**Boat Research**

*Complete your boat research using both the Internet and hands-on experimentation. Record your research results below.*

**Internet Research**

*Use websites, videos, or images to answer the questions below.*

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| Question: What are some things that help make a boat buoyant? |
| Answer: |
| Resource(s): |

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| --- |
| Question: What are some things that help make a boat balanced? |
| Answer: |
| Resource(s): |

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| Question: What are some things that help make a boat streamlined? |
| Answer: |
| Resource(s): |

**Experimentation Research**

*Coordinate with your team to develop simple experiments to test for the best methods to make a boat buoyant, balanced, and streamlined. Conduct your experiment and present the results to your team.*

Research Question

*Write a question that defines the situation that you are testing.*

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| i.e. Is a cube-shaped boat or rectangular prism-shaped boat more balanced? |

Hypothesis

*Make an educated guess about your problem based upon your knowledge.*

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| i.e We think that a cube-shaped boat will be more balanced since all sides are equal. |

Experimental Design

*Explain how your experiment will be designed. Make sure that it will help to prove your hypothesis and will only test one variable at a time.*

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| Materials:* Straws
* Tape
* Cardboard
* Trash bag
 |
| Steps:1. Create a boat frame using straws and tape with the following dimensions…
2. ...
3. …
4. Place the first boat in a container of water.
5. Place one penny at a time in the \_\_\_\_ of the boat until the boat sinks.
6. Record the number of pennies the boat held before sinking and write a description of how the boat sank.
7. Repeat 10 times.
8. Repeat with other boat.
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Results

*Conduct the experiment. Insert tables below that show the results that you received. Calculate averages. Determine if mean, median, or mode would be the most accurate measure.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Trial 1 | Trial 2 | Trial 3 | Trial 4 | Trial 5 | Average |
| Boat A |  |  |  |  |  |  |
| Boat B |  |  |  |  |  |  |

Discussion

*Analyze your results. What do they mean? Was your hypothesis correct or incorrect? Why?*

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| Based upon our results, the hypothesis was \_\_\_\_\_\_\_\_\_\_\_\_ because... |

Conclusion

*What’s the most important discovery for your experiment (intended or unintended)?*

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| In the end, the most important discovery of our experiment was... |