

Coal in the Heart of Appalachia
Poster Topics

1. Acid Mine Drainage - Environmental/Human Health Implications (Mentor: Dr. Mason)
2. Pneumoconiosis (Black Lung) - Human Health, Politics and Unions (Mentor: Dr. Mason)
3. Carbon Dioxide and Global Warming -Implications for Coal: The Facts and Fictions (Mentor: Dr. Mason)
4. Find and describe some aspects of physics in the Folklore of WV coal miners. How does knowledge of physics help in understanding and empathizing with early miners? (Mentor: Dr. Hansen)
5. How and where is WV coal used in the electrical Industry? Can coal reasonable be replaced by other energy sources? What would be the result to WV? (Mentor: Dr. Hansen)
6. What are other big uses of coal besides generating electricity? Are there possible replacements for coal for these other uses, and if so, what? What would be the result to WV? (Mentor: Dr. Hansen)
7. Water Quality and the Role of Grass Root Organizations in West Virginia. (Mentor: Dr. Baur)
8. Yellow Boy – The Science and Folklore (Mentor: Dr. Baur)
9. The Other Side of Acid Mine Drainage: Heavy Metal Contamination in Streams – The Science, Societal and Economic Effects. (Mentor: Dr. Baur)
10. Kentucky recently had problems with a black sludge in their creeks. What was it and where did it come from? What preventative measure should be taken to avoid future incidents? (Mentor: Dr. Hemler)
11. The Clean Air Act set guidelines for many coal-fired power plants. Scrubbers were a point of contention amongst WV some years ago. What are they? How do they work? And do all coal fired plants have to use them? (Mentor: Dr. Hemler)
12. Fairmont has had its share of mine subsidence. Explain how subsidence occurs. Who is at risk? How do you determine the risk when buying a home? What protection exists for land and home owners? (Mentor: Dr. Hemler)

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Poster Project Rubric

Criteria	4 points	3 points	2 points	1 points	0 points
Group Contribution (weighted X2)	Contributed to all aspects of project: meetings, research, poster construction, and presentations	Contributed to most aspects of project; weak contribution on one portion	Positive contribution to project; weak contribution on more than one aspect	Minimal contribution or only occasionally contributed	Did not contribute or only showed up for presentation
Organization	Word processed, neatly done, clear title, clearly organized under subheadings, references cited, size within specs, 18 pt font used	Fails to do one of the following: Word processed, neatly done, clear title, clearly organized under subheadings, references cited, size within specs, 18 pt font used	Fails to do two of the following: Word processed, neatly done, clear title, clearly organized under subheadings, references cited, size within specs, 18 pt font used	Fails to do three of the following: Word processed, neatly done, clear title, clearly organized under subheadings, references cited, size within specs, 18 pt font used	Fails to do four or more of the following: Word processed, neatly done, clear title, clearly organized under subheadings, references cited, size within specs, 18 pt font used
Clarity	Clearly formatted, clear lines of evidence and conclusion provided, figures and tables clearly visible, titled, and explained	Clearly formatted, but minor problems with either lines of evidence and conclusion or figures and tables provided	Clearly formatted, but effort required to follow lines of evidence and conclusion, and figures and tables	Disorganized formatting of poster, or lines of evidence and conclusion weakly presented, figures and graphs unclear	Unclear formatting, multiple mistakes lack of and disaggregated lines of evidence, no figures and graphs

Science Content (text)	Text written by authors using proper grammar and sentence structure	Text written by authors with minimal grammatical mistakes	Majority of poster is downloaded or Xeroxed text citing references or frequent grammatical mistakes and sentence structural errors	Majority of poster is downloaded or Xeroxed text without references or many grammatical mistakes making it hard to read content	Entire poster is downloaded or Xeroxed text with no references
Science content (language)	Science expressed using appropriate vocabulary	A few mistakes in use or omissions of science language	A major omission of vocabulary	Many mistakes in the vocabulary or little attempt made to use appropriate vocabulary	No attempt to incorporate scientific language into project
Science content (concepts)	Science concepts presented are accurate	Only a few minor errors in science concepts presented	A major content error in science concepts presented	Many mistakes in minimal science concepts presented	No science presented in project
Thoroughness of coverage	Complete coverage of topic	Mostly covers the topic, breadth of coverage adequate	Partial coverage of the topic. May go into depth in some but not all areas	Thoroughly explores only a narrow aspect of the topic	No attempt at thoroughness
Civic engagement	Makes all major connections to the relevant social issues, explores ways in which personal	Makes most connections to the relevant social issues, explores ways in which personal	Makes most connections to the relevant social issues, or explores ways in which personal	Makes a few connection to the relevant social issues, or explores ways in which personal behavior/	No attempt at civic engagement

	behavior/ engagement can affect change	behavior/ engagement can affect change	behavior/ engagement can affect change	engagement can affect change	
Science Process	Effectively engaged with or incorporated science process into poster (experiments, surveys, interviews, or site visits)	Weak attempt to include or engage in science process into poster	Reported the science of the topic without engaging in the actual process	No engagement in science with biased reporting of the science involved in topic	No science process reported or engaged
Presentation	Time 10 minutes (± 2) for entire group, everyone presents, material presented not read	Time 10 minutes (± 2), all contributed to presentation, or material was read by one presenter	Less than 8 minutes or more than 12 minutes, or one person did not contribute to presentation, or material was read by more than one presenter	Shorter than 6 minutes longer than 14 minutes, or two people did not contribute, or entire presentation was read	No presentation
Presentation Questions	All authors completely fielded all questions correctly or with minor mistake	One or two presenters answered questions with only minor mistakes	Presenters answered questions with a major mistake	Attempted to answer questions but most answers incorrect	Did not answer questions