

| Social Studies | Monday                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Tuesday                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Wednesday                                                                                                                                                                                                                         | Thursday<br>(Thanksgiving Day)                                                                                                                                                                                                    | Friday                                                                                                                                                                                                                            |
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| Objectives     | <p><b>Content Objective:</b></p> <ul style="list-style-type: none"> <li>•TSWBAT <b>tell</b> the essential elements of <b>early forms of writing</b> by <b>retelling key terms from the Reading Essentials through a Type 3 writing.</b></li> </ul> <p><b>AdvancED/NCA Goal Objective (DEAR):</b></p> <ul style="list-style-type: none"> <li>•Students will focus on lifelong learning strategies by providing experiences, formats, frameworks, and attitudes for study in the present and future.</li> <li>•Students will participate in student-centered learning.</li> </ul> | <p><b>Content Objective:</b></p> <ul style="list-style-type: none"> <li>•TSWBAT <b>summarize early writing</b> Chapter 3 in the text by <b>using a modified Cornell Notes style graphic organizer.</b></li> </ul> <p><b>AdvancED/NCA Goal Objective (DEAR):</b></p> <ul style="list-style-type: none"> <li>•Students will focus on lifelong learning strategies by providing experiences, formats, frameworks, and attitudes for study in the present and future.</li> <li>•Students will participate in student-centered learning.</li> </ul> | <p><b>Content Objective:</b></p> <ul style="list-style-type: none"> <li>•Thanksgiving Break - No Students Report</li> </ul> <p><b>AdvancED/NCA Goal Objective (DEAR):</b></p> <ul style="list-style-type: none"> <li>•</li> </ul> | <p><b>Content Objective:</b></p> <ul style="list-style-type: none"> <li>•Thanksgiving Break - No Students Report</li> </ul> <p><b>AdvancED/NCA Goal Objective (DEAR):</b></p> <ul style="list-style-type: none"> <li>•</li> </ul> | <p><b>Content Objective:</b></p> <ul style="list-style-type: none"> <li>•Thanksgiving Break - No Students Report</li> </ul> <p><b>AdvancED/NCA Goal Objective (DEAR):</b></p> <ul style="list-style-type: none"> <li>•</li> </ul> |
|                | <p>Language Objective (SLOP):</p> <ul style="list-style-type: none"> <li>•TSWBAT <b>write a Type 3 John Collins paper</b> using <b>written expression.</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                           | <p>Language Objective (SLOP):</p> <ul style="list-style-type: none"> <li>•TSWBAT <b>write a summary</b> using <b>both pictorial and written expressions.</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                        | <p>Language Objective (SLOP):</p>                                                                                                                                                                                                 | <p>Language Objective (SLOP):</p>                                                                                                                                                                                                 | <p>Language Objective (SLOP):</p>                                                                                                                                                                                                 |
|                | <p>Learning Target:</p> <ul style="list-style-type: none"> <li>• (P1.1) I can use close and critical reading strategies to read and analyze texts pertaining to social science; attend to nuance, make connections to prior knowledge, draw inferences, and determine main idea and supporting details.</li> <li>• (GLCE W2.1) I can describe and differentiate characteristics of early civilization's writing.</li> </ul>                                                                                                                                                     | <p>Learning Target:</p> <ul style="list-style-type: none"> <li>• (P1.1) I can use close and critical reading strategies to read and analyze texts pertaining to social science; attend to nuance, make connections to prior knowledge, draw inferences, and determine main idea and supporting details.</li> <li>• (GLCE W2.1) I can describe and differentiate characteristics of early civilization's writing.</li> </ul>                                                                                                                    | <p>Learning Target:</p> <ul style="list-style-type: none"> <li>•</li> </ul>                                                                                                                                                       | <p>Learning Target:</p> <ul style="list-style-type: none"> <li>•</li> </ul>                                                                                                                                                       | <p>Learning Target:</p> <ul style="list-style-type: none"> <li>•</li> </ul>                                                                                                                                                       |
| Assessment     | <ul style="list-style-type: none"> <li>•Students will write a Type 3 paper.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>•Students will summarize text on a Cornell Notes graphic organizer.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                   |
| Vocabulary     | city-states, ziggurat, theocracy, empire, patriarchal, polytheistic, cuneiform                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | city-states, ziggurat, theocracy, empire, patriarchal, polytheistic, cuneiform                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Varies                                                                                                                                                                                                                            | Varies                                                                                                                                                                                                                            | Varies                                                                                                                                                                                                                            |
| Strategy       | Modeling,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Modified Cornell Notes organizer.<br>Visual, Modeling,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                   |

