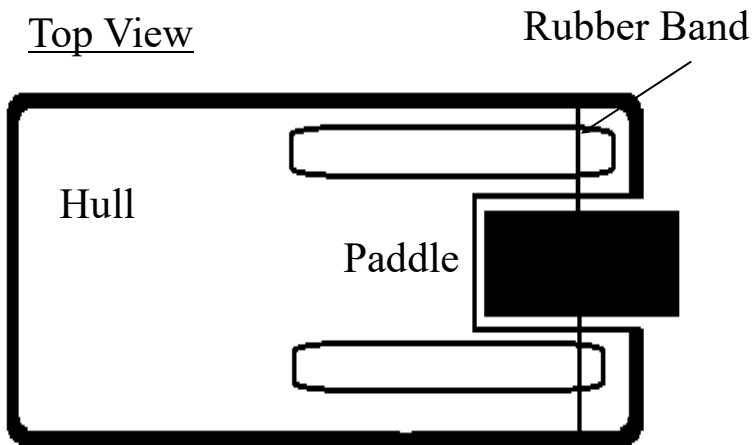
HOW COULD YOU DESIGN  
A PADDLE BOAT

Name:  
Hour:  
Date:

**Investigate:** How could you design a paddle boat that will travel fast and navigate obstacles?

Simple Design Drawing

Top View



Side View



How do you use the materials together:

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Draw your own design:

INVESTIGATION  
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HOW COULD YOU DESIGN  
A PADDLE BOAT

Name:  
Hour:  
Date:

**Investigate:** How could you design a paddle boat that will travel fast and navigate obstacles?

**Control Conditions:**

1. Must travel the whole length of the track.
2. You can not touch the ship after the timer is set.
3. Nothing else can be used except for what is on the material list.

**Data Table:**

Attempt #1

Sketch Paddle and Dimensions:

Notes:

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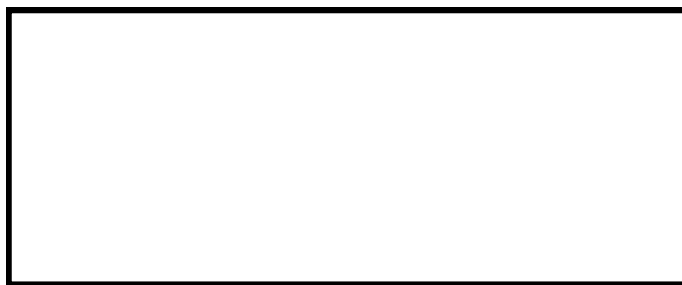
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Empty Time: \_\_\_\_\_ Loaded Time: \_\_\_\_\_

Attempt #2

Sketch Paddle and Dimensions:

Notes:

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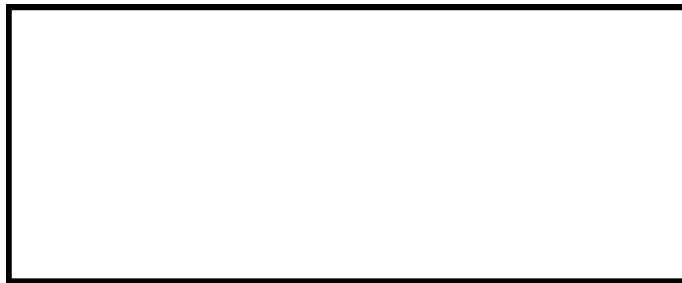
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Empty Time: \_\_\_\_\_ Loaded Time: \_\_\_\_\_

Attempt #3

Sketch Paddle and Dimensions:

Notes:

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Empty Time: \_\_\_\_\_ Loaded Time: \_\_\_\_\_

INVESTIGATION **HOW COULD YOU DESIGN**  
**PAGE 2.2** **A PADDLE BOAT**

Name:  
 Hour:  
 Date:

**Classroom Data: (Write in each student's best empty time and loaded time)**

Student Empty Time

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18
19	20	21
22	23	24
25	26	27
28	29	30
31	32	33

Student Loaded Time

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18
19	20	21
22	23	24
25	26	27
28	29	30
31	32	33

Calculate Average Time Empty:

1. Total Time: (add data together) \_\_\_\_\_
2. Number that reported data: \_\_\_\_\_
3. Divide step 1 by step 2: \_\_\_\_\_

Calculate Average Time Loaded:

1. Total Time: (add data together) \_\_\_\_\_
2. Number that reported data: \_\_\_\_\_
3. Divide step 1 by step 2: \_\_\_\_\_

Compare the two answers and explain why the numbers came out to be the way they did.

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**Conclusion:** (explain why your design process. Explain what worked and what didn't work. Also, if you were to make one more paddle boat what would you change or not change.)

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**Building a New Paddle Boat!  
Articles Needed**

- **Writing an article for the National Science Teachers Association**
- **Audience is middle schools teachers**
- **Format is expository essay**
- **Topic is designing and building a successful paddle boat in the classroom**
- **Persuade teachers that this is a good way to teach science**

Possible New Design
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You have been selected to write an article for the National Science Teachers Association that will focus on using hands-on science investigation to get students excited about learning. You have been asked to write an article on building paddle boats in the classroom and why it is important for students to do activities like this in the classroom. The article must be persuasive in nature. The NSTA wants teachers to start using this format to teach science. They need articles by students to share with teachers. If selected, the article will be published in the NSTA educational journal *Teaching Science*.

**Writing Focus:**

1. Your article must stay on topic.
2. Your article must show evidence of persuasion.
3. Your article must contain information about building the paddle boat and why it is important for students to do activities like this in the classroom.

Complete article on a separate sheet of paper.