Renewable Fuels Fact Finder – Answer Key

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is **biodiesel**?

Biodiesel is a renewable diesel replacement, made from a variety of products, like crops, cooking oil, and animal fats.

1. What can biodiesel be made from?

Different oil crops, animal fats, or recycled cooking oils are all potential products.

1. What biodiesel crops are grown closest to us?

In Iowa, most biodiesel is made from soybeans.

1. What part of the plant do they use to create biodiesel?

Soy biodiesel is made from the soybean itself.

1. Does it use everything, or does the process create by-products?

Soy biodiesel primarily uses the oil from the soybean, leaving soybean meal that can be used for a feed source.

1. What is **ethanol**?

Ethanol is the chemical name for ethyl alcohol. It is alcohol made from grains that can be used as fuel.

1. What ethanol crops are grown closest to us?

Corn is the most common ethanol crop in Iowa.

1. What part of the plant to they use to create ethanol?

The starches of the corn kernel are broken down to create ethyl alcohol.

1. Do they use the whole kernel, or are there other byproducts produced?

Ethanol production only requires the starch in a corn kernel. The rest of the kernel can be processed for a variety of purposes, including feeds like DDGS.

1. What do they mean when they talk about different blends of ethanol?

The blend denotes the percentage of ethanol to denaturant in the fuel. For instance, E-85 is 85% ethanol and 15% denaturant.

1. What is the most common blend of ethanol?

E-15 is the most common blend.

1. How does **cellulosic ethanol** differ from other types of ethanol?

Cellulosic ethanol creates ethanol from the cellulose in the plant rather than the starch of the seed. This way, the plant material itself can be used instead of just part of the seed.

1. Which type of ethanol is more common?

Grain ethanol is more common than cellulosic ethanol. However, the largest cellulosic ethanol plant in the world is right here in Iowa.

1. What kinds of things can be used to make cellulosic ethanol?

Any plant material can be used to make cellulosic ethanol. In Iowa, leftover corn material like cobs and stalks can be baled and processed after the grain has been harvested.

1. Are there any other questions you want to know the answers for?

Research Paper Assignment

After completing the Fact Finder worksheet and discussion during class, you will be responsible for writing a research paper outlining renewable fuels.

In this paper, you will need to:

* Define and explain key terms
* Identify key crops in Iowa in the renewable fuels industry
* Explain basic processes in creating renewable fuels
* Identify differences and similarities between renewable and nonrenewable fuels
* Describe impact of the renewable fuels industry in terms of:
  + Sustainability
  + Community, state and/or country

Also, remember to:

* Use MLA formatting
* Cite all sources, and include a works cited page
* Do not copy and paste from any source
* Use 12 pt. Times New Roman font, double spaced
* Include introductory and conclusion paragraphs
* Papers should be a minimum of 2 pages, excluding the works cited page