

## Project-Based Learning Unit

**Created by Shannan Hines, Harrison County Schools**

### Part I: Designing a Standards-Based Project

1. On what topic or unit of study will your project focus?

Coal Mining

2. Describe how this project will address standards in various curriculum areas:

#### Language Arts

- RLA1.5 - Students use pre-reading and comprehension strategies to critically analyze and evaluate informational texts for making judgments, hypothesizing, and making complex or abstract summaries.
- RLA1.9 - Students summarize explicit and implied information from informational texts to recognize the relationships among the facts, ideas, events and concepts.
- RLA2.1 - Students use notes to create an outline for developing a written and/or oral presentation noting the inclusion of computer graphics.
- RLA2.8 - Students conduct research by gathering, evaluating, and synthesizing data from a variety of sources.
- RLA3.2 - Students present an oral report with computer-generated graphic aids.
- RLA3.5 - Students perform a variety of roles in group discussions: collaboration, facilitation, and persuasion.
- RLA3.7 - Students plan, create, organize, and present an age-appropriate media product that demonstrates format, purpose, and audience.

#### Science

#### Social Studies

- SS3.1 - Students correlate West Virginia's economic conditions with possible affects on social conditions.
- SS4.8 - Students critique the geographic factors that led to development of the coal industries in West Virginia.
- SS5.5 - Students evaluate the sequence and analyze the impact of contemporary social, economic and technological developments on people and culture in West Virginia.
- SS5.6 - Students analyze the evolution of the labor movement in West Virginia.
- SS5.12 - Students critique the significance of historical experience and of geographical, social and economic factors that have helped to shape West Virginia.

#### Math

|   |              |
|---|--------------|
| <p>Technology</p> <ul style="list-style-type: none"> <li>• 1.TT5 - Student uses advanced features and utilities of presentation software to create an original product.</li> <li>• 1.TT7 - Student uses advanced features and utilities of presentation software (e.g., design templates, design layouts (fonts/ colors/ backgrounds) animation and graphics, inserting pictures, objects, movies, sound, charts, hyperlinks, and graphs) to create an original product.</li> <li>• 1.TT10 - Student uses Internet browsers, various search engines, book marking features, and advanced search techniques to gather information. Student evaluates the information for validity, bias, appropriateness, content and usefulness.</li> <li>• 3.TT2 - Student conducts online research and evaluates the accuracy, relevance, and appropriateness of electronic information sources.</li> <li>• 3.TT6 - Student recognizes personal limits in his/her knowledge and develops strategies and skills for using technology to seek information.</li> </ul> | <p>Other</p> |
| <p>3. List two or three learning goals for this project:</p> <ul style="list-style-type: none"> <li>• Students will investigate the social, economic, and environmental effects of coal mining in West Virginia.</li> <li>• Students will correlate researched information with personal experience and first person interviews to develop a well rounded understanding of how coal mining has influenced residents of West Virginia.</li> <li>• Students will then develop ways of presenting gained understanding to classmates and staff.</li> </ul>   |              |
| <p>4. How will you involve students in the planning process for this project?</p> <ul style="list-style-type: none"> <li>• Students will decide which aspects of mining each group will research.</li> <li>• Students will work with the teacher to develop rubrics for grading each stage of the project</li> <li>• Students will also decide what the final projects will entail.</li> <li>• Students will set up dates and times for presenting information to students and staff.</li> </ul>  |              |
| <p>5. After the project is selected, describe strategies you will use to help students develop <b>essential questions</b> to be answered during their participation in this project. (You can refer to <a href="http://www.tnellen.com/alt/essential.html">http://www.tnellen.com/alt/essential.html</a> to help you craft your essential questions.)</p> <ul style="list-style-type: none"> <li>• Students will be asked for reflect on their knowledge and experiences regarding coal mining in West Virginia.</li> <li>• In their reflections, they will be asked to expand their thinking to involve the knowledge and experiences of others.</li> <li>• After reflecting individually, they will discuss as a group questions that they may investigate to expand their understanding.</li> </ul>  |              |

# Project-Based Learning Template

6. Describe the learning activities students will be engaged in during this project:

| Teacher-Led  | Individual Tasks  | Team Investigations   | Community Connections                 |
|--|---|---|---------------------------------------|
| Brief overview of coal mining and discussion of project                    | Divide into groups  | Decide aspect to be researched and divide tasks                       |                                       |
| Conferencing with each group and individual                                | Research, development of interview questions, and contact of interviewees | Compilation of information, writing of report, and preparation of PPT | Interviews with various contacts      |
| Review of what each group has researched and what we've covered as a group | Prepare for presentation  | PowerPoint presentation and report turned into teacher                | Interviewees invited to presentations |

7. What strategies will you use to help students plan their final products to present their findings and demonstrate their learning?

