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

****

**Lesson 3: High Speeds on the High Seas**

When the need for speed on the high seas comes, which type of boat hull is best suited to go the fastest in different sea conditions?

**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 “Calm” condition and “Light” 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** | **Surface Conditions** | **Speed Rating** |
| Round | Calm |  |
| Shallow Vee | Calm |  |
| Flat | Calm |  |
| Round | Choppy |  |
| Shallow Vee | Choppy |  |
| Flat | Choppy |  |
| Round | Rough |  |
| Shallow Vee | Rough |  |
| Flat | Rough |  |

**Do You Understand?**

1. Which hull is best suited for speed in calm conditions? Why do you think this is?

1. Which hull is best suited for speed in choppy conditions? Why do you think this is?
2. Which hull is best suited for speed in rough conditions? Why do you think this is?