

## Soybeans as an Energy Feedstock

### Testing Biodiesel

*Which biodiesel is the best performing biodiesel?*

#### Materials

samples of biodiesel (made in previous lesson)

pipette

putt-putt boats with fuel holder and wick

2- 6ft vinyl or metal gutters (sealed using end pieces at each end with silicone caulk to seal)  
water

To test the samples of biodiesel:

1. Fill the gutter with 3-4 inches of water
2. Pipette water into the boat tube system (under the boat) This water turns to steam and powers the boat.
3. Fill the boat's fuel holder with biodiesel (use the same amount of biodiesel for each boat if comparing performance).
4. Be sure the wick is touching the fuel
5. Light the wick
6. Place the boat in the water
7. It may take a few moments, but once the fuel heats the water in the tube system, the boat will move.
8. Students may race boats, or simply collect observations on speed, smoke from the biodiesel, length of burn, or other characteristics of the fuel.
9. Use the space below to create a data table to compare samples.

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