| Social Studies                                                                                                                               | Monday                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Tuesday                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Wednesday | Thursday<br>(Thanksgiving Day) | Friday |
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| CCSS                                                                                                                                         | <p>RH.6-8.1. Cite specific textual evidence to support analysis of primary and secondary sources.</p> <p>RH.6-8.2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.</p> <p>RH.6-8.3. Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).</p> <p>RH.6-8.4. Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.</p> <p>RH.6-8.5. Describe how a text presents information (e.g., sequentially, comparatively, causally).</p> <p>RH.6-8.6. Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).</p> <p>RH.6-8.7. Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.</p> <p>RH.6-8.8. Distinguish among fact, opinion, and reasoned judgment in a text.</p> <p>RH.6-8.9. Analyze the relationship between a primary and secondary source on the same topic.</p> <p>RH.6-8.10. By the end of grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently.</p> | <p>RH.6-8.1. Cite specific textual evidence to support analysis of primary and secondary sources.</p> <p>RH.6-8.2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.</p> <p>RH.6-8.3. Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).</p> <p>RH.6-8.4. Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.</p> <p>RH.6-8.5. Describe how a text presents information (e.g., sequentially, comparatively, causally).</p> <p>RH.6-8.6. Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).</p> <p>RH.6-8.7. Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.</p> <p>RH.6-8.8. Distinguish among fact, opinion, and reasoned judgment in a text.</p> <p>RH.6-8.9. Analyze the relationship between a primary and secondary source on the same topic.</p> <p>RH.6-8.10. By the end of grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently.</p> |           |                                |        |
| English Language Proficiency Standards                                                                                                       | <ul style="list-style-type: none"> <li>●SL.7.6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.</li> <li>●L.7.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</li> <li>●L.7.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases choosing flexibly from a range of strategies.</li> <li>●WIDA Reading L2: Find information from text structure.</li> <li>●WIDA Reading L3: Identify topic sentences, main ideas, and details in paragraphs.</li> <li>●S.1 Use spoken language for daily activities within and beyond the school setting.</li> <li>●L.1 Follow simple and complex directions.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>●SL.7.6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.</li> <li>●L.7.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.</li> <li>●L.7.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases choosing flexibly from a range of strategies.</li> <li>●WIDA Reading L2: Find information from text structure.</li> <li>●WIDA Reading L3: Identify topic sentences, main ideas, and details in paragraphs.</li> <li>●S.1 Use spoken language for daily activities within and beyond the school setting.</li> <li>●L.1 Follow simple and complex directions.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           |                                |        |
| 31a Plans<br>Note: 31a Staff may be reassigned by the office to cover other classes without notice. In such cases, these plans do not apply. | The Aide Will Be Able To (TAWBAT) administer such needs as required by the students qualifying under the Title 1 Program as applied for in FS-4731-A (Page 4) under section C. No 31a Aide has been assigned at this time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | The Aide Will Be Able To (TAWBAT) administer such needs as required by the students qualifying under the Title 1 Program as applied for in FS-4731-A (Page 4) under section C. No 31a Aide has been assigned at this time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           |                                |        |

| Enrichment       | Monday                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Tuesday                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Wednesday               | Thursday                | Friday                  |
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| Objectives       | <p>Content Objective:</p> <ul style="list-style-type: none"> <li>TSWBAT <b>retell</b> the <b>vocabulary elements</b> of the video from the previous week through <b>oral discussion</b>.</li> </ul> <p>Language Objective (SIOP):</p> <ul style="list-style-type: none"> <li>The student will communicate orally.</li> <li>WIDA Speaking L1:                             <ul style="list-style-type: none"> <li>Answer yes/no and choice questions</li> <li>Begin to use general and high frequency vocabulary</li> </ul> </li> <li>WIDA Listening L2:                             <ul style="list-style-type: none"> <li>Follow multi-step oral commands/instructions.</li> </ul> </li> <li>WIDA Speaking L2:                             <ul style="list-style-type: none"> <li>Communicate in social situations.</li> <li>Express needs/wants</li> </ul> </li> </ul> <p>Learning Target:</p> <ul style="list-style-type: none"> <li>I can describe how individuals, businesses, and governments make economic decisions when confronting scarcity in the market economy. (GLCE 7-E1.1.1)</li> </ul> | <p>Content Objective:</p> <ul style="list-style-type: none"> <li>TSWBAT <b>identify key vocabulary</b> from the semester in the video <i>Poop to Profits</i> through <b>tableau</b>.</li> </ul> <p>Language Objective (SIOP):</p> <ul style="list-style-type: none"> <li>The student will communicate orally.</li> <li>WIDA Speaking L1:                             <ul style="list-style-type: none"> <li>Answer yes/no and choice questions</li> <li>Begin to use general and high frequency vocabulary</li> </ul> </li> <li>WIDA Listening L2:                             <ul style="list-style-type: none"> <li>Follow multi-step oral commands/instructions.</li> </ul> </li> <li>WIDA Speaking L2:                             <ul style="list-style-type: none"> <li>Communicate in social situations.</li> <li>Express needs/wants</li> </ul> </li> </ul> <p>Learning Target:</p> <ul style="list-style-type: none"> <li>I can describe how individuals, businesses, and governments make economic decisions when confronting scarcity in the market economy. (GLCE 7-E1.1.1)</li> </ul> | Students do not report. | Students do not report. | Students do not report. |
| Assessment       | Students will be orally assessed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | •Oral assessment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Students do not report. | Students do not report. | Students do not report. |
| Closing Activity | Oral response to simulation questions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | •Oral assessment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Students do not report. | Students do not report. | Students do not report. |
| Vocabulary       | Property rights      Transaction costs<br>Negative externalities<br>Positive externalities      Tragedy of the Commons<br>Marginal benefits & costs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Property rights      Transaction costs<br>Negative externalities<br>Positive externalities      Tragedy of the Commons<br>Marginal benefits & costs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Students do not report. | Students do not report. | Students do not report. |
| Strategy         | John Collins Writing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Simulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Students do not report. | Students do not report. | Students do not report. |

