Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Lesson 2: A Weighty Dilemma**

Imagine that you’re in charge of a shipping company and have a heavy order to ship. When the job calls for transporting heavy cargo, which hull offers the best performance?

**Doing the Science**

1. Select the Simulation tab to open the Boat Builder simulation.

2. Select the round hull, 25 HP motor, antifouling paint, and rudder.

3. Click the “Test” button.

4. Select the “Choppy” condition and “Heavy” cargo load.

5. Click “Begin Test.”

6. Record your speed score in Table 1 below.

7. Repeat steps 2–6 with the shallow vee hull and 50 HP motor, remembering to use the trim tabs instead of the rudder.

8. Repeat steps 2–6 with the flat hull and 120 HP motor.

**Table 1.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Hull** | **Speed** | **Maneuverability** | **Efficiency** |
| Round |  |  |  |
| Shallow Vee |  |  |  |
| Flat |  |  |  |

**Do You Understand?**

1. Which hull seems to be best overall for transporting heavy cargo?

1. What are the benefits of using this hull to transport heavy cargo over the other hulls?

1. If a boat with this hull were not available, which of the other two hulls would you use? Why?