

LEARNING COMMUNITY OUTLINE

<i>SCIENCE TOPIC</i>	<i>SCIENCE CONTENT</i>	<i>FOLKLORE CONTENT</i>	<i>SOCIAL / POLICY ISSUE</i>
INTRODUCTION			
Coal	Concept Map	Attitudes Towards Regional/National Resources	Importance of Coal
COAL FORMATION & EXTRACTION			
Rocks of WV	Sedimentary Rocks Stratigraphy	Poetic Sense of Time, Origin and Place	Coal as Nonrenewable Resource
How Old is WV	Geologic Time		
Coal Formation	Northern/Southern Coals	Labor Movements	
“Mountains” in WV	Tectonics an Erosion		
Mining Coal in WV	Deep & Surface Mining & Mountain Top Removal	Traditional Cultural Values	
Economic Geology	Coal Extraction/Stakeholders	Ethnic Population Exploitation	
COAL AND THE ENVIRONMENT			
Mine Safety	Combustion/Explosion	Mining Tragedies/Social and Historical Overview	Impacts of Mining/Burning Coal
Methane-Alkanes	Exothermic/Endothermic Processes		
Acid Mine Drainage	pH, Acidity, Molecular View	Historic Coal Communities and Company Control	
What is Coal (I)	Kinds of Matter		
What is Coal (II)	Elemental Analysis		
Carbon/Structures	Molecular Models & Properties		

COAL AS ENERGY			
Energy Classification/Methods of Science	Scientific Observation/Description	Historical Use During Industrial Revolution & 20 th Century Progress	Pros/Cons of Coal Dependence and Future Energy Needs/Sources
Forces and Energy I	Laws of Force/Scientific Models		
Force and Energy II	Heat Energy/Thermodynamics		
Energy Transformations	Potential/Kinetic Energy	Regional History/ Coal-Centered	
Electricity Generation	Applications of Force/Energy Models		
Alternative Energy Sources	Renewable, Solar, Wind & Others		
ENVIRONMENT, LIVING SYSTEMS & HEALTH			
Plant Processes	Photosynthesis/Making more Coal	Dramatics (literary, artistic, etc) of Land Misuse	Carbon Balance
Burning Coal	Greenhouse Effect		Global Warming
Acid Mine Drainage	Aquatic Ecosystem Health		Water Quality Remediation
Acid Deposition	Biological/Cultural Effects		
Living Systems	Ecosystems & Energy Flow	Oral History of Mining Conditions and Impact on People	Mountaintop Removal
Mountaintop Removal/Valley Fills	Watershed/Impact		
Health Issues	Black Lung Disease		