



## Produce Usable BioFuel



07-2100 Bio Diesel Module

## 07-2100 Bio Diesel Module

In the Bio Diesel module, students explore the use of Bio material as an alternate fuel source. Students gain a global perspective when they understand the economics, efficiency, and low environmental impact of producing energy from non-polluting, renewable sources.

BioFuel is the mono-alkyl-esters of long-chain fatty-acids derived from renewable organic oil lipid sources. Biodiesel is produced from feed stocks like vegetable oils, used cooking oils and animal fats. BioDiesel for vehicles or Bio-Heat as it is called when used in oil furnaces is a man made clean burning fuel substitute that is made from natural materials such as vegetable oil, alcohol & Lye. It is both stable & environmentally friendly.



Technology Education Concepts



simplifying  
renewable  
energy  
education

## Progressive at work for you!

The Bio Diesel module includes everything required to function as a "turn-key" learning station; lesson plan, student guide, DVD video, and all materials to make, verify and store usable bio fuel . The module provides student instruction, in teams of two, for up to 10 hours .

The Lesson Plan includes an Instructor's Guide which provides instructions for installing, setting up, and implementing the module. It also includes learning outcomes, testing and evaluation procedures, answer keys, student skills response, inventory list and print CD.

The Student Activity manual guides students through 10 multi-disciplinary activities using the tools, and equipment included with the module package.



CONSULTING  
SALES  
SUPPORT  
TRAINING

### Flexible solutions to meet your specific educational needs

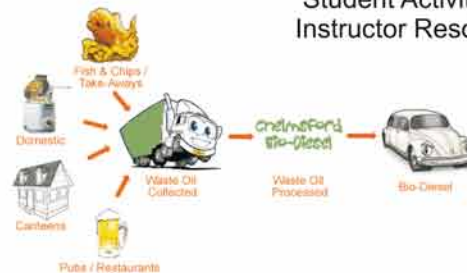
Upon the completion of the Bio Diesel Student Activity Manuals, students will have completed the following activities.

#### Activities

Renewable Energy Basics  
Introduction to Bio Diesel  
Oil titration  
Bio Diesel Production  
Washing Bio Diesel  
Drying Bio Diesel  
Moisture testing and Filtering  
Diesel Verification and Storage  
Waste Glycerin  
Post Test & Wrap Up

#### 07-2100 Training System Includes the following:

Diesel Motor  
Scale  
1500 ml beaker  
200ml beaker  
20ml measuring cup  
Electric Blender  
Safety gloves  
Safety glasses  
pH meter  
Base Solution  
Yellow gas can  
Vegetable Oil  
Lye  
Menthol Alcohol  
Student Activity Manual  
Instructor Resource Guide



### GreenEd™

Progressive Educational Systems GreenEd line provides renewable energy training systems in the following areas for both high school and college level programs: wind, solar, hybrid Systems, Bio diesel, hydrogen, fuel cell, troubleshooting, installation skills, system design, certification programs, grid tie, solar thermal and geothermal.

### Web-Lab™

A unique GreenEd™ Computer monitoring system providing the following advantages: Site License, On-Line Monitoring, School Branded URL, Cost savings analysis, Carbon Footprint, Payback periods, voltages and currents generated.



Northeast Academic Representative:

Technology Education Concepts 32 Commercial St., Concord, NH 03301 | [www.TECedu.com](http://www.TECedu.com) | 800-338-2238 | [info@TECedu.com](mailto:info@TECedu.com)

Progressive educational  
systems