| Enrichment | Monday                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| <p>CCS</p> | <p>•SL.7.6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.<br/>                     •L.7.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.<br/>                     L.7.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases choosing flexibly from a range of strategies.<br/> <b>National Content Standards Addressed</b><br/> <b>Standard 4: Incentives Matter</b><br/>                     •People respond predictably to positive and negative incentives.<br/>                     •Acting as consumers, producers, workers, savers, investors, and citizens, people respond to incentives in order to allocate their scarce resources in ways that provide the highest possible returns to them.<br/> <b>Standard 9: Role of Competition</b><br/>                     •Competition among sellers lowers costs and prices, and encourages producers to produce more of what consumers are willing and able to buy. Competition among buyers increases prices and allocates goods and services to those people who are willing and able to pay the most for them.<br/>                     •The introduction of new products and production methods by entrepreneurs is an important form of competition, and is a source of technological progress and economic growth.<br/> <b>Standard 10: Institutions</b><br/>                     •Institutions evolve in market economies to help individuals and groups accomplish their goals. Banks, labor unions, corporations, legal systems, and not-for-profit organizations are examples of important institutions. A different kind of institution, clearly defined and well enforced property rights, is essential to a market economy.<br/>                     •Property rights, contract enforcement, standards for weights and measures, and liability rules affect incentives for people to produce and exchange goods and services.<br/> <b>Standard 13: Income and Productivity</b><br/>                     •Income for most people is determined by the market value of the productive resources they sell. What workers earn depends, primarily, on the market value of what they produce and how productive they are.<br/>                     •To earn income, people sell productive resources. These include their labor, capital, natural resources, and entrepreneurial talents.<br/> <b>Standard 14: Profit and the Entrepreneur</b><br/>                     •Entrepreneurs are people who take the risks of organizing productive resources to make goods and services. Profit is an important incentive that leads entrepreneurs to accept the risks of business failure.<br/>                     •Entrepreneurs are individuals who are willing to take risks in order to develop new products and start new businesses. They recognize opportunities, enjoy working for themselves, and accept challenges.<br/>                     •Invention is a new product. Innovation is the introduction of an invention into a use that has economic value.<br/>                     •Entrepreneurs compare the expected benefits of entering a new enterprise with the expected costs.<br/>                     •Entrepreneurs accept the risks in organizing resources to produce goods and services, and they hope to earn profits.<br/>                     •Entrepreneurial decisions affect job opportunities for other workers.<br/>                     •Entrepreneurial decisions are influenced by government tax and regulatory policies.<br/> <b>Standard 15: Investment</b><br/>                     Investment in factories, machinery, new technology, and in the health, education, and training of people can raise future standards of living.<br/>                     •Increases in productivity result from advances in technology and other sources.<br/>                     •Economic growth is a sustained rise in a nation's production of goods and services. It results from investments in human and physical capital, research and development, technological change, and improved institutional arrangements and incentives.<br/>                     •Historically, economic growth has been the primary vehicle for alleviating poverty and raising standards of living around the world.<br/>                     •Economic growth creates new employment and profit opportunities in some industries, but growth reduces opportunities in others.<br/>                     •Investments in physical and human capital can increase productivity, but such investments entail opportunity costs and economic risks.<br/>                     •Investing in new physical or human capital involves a trade-off of lower current consumption in anticipation of greater future production and consumption.<br/>                     •The rate of productivity increase in an economy is strongly affected by the incentives that reward successful innovation and investments (in research and development, and in physical and human capital)</p> | <p>•SL.7.6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.<br/>                     •L.7.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.<br/>                     L.7.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases choosing flexibly from a range of strategies.<br/> <b>National Content Standards Addressed</b><br/> <b>Standard 1: Scarcity</b><br/>                     Productive resources are limited. Therefore people cannot have all the goods and services they want; as a result, they must choose some things and give up others.<br/>                     • Like individuals, governments and societies experience scarcity because human wants exceed what can be made from all available resources.<br/>                     • Choices involve trading off the expected value of one opportunity against the expected value of its best alternative.<br/>                     • The choices people make have both present and future consequences.<br/>                     • The evaluation of choices and opportunity costs is subjective; such evaluations differ across individuals and societies.<br/> <b>Standard 2: Marginal Decision Making</b><br/>                     Effective decision making requires comparing the additional costs of alternatives with the additional benefits. Most choices involve doing a little more or a little less of something: few choices are "all or nothing" decisions.<br/>                     • Few choices are all-or-nothing decisions; they usually involve getting a little more or one thing by giving up a little of something else.<br/>                     • To determine the best level of consumption of a product, people must compare the additional benefits with the additional costs of consuming a little more or a little less.<br/>                     • Marginal benefit is the change in total benefit resulting from an action. Marginal cost is the change in total cost resulting from an action.<br/>                     • As long as the marginal benefit of an activity exceeds the marginal cost, people are better off doing more of it; when the marginal cost exceeds the marginal benefit, they are better off doing less of it.<br/>                     • To determine the optimal level of a public policy program, voters and government officials must compare the marginal benefits and marginal costs of providing a little more or a little less of the program's services.<br/> <b>Standard 10: Institutions</b><br/>                     Institutions evolve in market economies to help individuals and groups accomplish their goals. Banks, labor unions, corporation, legal systems, and not-for-profit organizations are examples of important institutions. 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Marginal cost is the change in total cost resulting from an action.<br/>                     • As long as the marginal benefit of an activity exceeds the marginal cost, people are better off doing more of it; when the marginal cost exceeds the marginal benefit, they are better off doing less of it.<br/>                     • To determine the optimal level of a public policy program, voters and government officials must compare the marginal benefits and marginal costs of providing a little more or a little less of the program's services.<br/> <b>Standard 10: Institutions</b><br/>                     Institutions evolve in market economies to help individuals and groups accomplish their goals. Banks, labor unions, corporation, legal systems, and not-for-profit organizations are examples of important institutions. A different kind of institution, clearly defined and well enforced property rights, is essential to a market economy.<br/>                     • Property rights, contract enforcement, standards for weights and measures, and liability rules affect incentives for people to produce and exchange goods and services.</p> | <p>•SL.7.6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.<br/>                     •L.7.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.<br/>                     L.7.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases choosing flexibly from a range of strategies.<br/> <b>National Content Standards Addressed</b><br/> <b>Standard 1: Scarcity</b><br/>                     Productive resources are limited. Therefore people cannot have all the goods and services they want; as a result, they must choose some things and give up others.<br/>                     • Like individuals, governments and societies experience scarcity because human wants exceed what can be made from all available resources.<br/>                     • Choices involve trading off the expected value of one opportunity against the expected value of its best alternative.<br/>                     • The choices people make have both present and future consequences.<br/>                     • The evaluation of choices and opportunity costs is subjective; such evaluations differ across individuals and societies.<br/> <b>Standard 2: Marginal Decision Making</b><br/>                     Effective decision making requires comparing the additional costs of alternatives with the additional benefits. 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| Enrichment                                                                                                                                                                       | Monday                                                                                                                                                                                                                            | Tuesday                                                                                                                                                                                                                           | Wednesday                                                                                                                                                                                                                         | Thursday                                                                                                                                                                                                                          | Friday                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>31a Plans</b><br/>                     Note: 31a Staff may be reassigned by the office to cover other classes without notice. In such cases, these plans do not apply.</p> | <p>The Aide Will Be Able To (TAWBAT) administer such needs as required by the students qualifying under the Title 1 Program as applied for in FS-4731-A (Page 4) under section C. No 31a Aide has been assigned at this time.</p> | <p>The Aide Will Be Able To (TAWBAT) administer such needs as required by the students qualifying under the Title 1 Program as applied for in FS-4731-A (Page 4) under section C. No 31a Aide has been assigned at this time.</p> | <p>The Aide Will Be Able To (TAWBAT) administer such needs as required by the students qualifying under the Title 1 Program as applied for in FS-4731-A (Page 4) under section C. No 31a Aide has been assigned at this time.</p> | <p>The Aide Will Be Able To (TAWBAT) administer such needs as required by the students qualifying under the Title 1 Program as applied for in FS-4731-A (Page 4) under section C. No 31a Aide has been assigned at this time.</p> | <p>The Aide Will Be Able To (TAWBAT) administer such needs as required by the students qualifying under the Title 1 Program as applied for in FS-4731-A (Page 4) under section C. No 31a Aide has been assigned at this time.</p> |

