BIOFUELS EDUCATION POSTER

Subject(s)
Introduction To Biofuels

Rigor/Relevance Framework
Quad D

Knowledge		
6 5 4	C	D
3 2 1	A	B

1   2   3   4   5
Application

Time: 5 days (50 minute)
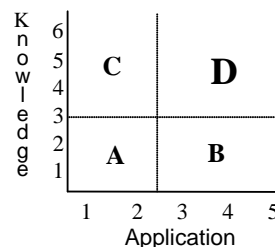
Industry Connection
Environmental Educator

Grade Level - 11-12

Instructional Focus

Science Content Standards (9-12) I & E (1)

a. Select and use appropriate tools and technology to perform tests, collect data, analyze relationships, and display data.

k. Recognize the cumulative nature of scientific evidence.

l. Analyze situations and solve problems that require combining and applying concepts from more than one area of science.

m. Investigate a science-based societal issue by researching the literature, analyzing data, and communicating the findings.

Language Arts (Reading Comprehension)
2.1 Analyze both the features and the rhetorical devices of different types of public documents (e.g., policy statements, speeches, debates, platforms) and the way in which authors use those features and devices.

(Speaking Applications)

2.2b Deliver expository Presentations: Convey information and ideas from primary and secondary sources accurately and coherently.
2.2d. Include visual aids by empowering appropriate technology to organize and display information on charts, maps and graphs.

(Writing Applications)

2.3b Write expository compositions: Convey information and ideas from primary and secondary sources accurately and coherently.

**Instructional
Focus, cont.**

**Common Core Reading Standards In Science & Technical Subjects
(11-12)**

     7.   Integrate and evaluate multiple sources of information
presented in diverse formats and media in order to address
a question or solve a problem.

     9.   Synthesize information from a range of sources into a
coherent understanding of a process, phenomenon, or
concept, resolving conflicting information when possible.

Student Learning

- Students will research a type of Biofuel and appraise the information gathered for use in informative and persuasive writing.
- Students will compose informative and persuasive posters about a Biofuel type and social issues associated with it.
- Students will produce and deliver a presentation on their poster topic.
- Students will appraise one another's posters / presentations using a rubric.

Performance Task

Overview: Over several days, students get a chance to pick a subject, and highlight type of Biofuel discussed in the scope of the class.

Day 1 - Students will get one day to pick / research a topic

(*Have students do a "Brain-storming session" and place ideas on whiteboard! **Have students "sign-up" their topic as they get them to avoid duplicates!)

Day 2-5 Four days of computer lab time will be set aside for research and construction of the presentation / poster.

Instructor will hand out an outline of what is expected, as well as a copy of the rubric for grading the presentations and posters.

On last lab/construction day – students will fill presentation slots for next few days of presentations.

Half of student grade is from "peer-evaluation" scores from rubrics on poster and presentation.

Most Ideal Implementation: At end of the year, following most testing and instruction, as a good "summing up" exercise – to reinforce the relevance of subject matter we discuss.

Blooms = 4 / analysis 5 / develop 6 / assess

College/Career Connections	Highlight environmental educator and have students look up the job/career outline on carrerzone.org or careerzone.com. Students will fill out a worksheet asking questions from online content.
Assessment	Student presentations and posters will be graded by their peers and instructor according to the rubrics attached.
Attachments/ Resources	Project Outline Poster Guidelines Poster Rubric Career locker / Career zone worksheet Presentation Rubric

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Biofuels Posters!

Introduction To Biofuels
Project Outline

OBJECT: To construct a Poster on a Biofuel type / process we have discussed in class. You will use the research to make a presentation to your peers in class as well!

WHEN / HOW: Students will have one day of computer lab work to research / find a topic, and four days of lab time to construct the poster / presentation.

PRESENTATION: Students will sign up for presentation slots on the last day of in-class research, and will present in class in front of their peers

GRADING: Student grading will comprise 50% of their total score from grading on rubric-scores on posters and presentation.   The remaining 50% will come from instructor evaluation of the posters and in-class presentations.

EXTRA CREDIT: Look up a career outline for a Environmental Educator – ask Mr. Mendoza for a Career Zone / Locker worksheet!

Poster Guidelines

General Goal   A poster is a graphically based approach to presenting research. In presenting your work with a poster, you should aim to use the poster as a means for generating active discussion of the topic you studied.

Content   Be simple and direct in your poster presentation. Use short phrases and "bulleted" text throughout the poster. Avoid long narrative paragraphs.

