SC Farm Bureau

AG in the classroom

SOUTH CAROLINA Energy Office

Grades 7–12

biomass

Lesson Plans on Alternative Fuels

An innovative, hands-on approach to learning designed to supplement and reinforce your students' preparedness for higher education goals

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Biomass

- is any organic matter – wood, crops, seaweed, animal wastes – that can be used as an energy source.
- is our oldest source of energy.
- is a renewable energy source because its supplies are not limited.
- offers pro-environmental opportunities for a sustainable, cleaner future for our planet.
- is a growing field for higher education focus.
- provides economic advantages as public awareness and implementation grows.

Introduction

Biomass as a source of energy is gaining greater attention as the world's leaders seek alternatives to reliance on petroleum-based fuels. This important industry sector is expanding to meet anticipated needs for the future and addressing serious concerns of today's energy-greedy society.

***Ag* in the Classroom** is a comprehensive program designed to foster among our state's young people a greater appreciation of agriculture and related industries, such as Biomass. Sponsored by the South Carolina Farm Bureau Federation, ***Ag* in the Classroom** provides teachers with professionally developed curricula materials featuring relevant industries, emphasizing the importance of agriculture, environmental effect and economic consequences.

These Biomass lessons take into account the developmental stages of the student and can be used at the teacher's discretion. To minimize planning time and maximize efficiency, all materials are designed to integrate with and supplement existing classroom curricula. Standards prescribed by the South Carolina Curriculum Standards are stated wherever possible and met to enhance students' understanding of the subject matter.

Teachers may look to the South Carolina Energy Office for additional support for the Biomass course. SCEO can be contacted at **energy.sc.gov**.

Other valuable resources can be found in the **Resources** section at the end of this publication.

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Using This Packet

Biomass has been specially designed for clear organization and appeal to young minds. We hope you'll find the format motivational and easy-to-use. The packet is divided into three sections, each with a unique tab: **Standards**, **Lesson Plans** and **Resources**.

The **Standards** section lists the curriculum standards which are covered in the lessons.

The **Lesson Plans** section is divided into lesson plan groups, each of which is comprised of a single numbered lesson and a series of related activities, hand-outs and teacher aids labeled "a," "b," "c" and so forth. The number of each lesson plan is displayed on the side tab for quick reference. Tabs at the right margin facilitate finding any individual lesson group when the packet is placed on its side in a book bag or filing cabinet, and a table of contents is provided following this page so that you can quickly look up the exact page you seek. The subject matter of each Activity is also indicated, similarly speeding recognition of a desired worksheet.

Biomass lesson plans are not meant to be exclusive; feel free to add your own materials to our lesson plan suggestions as new information on this constantly growing field makes itself available. We would appreciate your input on these discoveries to help make future materials even better.

Throughout the lesson plans in this packet, teaching strategies may include the use of one or more of Dr. Spencer Kagan's Cooperative Learning Structures*. ***Ag* in the Classroom** extends thanks to Kagan Inc. for granting permission to adapt the various structures for this use.

In addition, ***Ag* in the Classroom** appreciates the assistance of contributing agencies in providing information for use in various lesson plans. Contact information for these agencies is provided in the **Resources** section, along with multi-referenced resources.

For ease of reading, some trademarks, service marks and other registration references are not noted in this publication. Where pertinent, please respect them as read.

*Kagan, Spencer. (1994). *Cooperative Learning*. San Clemente, CA: Kagan Publishing; www.KaganOnline.com/

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