**Interdisciplinary Lesson on Current Events (Thursday)**  
**Lesson 18: “Current Events / Events Current” • The Big Idea: History & Learning & Change**

**To the Teacher**

*“There is no new thing under the sun.”*  
 - Ecclesiastes 1:9

*“Those who cannot remember the past are condemned to repeat it.”*  
 - George Santayana

Today’s news – current events – soon becomes tomorrow’s history. Young adolescents do not always grasp the importance of national or world events; they may not realize the ways in which outside occurrences impinge on their lives. Natural disasters and catastrophes will always be with us, along with political upheavals, dastardly deeds, heroic accomplishments and inspiring adventures.

**Introducing the Poem**

Present one of the two quotes above to your students and briefly discuss it. Then invite six students to read “Current Events / Events Current” aloud. Student A reads verses 1 and 2 aloud; Student B reads verses 3 and 4; and so forth. You read the last verse to provide a dramatic exclamation point to the poem. Then invite a second group of six students to read the poem aloud to the class in similar fashion. In discussion, refer to the quote from Ecclesiastes and observe that (a) the Bible is a very old book and (b) there is very little that is new that hasn’t already happened before, somewhere. Also, note that the Santayana quote raises an important caution about the importance of knowing and following current events.

**Vocabulary**

- crisis* – a time of danger; a sudden problem
- grateful* – thankful; appreciative
- harrowing* – disturbing; frightening
- hither and yon* – here and there; all over the place
- make amends* – to apologize; to make things right
- rowdy* – noisy
- scandal* – an event that causes public anger and outrage
- strife* – conflict; a struggle

**Classroom Discussion Questions**

1. What is the central idea of “Current Events / Events Current”? Cite specific lines in the text to support your response.
2. What important current events interest you right now? Explain your response.
3. What predictions do you have about how these current events will turn out?
4. What does the poem’s title mean to you? Please explain.
5. What does the last line of the poem mean to you? Explain.
6. Identify three “general” examples of current events and three “specific” examples of current events in this poem.
7. Do we “need” to know what is going on in the world? Why or why not?

**Individual Writing Prompts**

1. Select a “current event” from today’s news and compose five journal entries over the next two weeks explaining the “who-what-when-where-why” and “how” of the story. Explain why this story is of interest to you. Also, in the fifth journal entry, predict what will happen and how this current event will end.
2. Select a “current event” story that seems to echo the past. Describe the “who, what, when, where, why” and “how” of the story. Then select a news story from the past that is similar to the first story and describe the “who, what, when, where, why” and “how” of this second story. Then compare both stories, their similarities and differences.

**Small Group Activities**

Notice: All plans are tentative and subject to change at the teacher’s discretion.

**THE WINNING TEAM; THE MIRACLE PLAY;**

**CALVIN JOHNSON MAKES AN IMPOSSIBLE CATCH.**

**U.S. WOMEN'S SOCCER WINS GOLD MEDAL MATCH AGAINST JAPAN.**

**EASTERN MICHIGAN UNIVERSITY FOOTBALL COACH RON ENGLISH FIRED FOR PROFANE LANGUAGE.**

**The scandal that broke just yesterday.**

**ERN MICHIGAN UNIVER**  
**ATHLETIC MEDIA RELATIONS OFFICE**

734.4

**STATEMENT FROM EMU DIRECTOR OF ATHLETICS HEAT'S DECISION TO RELIEVE RON ENGLISH FROM COACH**

a situation in which Coach English had addressed the team and used v  
 ur coaches and staff to high standards of professionalism and conduct i  
 ur environment, where this language is appropriate. The statements ma  
 rtable. My decision to make a change in leadership of our football pro  
 zors including the comprehensive review of our program, the competi  
 ty interest is in the well being and success of our student-athletes and  
 ty decision we make and every action we take. My focus moving forward  
 experience as well as the search process for the next leader of our foo

“Studium decendae voluntatae quai cogi non potest constant.” - Quintillanus

1. In a co-ed group of four, select three current events and create five questions about each of them. Then, pose your questions to each of the other groups in a classroom “Current Events Quiz Bowl”.
2. Bring in a different news item a day for two weeks. Then, have students in groups of four categorize these items into “specific” and “general” categories.
3. Create a poster using actual newspaper clippings that depict at least five different “current events.” Include explanatory text for each current event.
4. Create an illustrated poem using Comic Life with pictures you find. One couplet per page and the pictures must be in the order presented in the couplet. For example, the couplet, “A famous leader now deceased; A crisis in the Middle East,” should have famous leaders who are now no longer with us in the top half of the page and pictures of crises in the Middle East in the bottom half of the page. Be sure to add a short caption for each picture so that readers who are not familiar with local events can understand why you chose that picture.

## **CURRENT EVENTS / EVENTS CURRENT**

**Ross Burkhardt**

We need to know what’s going on  
Both here at home and hither and yon.

And so in school we gain some sense  
Of world affairs through current events.

But news occurs without delay;  
Facts and faces crowd each day –

A famous leader now deceased;  
A crisis in the Middle East.

The winning team; the miracle play;  
The scandal that broke just yesterday.

A narrow, harrowing escape;  
A politician caught on tape.