I will use individual and group conferences in order to work one-on-one with students. I will help each group set timelines and checklists for completion of the project as well as provide feedback and suggestions on their progress.

8. List the required materials and resources (other than technology).

- basic information for overview
- list of possible contacts for interviews
- checklists and rubrics
- conference schedules and checklists
- presentation space and time
- computer lab time
- phone

## Part II: The Role of Technology

1. What technology tools and resources will be used in the project?

- internet
- word processing software
- PowerPoint
- email

2. How will technology tools will be used in this learning unit and how will this use help meet the learning goals?

- internet – information
- word processor – report
- PowerPoint – presentation
- email - communication

**Part III: Assessment**

1. Describe the expected final project product students will prepare and your assessment strategies.

Students will prepare a written report of no less than ten pages including graphics to submit to the teacher. Students will also prepare a PowerPoint presentation that will be presented to all students as well as faculty and staff.

2. What interim or formative assessment strategies will you use during the course of the project?

- observation by teacher
- students journaling/reflections
- rubrics

3. How will students received feedback about their performance?

I will have weekly conferences with each group as well as individual conferences with each student.

**Part IV: Timeline**

Draft a timeline of the learning experiences for this project.

| Week | Learning Activities         | Standards   | Assessment  |
|------|-----------------------------|---|---|
| 1    | <b>Overview</b>             | <b>SS3.1; SS5.12</b>  | <b>Quiz</b>   |
| 2    | <b>Research</b>             | <b>SS3.1; SS4.8; SS5.5;SS5.6; SS5.12; RLA1.5; RLA1.9; RLA2.8; 1.TT7; 1.TT10; 3.TT2; 3.TT6</b>   | <b>Conferences, behavior checklists, information rubrics, student reflections, and teacher observations</b>   |
| 3    | <b>Interviews/ Research</b> | <b>SS3.1; SS4.8; SS5.5; SS5.6; SS5.12; RLA1.5; RLA1.9; RLA2.8; RLA3.5; 1.TT10; 3.TT2; 3.TT6</b> | <b>Conferences, behavior checklists, information rubrics, student reflections, teacher observations, participation rubric, and preparation of interview questions</b> |
| 4    | <b>Research/ Reports</b>    | <b>SS3.1; SS4.8; SS5.5; SS5.6; SS5.12; RLA2.1; RLA2.8; RLA3.5; 1.TT10; 3.TT2; 3.TT6</b>         | <b>Conferences, behavior checklists, information rubrics, student reflections, teacher observations, and technology rubric</b>  |
| 5    | <b>Reports/ PowerPoint</b>  | <b>SS3.1; SS4.8; SS5.5; SS5.6; SS5.12; RLA2.8; RLA3.5; RLA3.7; 1.TT5</b>                        | <b>Conferences, behavior checklists, information rubrics, student reflections, teacher observations, and technology rubric</b>  |
| 6    | <b>Presentations</b>        | <b>RLA 3.2; RLA 3.7</b>   | <b>Participation rubric, behavior rubric, technology rubric, information rubric</b>   |
|      |                             |   |   |

# Project-Based Learning Template

## Part V: Sample Project Planning Table for Students

1. Draft an explanation for students for using the Planning Table below and completing their project:  
Time management and careful planning are essential for successful completion of your project. Each student is responsible for a part of the project. Completing the following table as a group will help you plan what needs to be completed, who will be responsible for each section, what is needed for the assignment, and when it needs to be finished.

| Tasks                 | Assigned to:      | Description  | Resources   | Timeline  |
|-----------------------|-------------------|--|---|-----------|
| Divide subject matter | Group             | Subjects being researched will be divided among the group            | List of subjects to be researched   | 1 day     |
| Research              | Each student      | Research of each topic with detailed note-taking                     | Internet, topic, and pen/paper or word processor                                      | 2 weeks   |
| Interviews            | Each group        | Interview local people involved (current and retired) in coal mining | Contact information, pen/paper, interview questions                                   | 1 week    |
| Report                | Students in group | Write report about information gained                                | Notes from research and interviews, word processor, and information on citing sources | 1.5 weeks |
| PowerPoint            | Students in group | Prepare presentation about subject                                   | PowerPoint, computers, notes from research and interviews                             | 1 week    |
| Presentation          | Students in group | Present PowerPoint   | Laptop, projector, screen/SmartBoard  | 1 day     |
|                       |                   |  |   |           |
|                       |                   |  |   |           |