Design and Layout   *The entire poster must be mounted on a 30" x 40" board. The poster does not necessarily have to fill the entire working area. **(Sample Headings: Introduction, History, Background, Description, Graphs, Comparisons, Advantages, Disadvantages, Conclusions)**

* The board must be oriented in the "landscape" position (long dimension is horizontal).

* A banner displaying your poster title, name, and department (or class, if appropriate) should be positioned at top-center of the board (See Figure 1).

* Make it obvious to the viewer how to progressively view the poster. The poster generally should read from left to right, and top to bottom. Numbering the individuals panels, or connecting them with arrows is a standard "guidance system" (See Figure 1).

* Leave some open space in the design. An open layout is less tiring to the eye and mind.
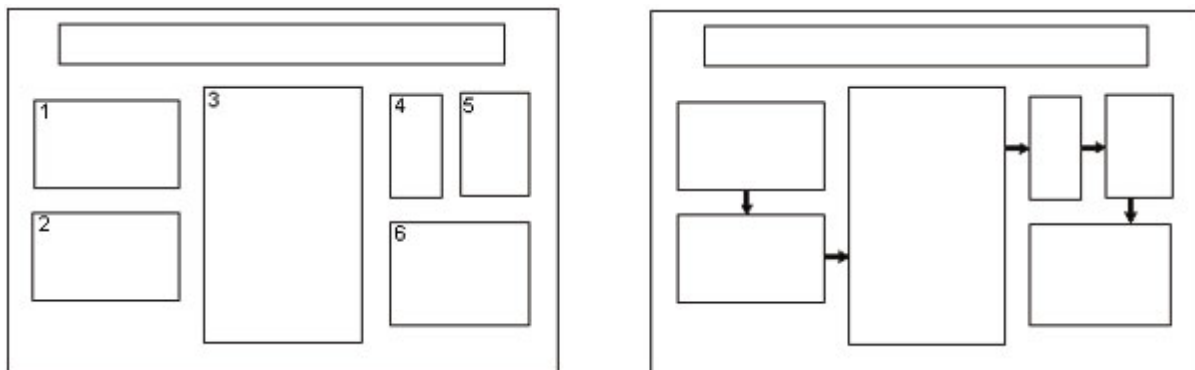
Figure 1: Conventional layouts for a poster. Long panel at top-center is title/author banner. Individual panels can be connected by numbers and arrows. Also, note the use of space between panels to achieve visual appeal.

* Word-process all text (including captions). Print on plain white paper with a laser printer or inkjet printer.

* Text should be readable from 3-4 feet away. Use a sans serif font such as Arial or Helvetica in a minimum size of 24

pt. (1/4 inch high).

* Lettering for the title should be large (at least 70-point font). Use all capital letters for the title.

Poster Rubric

CATEGORY	4	3	2	1
Focus on Content	There is one clear, well-focused topic. Main idea stands out, as well as author's point of view in regards to the topic.	Main idea is clear but the author's point of view is vague.	Main idea is somewhat identifiable, but lacks author's point of view.	There is no clear main idea. There is no clear point of view offered by the author.
Commitment (Voice)	The writer successfully grabbed the reader's interest and held it throughout the piece. The writing style is original.	The writer successfully grabs the reader's interest but fails to hold it throughout the piece. The writing style is original.	There is a commendable attempt to attain and sustain the reader's attention, but ultimately the interest wanes.	There is no attempt made to grab the reader's attention. Lacks motivation to continue reading.
Word Choice	Writer uses vivid/sensory words and phrases that linger or draw pictures in the reader's mind, and the choice and placement of the words seems accurate, natural and not forced. Writer uses three or more poetic devices such as similes, metaphors, allusion, and/or imagery to help get his message across.	Writer uses vivid/sensory words and phrases that linger or draw pictures in the reader's mind, but occasionally the words are used inaccurately or seem overdone. Writer uses two poetic devices such as similes, metaphors, allusion, and/or imagery to help get his message across.	Writer uses words that communicate clearly, but the writing lacks variety, punch or flair. Writer uses one poetic device such as simile, metaphor, allusion, or imagery to help get his message across.	Writer uses a limited vocabulary that does not communicate strongly or capture the reader's interest. Jargon or clichés may be present and detract from the meaning.
Structure	The poster meets the guidelines for the chosen expository style, adhering to all aspects of the outline given.	The poster meets the guidelines for the chosen expository style, adhering to most of the outline given, or by confusing one or two aspects required.	The poster does not truly meet the guidelines for the chosen expository style. An attempt is made to adhere to the outline given, but multiple aspects are confused.	The poster fails to meet the guidelines for the chosen expository style. An attempt, if made, is not visible, and essentially there is no adherence to the outline given.