The fine a business had to pay  
To make amends without delay.

A fatal forest fire blaze;  
A hero heaped with grateful praise.

The latest pop celebrity;  
The horrible murder on TV.

A sudden earthquake causing strife;  
A new device to change our life.

The kidnapper who tried to hide;  
The unexpected suicide.

A growing list of names and places,  
Daring deeds and sad disgraces.

And what do we learn when day is done?  
“There’s not much new beneath the sun!”



## *Lesson 7* – **Property Rights: Is the Environment Different?**

### **Key Terms**

|                           |                        |                        |
|---------------------------|------------------------|------------------------|
| Property rights           | Transaction costs      | Negative externalities |
| Positive externalities    | Tragedy of the Commons | Coase Theorem          |
| Marginal benefits & costs |                        |                        |

### **National Content Standards Addressed**

#### **Standard 1: Scarcity**

Productive resources are limited. Therefore people cannot have all the goods and services they want; as a result, they must choose some things and give up others.

- Like individuals, governments and societies experience scarcity because human wants exceed what can be made from all available resources.
- Choices involve trading off the expected value of one opportunity against the expected value of its best alternative.
- The choices people make have both present and future consequences.
- The evaluation of choices and opportunity costs is subjective; such evaluations differ across individuals and societies.

#### **Standard 2: Marginal Decision Making**

Effective decision making requires comparing the additional costs of alternatives with the additional benefits. Most choices involve doing a little more or a little less of something: few choices are “all or nothing” decisions.

- Few choices are all-or-nothing decisions; they usually involve getting a little more or one thing by giving up a little of something else.
- To determine the best level of consumption of a product, people must compare the additional benefits with the additional costs of consuming a little more or a little less.
- Marginal benefit is the change in total benefit resulting from an action. Marginal cost is the change in total cost resulting from an action.
- As long as the marginal benefit of an activity exceeds the marginal cost, people are better off doing more of it; when the marginal cost exceeds the marginal benefit, they are better off doing less of it.
- To determine the optimal level of a public policy program, voters and government officials must compare the marginal benefits and marginal costs of providing a little more or a little less of the program’s services.

#### **Standard 10: Institutions**

Institutions evolve in market economies to help individuals and groups accomplish their goals. Banks, labor unions, corporation, legal systems, and not-for-profit organizations are examples of important institutions. A different kind of institution, clearly defined and well enforced property rights, is essential to a market economy.

- Property rights, contract enforcement, standards for weights and measures, and liability rules affect incentives for people to produce and exchange goods and services.

Notice: All plans are tentative and subject to change at the teacher’s discretion.

“Studium decendae voluntatae quai cogi non potest constant.” - Quintillanus



**Standard 16: Role of Government**

There is an economic role for government in a market economy whenever the benefits of a government policy outweigh its costs. Governments often provide for national defense, address environmental concerns, define and protect property rights, and attempt to make markets more competitive. Most government policies also redistribute income.

- Markets do not allocate resources effectively if (1) property rights are not clearly defined or enforced, (2) externalities (spillover effects) affecting large numbers of people are associated with the production or consumption of a product, or (3) markets are not competitive.
- An important role for government in the economy is to define, establish, and enforce property rights. A property right to a good or service includes the right to exclude others from using the good or service and the right to transfer the ownership or use of the resources to others.
- Property rights provide incentives for the owners of resources to weigh the value of present uses against the value of conserving the resources for future use.
- Externalities exist when some of the costs and benefits associated with production and consumption fall onto someone other than the producers or consumers of the product.

**Key Ideas**

## 1. Review:

**ERP-2: Choices impose costs; people receive benefits and incur costs when they make decisions.**

The cost of a choice is the value of the next-best alternative foregone, measurable in time or money or some alternative activity given up.

**ERP-3: People respond to incentives in predictable ways.** Choices are influenced by incentives, the rewards that encourage and the punishments that discourage actions. When incentives change, people's choices change in predictable ways.

**ERP-5: Understanding based on knowledge and evidence imparts value to opinions.** Opinions matter and are of equal value at the ballot box. But on matters of rational deliberation the value of an opinion is determined by the knowledge and evidence on which it is based.

- “The environment” or “environmental quality” is an economic good:
  - The amount we have is affected by limited resources, so it is scarce.
  - Decisions about “environmental quality” have opportunity costs.

- People’s choices about environmental quality respond to incentives in predictable ways.
  - The incentives that influence people’s choices about “environmental quality” are shaped by environmental laws and regulations (i.e., the rules of the game).
  - However, “the environment” or “environmental quality” may also have characteristics that make it different from many other goods.
  - For example, decisions about resource use for environmental quality may be made by people who do not bear the costs. This is source of many conflicts over environmental quality.
    - This may occur because the state of nature is such that it would cost to define and enforce ownership of the resources involved.
    - It may also occur because providing a given level of environmental quality would reallocate wealth among individuals, and government chooses not to make the correction.
2. Property rights are the formal and informal rules governing the ownership, use, and transfer of goods, services, and resources.
- Property rights may be *private*, *common*, or *collective*.
  - Private property ownership allows the owner to exclude others from the use of the resource.
    - Private property creates incentives for conservation and improvement of resources. A stable, dependable enforcement mechanism is essential for these incentives to work.
  - Common property is characterized by the inability to exclude users.
    - Common property arrangements – shared ownership arrangements where “everyone” owns the property together – create incentives for overuse, a phenomenon known as “the tragedy of the commons.”
    - Common property *can* be an effective alternative to private ownership of large-scale resources, *if* access to the resource can be kept closed to outsiders.
  - Collective property is similar to common property in that ownership is shared, but it differs in that decision-making is through government and political processes and in that individuals cannot avoid “ownership” without departing from the political jurisdiction.
    - Collective property arrangements can be either public or private.
      - A country club swimming pool is an example of a private collective.
      - A city-owned swimming pool is an example of a public collective.
    - Because users cannot be excluded, collective ownership creates incentives that lead to the tragedy of the commons.
  - If effective *exclusion* is feasible, common and collective ownership arrangements can avoid the tragedy of the commons.
    - Community run fisheries in the coastal waters off New England and Newfoundland, for example, have effectively solved the problem of depleted fish stocks that resulted from over-fishing in common waters.
  - Collective ownership (and sometimes common ownership) also creates incentives for political allocation of benefits and “rent-seeking” behavior.
3. Governments play a key role in the definition and enforcement of property rights and, therefore, the effectiveness with which nations address social concerns like environmental quality, poverty, etc.
- Clearly defined and well-secured property rights add value to goods and services, and facilitate wealth-creating trade.
  - Differences in the legal “rules of the game” that define and secure property rights vary the incentives for wealth-producing trade.
  - Analyzing historical and contemporary examples of different property rights schemes illustrates the value of looking at environmental issues as problems of incentives rather than blaming them on “bad people doing bad things”.
4. Conflicts over regulatory and eminent domain “takings” arise when property rights are not secure.

