**Modeling module for Biology Standard 3**

**Modeling Unit Engaging Scenario Teacher Notes**

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**Standard 3: Matter Cycles and Energy Transfer**

Describe how the sun’s energy is captured and used to construct sugar molecules that can be used as a form of energy or serve as building blocks of organic molecules.

Diagram how matter and energy cycle through an ecosystem

Scenario:

The Indiana agriculture industry and the agriculture research industry is committed to helping America become more energy independent. The hope is to produce as much biomass per acre as possible and algae seems to show great potential for future biofuel production. Dow is now investigating the potential of establishing an algae biofuel test farm in your county. Before such a large project is undertaken Dow needs your help to answer some fundamental questions. During this unit investigation your class needs to work collaboratively to determine what the factors are that will affect the amount of biomass produced by algae.

Modeling questions

What are questions you have about this investigation?

Potential resources:

 <http://www.pbs.org/wgbh/nova/tech/algae-fuel.html>

<http://www.youtube.com/watch?v=n9_-ZguuhBw>