Boat Builder

# **STEM Sims**

## Lesson 4: The Point of the Paint

Antifouling paint keeps barnacles and other organisms from growing on the hull of a boat, but does this actually affect performance?

## **Doing the Science**

- 1. Start the Boat Builder Simulation by clicking on the "Sim" tab.
- 2. Select the round hull, 25 HP motor, blue paint, and rudder.
- Click the "Test" button. 3.
- 4. Select the "Calm" condition and "Light" cargo load.
- Click "Begin Test". 5.
- Record your ratings in Table 1 below. 6.
- Repeat steps 2-6 with the shallow vee hull and 50 HP motor, remembering to use the trim tabs 7. instead of the rudder.
- 8. Repeat steps 2 - 6 with the flat hull and 120 HP motor.
- 9. Repeat this process with all three hulls, using the antifouling paint. Record your ratings in Table 2.

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

#### Table 1 - Rlue Paint

## Table 2 – Antifouling Paint

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

## **Do You Understand?**

- 1. Which type of paint offers the best performance?
- 2. How did this paint affect the performance of the boat?

Name\_\_\_\_\_