- Example of regulatory takings: restrictions on landholders' use of their property that result from enforcement of endangered species legislation.
  - Example of eminent domain takings: decision by a government that a private piece of property would be better put in a "public" use. Government may force the owner of the property to sell at a "fair" market price, whether or not the owner wishes to sell.
5. Externalities occur when property rights are not defined or are not effectively enforceable.
    - "Negative externalities" exist when the costs of producing a good spill over onto (are borne by) people other than those who decide how much or whether to produce that good.
      - Negative externalities result in more being produced than would be if the producers and consumers of the good bore all the costs.
    - "Positive externalities" exist when the benefits of a good or service spill over onto people other than those who decide how much or whether to produce that good.
      - Positive externalities result in less being produced – scenic views, for example – than would result if those who bore the costs could capture all the benefits.
    - When property rights are not well-defined, enforceable, and transferable, cooperation becomes more costly and markets operate less effectively to allocate resources to their most highly-valued uses.
    - The *Coase Theorem* provides insight into how the definition of property rights can facilitate "willing seller – willing buyer" exchanges that enhance environmental quality.
      - When property rights are well-defined, enforceable at low cost and transferable, property rights to resources will be traded in the market until they reach their highest-valued use—that is the use that maximizes net benefits, taking into account *all* of the costs and benefits of their use.
  6. Some environmental problems arise because of a failure to account for differences in present and future values.
    - People place a premium on goods available now over goods not available until the future. (a premium reflected in a positive interest rate)
    - Sensible environmental policies take this premium into account, insisting that *more* than a dollar's worth of benefits be received in the future before a dollar's worth of costs are incurred today.
  7. Marginal analysis helps us to determine the optimal level of pollution—that is the level that yields the highest net benefit from our scarce resources.
    - At the margin, the optimal level of pollution is higher than 0%, and the optimal level of environmental quality is less than 100%.
    - Activities like pollution abatement or environmental preservation should continue *only* up to the point where marginal benefit equals marginal cost.

### Ideas To Take Away From This Lesson

- The "tragedy of the commons" arises when property rights are not well defined or not enforced.
- Well defined property rights increase the market value of products and services.
- Many environmental problems arise because property rights are not clearly-defined or secure, and prices cannot effectively signal the (marginal) costs to the marketplace. These conditions may create a role for government action.
- When property rights are well-defined and cheaply enforceable and transferable, resources can be allocated privately by market participants in ways that maximize their net values and thus yield the highest wealth to society.
-

# A Pollution Solution

## Overview/background

In this activity, students acting as owners of companies emitting proscribed substances engage in a market for tradable pollution credits. So-called “cap-and-trade” programs have been used successfully to meet pollution standards while incorporating incentives to find least-cost solutions.

## National Economic Content Standards addressed:

**Standard 1:** Productive resources are limited. Therefore, people cannot have all the goods and services they want; as a result, they must choose some things and give up others.

**Standard 2:** Effective decision making requires comparing the additional costs of alternatives with the additional benefits. Most choices involve doing a little more or a little less of something; few choices are all-or-nothing decisions.

**Standard 3:** Different methods can be used to allocate goods and services. People, acting individually or collectively through government, must choose which methods to use to allocate different kinds of goods and services.

**Standard 4:** People respond predictably to positive and negative incentives.

**Standard 5:** Voluntary exchange occurs only when all participating parties expect to gain. This is true for trade among individuals or organizations within a nation, and among individuals or organizations in different nations.

**Standard 7:** Markets exist when buyers and sellers interact. This interaction determines market prices and thereby allocates scarce goods and services.

**Standard 10:** Institutions evolve in market economies to help individuals and groups accomplish their goals. Banks, labor unions, corporations, legal systems, and not-for-profit organizations are examples of important institutions. A different kind of institution, clearly defined and enforced property rights, is essential to a market economy.

**Materials:**

- Role cards A, B, and C: 1 per student, 1/3As, 1/3Bs, 1/3Cs
  - Use a different colored paper for each company's role cards
- Transparencies or PowerPoint slides of Visuals
- \$1 bills – 1 per student (*or use candy, bonus points, homework passes, etc, in place of cash*)
- \$5 bills – 5
- Pollution credit slips: For a class of approximately 30 you'll need:
  - 24 - "5,000 ton credit" slips
  - 12 - "1000 ton credit" slips
  - 6 - "500 Ton Credit" slips.
- Calculators – 1 per company (9 for class of 30)
- Checks for purchasing certificates – 10-15 (varies)
- Accounting sheets – one per firm – so 3 As, 3Bs and 3Cs for a class of 30 students. (copy on the same colored paper as firms' role cards)

**Procedures**

1. Break participants into groups or "towns" of 9-12 students with a third of the students forming company A, a third of the students forming company B, a third of the students forming company C. So for a class of 30 you would have 3 towns – each town with a company A, B and C. Explain that group members are the individual owners of the three companies,
2. Display "The Problem" visual and read through with students, answering any questions they may have about the situation.
3. Display "Potential Solutions" visual and review each solution, emphasizing the costs of the alternatives.
4. Display "The AQCC Plan" visual and explain.
5. Distribute the pollution credits to the companies at each table. Place \$14 (9 ones, 1 five) in the center of each table.
  - Company A—one 5000 ton credit slip, two 1000 ton credit slips and one 500 ton credit slip
  - Company B—three 5000 ton credit slips
  - Company C—four 5000 ton credit slips, two 1000 ton credit slips and one 500 ton credit slip



6. Display “The Challenge” visual and review with students.
7. Distribute role cards, face down, reminding participants that it is their decision how much information to share with the other businesses.
8. Distribute several blank checks to each group (*and let students know they may request more*).
9. Suggest that individual teams discuss their role and answer the questions on their role cards for 3-5 minutes before working to solve the challenge.
10. Allow teams time to work.
11. Once teams have completed their negotiations, distribute accounting sheets for each company to fill out. Collect.
12. Display the “Better Solutions” visuals and explain.
13. Award prizes
14. Debrief.