Name: _____   Date : _____

Career locker / Career Zone
CAREER REASEARCH WORKSHEET

What website did you use? _____

Occupation/job title _____

Brief description
• Attach a job description, if available_____
_____

Educational preparation • What major, program of study, or training is required or suggested for entry into this occupation? • What licenses or certifications are required?	
Salary range • What is the typical salary for someone entering this occupation?	
Job Characteristics • How many work hours are in an average week for this occupation? • Is shift work involved? • Is travel involved? How often? Short distances? Long distances? Overnight?	

Primary responsibilities
• What do people in this occupation do?
• List at least five specific responsibilities for this occupation.
1. _____
2. _____
3. _____
4. _____
5. _____

Positive features
• List three positive aspects of this occupation
1. _____
2. _____
3. _____

Negative features
• List three negative aspects of this occupation
1. _____
2. _____
3. _____

Steps to take
• List three steps that you need to take to begin preparing for this occupation
1. _____
2. _____
3. _____

Presentation Rubric

CATEGORY	4	3	2	1
Introduction	States thesis early and makes a special effort to insure the topic's relevance is obvious to the audience. All main points are previewed thoroughly.	Thesis is hinted at more than stated outright; audience can assume some relevance. Main points are discussed, but not in the most organized manner.	Thesis is not clearly focused. Topic may have little relevance to the audience. Some of the main points are previewed, but others are ignored.	Purpose of the speech is unclear; no noticeable thesis. Topic selection is questionable; topic may hold appeal only for the speaker. No preview of main points.
Gets Attention	Audience attention is captured from the first lines of the presentation.	Audience attention is soon captured, either by the topic, the presentational aids, or the speaker's animation.	Audience attention is garnered fairly firmly by the end of the speech.	The audience is never truly captivated by the speaker or the topic. Speaker's lack of enthusiasm and/or discomfort overshadows the presentation.
Establishes Credibility	Presenter speaks with authority. Strong understanding of the subject matter is obvious.	Presenter's knowledge of the subject matter is fairly strong, with few noticeable errors.	Presenter's knowledge of the subject matter is occasionally weakened by factual errors, mispronounced words, or other inaccuracies.	Factual errors, mispronounced words, and other inaccuracies all contribute to the speaker's lack of credibility.
Organization	Internal previews label all main points. Smooth transitions are made between clear and purposeful main ideas, which relate to the thesis and are all covered in proper proportion.	A strong internal preview orients the audience as to the scope of the topic, and although one of the main ideas may not be well developed, the audience is still able to maintain focus and understanding.	Internal previews are weak and do not prepare the audience well. However, all main points are sufficiently developed and their purpose is clear.	No internal previews prepare the audience for the full scope of the topic. Transitions are weak, and main ideas are not equally developed.

Presentational Aids	Presentational aids are handled smoothly and integrated into the presentation. They illustrate key ideas and are comprehensible to the audience.	Presentational aids are handled fairly smoothly, but do not always mesh with the presentation. Most key ideas are presented in such a way that they are understood by the audience.	Presentational aids cause a few difficulties, at times distracting from the presentation. All key ideas are not given, and they are not always easy to comprehend.	Presentational aids do more to distract from the presentation than to assist with the audience's understanding of the subject matter.
Voice	The presenter's voice adds in all ways to the overall presentation. Grammar and pronunciation are correct throughout.	Occasionally, volume rate (speed) variety pronunciation interferes with the audience's enjoyment.	The presenter has difficulty in several areas: volume rate (speed) variety pronunciation	The presenter's voice distracts from the presentation. The following areas need significant work: volume rate (speed) variety pronunciation
Physical Delivery	Eye contact is maintained throughout the speech, allowing the presenter to appear comfortable and relaxed while speaking.	Dependence on notes doesn't allow sufficient eye contact, but otherwise, the speaker seems relaxed and comfortable with the audience.	The presenter's eye contact does not embrace the entire audience. Discomfort is occasionally noted through stiff or unnatural facial expressions, gestures, and posture.	The presenter seldom maintains eye contact; the speaker's discomfort is obvious because of fixed facial expressions, stiff posture, and minimal gestures.
Conclusion	The speaker establishes closure by first signaling the ending, reviewing the main points, and emphasizing the potential impact of the topic on the audience.	The speaker establishes closure, but fails to do one of the following: signal speech's end review the main points make impact on audience	The speaker attempts to establish closure, but fails to adequately signal the end, review all the main points, or emphasize the presentation's potential impact on the audience.	The speaker fails to establish closure. The end of the presentation is abrupt and jarring.