### **Debriefing Questions:**

1. **What was the least-cost method of meeting the required pollution standards?**  
*Creating a market for emissions credits. (Remember that coercion does not count as a better solution.) Display “Better Solution” visuals to illustrate.*
2. **Why is this the least-cost method?** *The market coordinates the information that each firm knows – its own costs of clean-up – and provides incentives for the clean-up to be undertaken by the firms with the lowest clean-up costs.*
3. **What as the incentive for firms to adopt the emissions trading solution?**  
*For this group it is the money on the table. For individual firms it would be to increase their profits.*
4. **Why did (might) some groups not reach this solution?**  
*It may be that they did not think of trading, or that one firm refused to trade. Markets require willing buyers and sellers.*

**5. What is the significance of property rights in this activity? Who has the property rights and when?**

*Property rights are significant to this activity because they are necessary for a market to emerge, and it is the emergence of the market that allows the reduction of pollution at least cost. When property rights are unclear no market will develop, and the remaining options for pollution reduction are more costly.*

*The property right in question here is the property right to air: What are the privileges and limitations to use of the air, and who has those rights? Prior to the federal mandate to reduce pollution the property rights were unclear.*

*The mandate and the issuing of emission credits defined the rights – each firm had the right to use the air to emit as many tons of pollutant as it had pollution credits.*

**6. The United States uses pollution markets – called Cap and Trade programs – and real firms in our real economy buy and sell emissions credits. For example, since the 1990s, a market has helped to reduce SO<sub>2</sub> emissions from coal-fired power generating plants. Markets also exist for nitrous oxide emissions and for carbon offsets. What are the key features necessary for an emissions Cap and Trade program to work?**

- *The pollutant must be measurable and traceable at low cost.*
- *Property rights for credits must be clear, enforceable (which means that emissions must be traceable), and transferable.*
- *The transactions costs of buying and selling credits must be low enough for firms to participate voluntarily.*
- *The “rules of the game” must allow (not prohibit) markets. (Remind students that there are many places in the world – and in history - where markets are either non-existent or severely constrained by governments.)*

## The Problem

In the process of producing goods and services valued by people throughout the region, 3 firms in your town emit into the air a total of 90,000 tons of Yuk annually.

All 3 firms have reputations for quality products.

All 3 employ large numbers of local citizens and pay taxes that represent a substantial portion of the budgets of local governments.

The recent federally-legislated allowable level of Yuk emissions for your region is 45,000 tons/yr.

Yuk emissions are monitored and measured by the AQCC, and penalties, including fines and production shutdowns, are imposed on non-compliant regions.

The Air Quality Control Commission (AQCC), organized by local government officials and business owners, is responsible for ensuring compliance with the 45,000 ton limit in your region.

## Potential Solutions and Costs

### 1) Require each firm to reduce emissions by 50%:

#### Cost To Clean Up 50%

|                     |                  |
|---------------------|------------------|
| Firm A              | \$ 7,500         |
| Firm B              | \$ 30,000        |
| Firm C              | <u>\$ 67,500</u> |
| <b>Total cost =</b> | <b>\$105,000</b> |

### 2) Set a limit of 15,000 tons/firm

#### Cost to clean up pollution beyond the allowed 15,000 tons:

|        |                  |
|--------|------------------|
| Firm A | \$ 0             |
| Firm B | \$ 30,000        |
| Firm C | <u>\$ 90,000</u> |

**Total cost = \$120,000**

## The AQCC Plan

The AQCC has decided that the fairest method is to make each business responsible for reducing pollution by one-half. To do this, the Commission issued 45,000 credits for the emission of 1 Ton of Yuk and gave each firm credits equal to  $\frac{1}{2}$  of its current Yuk emissions level.

Firms must have one credit for each ton of Yuk they emit or face fines or possible plant shut down. Firms may pollute up to the level of credits they hold without penalty. Firms may hold more credits than they were originally allocated.

Allocation of emission credits by firm:

Firm A – 7,500 ton credits

Firm B – 15,000 ton credits

Firm C – 22,500 ton credits

# The Challenge

**Can you clean up the Yuk to 45,000 Tons at a lower cost?**

## **Rules:**

All firms must voluntarily agree to the solution. The use of any form of coercion will result in the factory being permanently shut down and the firm losing.

Firms are under no obligation to share the information on their cards, but may do so if they choose to.

Each firm has property rights to (owns) the emissions certificates they are issued.

## **The Goal:**

**Lower total clean-up cost without making any firm worse off.**

## **Incentive:**

\$3 to each firm that meets its emissions goal at lower cost than cleaning up  $\frac{1}{2}$  of their emissions

\$5 for the firm with the greatest percentage decrease in costs

If the AQCC standard of 45,000 tons for the region is not met, then all firms will be shut down and no payments will be made.

**Role Card: Firm A**

**This is private, company information. It is up to you whether to share it with other firms.**

- Your firm is a successful, profit-maximizing company
- AQCC credits received for the upcoming year = 7,500T. These credits are your private property.
- Your current emissions of Yuk = 15,000T per yr. Therefore, you must reduce emissions by 7,500T or obtain additional credits.
- Failure to meet your individual firm emissions goal will result in fines of \$4 per ton and possible closure of your firm.
- Abatement costs: Changing processes and installing new equipment would allow you to reduce emissions at a cost of \$1 per ton of Yuk.

**Starter questions:**

- What is the cost to your firm to meet AQCC level for your firm for the year?
- Since credits can be used in place of clean-up and your cost of clean-up is \$1 per ton, what is the least you'd be willing to sell a 1T credit for? What's the most you'd be willing to pay for a 1T credit?

Take time with your team members to answer these questions and talk about how your firm contributes to regional 45,000T Yuk goal. You may talk with other firms in your region.

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**Role Card: Firm A**

**This is private, company information. It is up to you whether to share it with other firms.**

- Your firm is a successful, profit-maximizing company
- AQCC credits received for the upcoming year = 7,500T. These credits are your private property.
- Your current emissions of Yuk = 15,000T per yr. Therefore, you must reduce emissions by 7,500T or obtain additional credits.
- Failure to meet your individual firm emissions goal will result in fines of \$4 per ton and possible closure of your firm.
- Abatement costs: Changing processes and installing new equipment would allow you to reduce emissions at a cost of \$1 per ton of Yuk.

**Starter questions:**

- What is the cost to your firm to meet AQCC level for your firm for the year?



- Since credits can be used in place of clean-up and your cost of clean-up is \$1 per ton, what is the least you'd be willing to sell a 1T credit for? What's the most you'd be willing to pay for a 1T credit?

Take time with your team members to answer these questions and talk about how your firm contributes to regional 45,000T Yuk goal. You may talk with other firms in your region.

**Role Card: Firm B**

**This is private, company information. It is up to you whether to share it with other firms.**

- Your firm is a successful, profit-maximizing company
- AQCC credits received for the upcoming year = 15,000T. These credits are your private property.
- Your current emissions of Yuk = 30,000T per yr. Therefore, you must reduce emissions by 15,000T or obtain additional credits.
- Failure to meet your individual firm emissions goal will result in fines of \$4 per ton and possible closure of your firm.
- Abatement costs: Changing processes and installing new equipment would allow you to reduce emissions at a cost of \$2 per ton of Yuk.

**Starter questions:**

- What is the cost to your firm to meet AQCC level for your firm for the year?
- Since credits can be used in place of clean-up and your cost of clean-up is \$2 per ton, what is the least you'd be willing to sell a 1T credit for? What's the most you'd be willing to pay for a 1T credit?

Take time with your team members to answer these questions and talk about how your firm contributes to regional 45,000T Yuk goal. You may talk with other firms in your region.

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**Role Card: Firm B**

**This is private, company information. It is up to you whether to share it with other firms.**

- Your firm is a successful, profit-maximizing company
- AQCC credits received for the upcoming year = 15,000T. These credits are your private property.
- Your current emissions of Yuk = 30,000T per yr. Therefore, you must reduce emissions by 15,000T or obtain additional credits.
- Failure to meet your individual firm emissions goal will result in fines of \$4 per ton and possible closure of your firm.
- Abatement costs: Changing processes and installing new equipment would allow you to reduce emissions at a cost of \$2 per ton of Yuk.

**Starter questions:**

- What is the cost to your firm to meet AQCC level for your firm for the year?
- Since credits can be used in place of clean-up and your cost of clean-up is \$2 per ton, what is the least you'd be willing to sell a 1T credit for? What's the most you'd be willing to pay for a 1T credit?

Take time with your team members to answer these questions and talk about how your firm contributes to regional 45,000T Yuk goal. You may talk with other firms in your region.



**Role Card: Firm C**

**This is private, company information. It is up to you whether to share it with other firms.**

- Your firm is a successful, profit-maximizing company
- AQCC credits received for the upcoming year = 22,500T. These credits are your private property.
- Your current emissions of Yuk = 45,000T per yr. Therefore, you must reduce emissions by 22,500T or obtain additional credits.
- Failure to meet your individual firm emissions goal will result in fines of \$4 per ton and possible closure of your firm.
- Abatement costs: you have an older firm, and changing processes and installing new equipment would allow you to reduce emissions at a cost of \$3 per ton of Yuk.

**Starter questions:**

- What is the cost to your firm to meet AQCC level for your firm for the year?
- Since credits can be used in place of clean-up and your cost of clean-up is \$3 per ton, what is the least you'd be willing to sell a 1T credit for? What's the most you'd be willing to pay for a 1T credit?

Take time with your team members to answer these questions and talk about how your firm contributes to regional 45,000T Yuk goal. You may talk with other firms in your region.

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**Role Card: Firm C**

**This is private, company information. It is up to you whether to share it with other firms.**

- Your firm is a successful, profit-maximizing company
- AQCC credits received for the upcoming year = 22,500T. These credits are your private property.
- Your current emissions of Yuk = 45,000T per yr. Therefore, you must reduce emissions by 22,500T or obtain additional credits.
- Failure to meet your individual firm emissions goal will result in fines of \$4 per ton and possible closure of your firm.
- Abatement costs: you have an older firm, and changing processes and installing new equipment would allow you to reduce emissions at a cost of \$3 per ton of Yuk.

**Starter questions:**

- What is the cost to your firm to meet AQCC level for your firm for the year?
- Since credits can be used in place of clean-up and your cost of clean-up is \$3 per ton, what is the least you'd be willing to sell a 1T credit for? What's the most you'd be willing to pay for a 1T credit?

Take time with your team members to answer these questions and talk about how your firm contributes to regional 45,000T Yuk goal. You may talk with other firms in your region.



## **A Better Solution**

**Firm A's costs below \$7,500**

**Firm B's costs below \$30,000**

**Firm C's costs below \$67,500**

**Total cost below \$90,000**

## **How to Achieve a Better Solution**

- Firms A and B sell the issued credits for more than their clean-up costs
  - Firm A sells for more than \$1/T
  - Firm B sells for more than \$2/T
- Firm C buys credits for less than their clean-up cost
  - Firm C purchases for less than \$3/T

Price range     \$1.01/T   -   \$2.99/T

**Teacher Guide to Alternative “better” solutions:**

**A better solution at low prices**

**Firms A and B sell the issued credits for 1¢/T more than the abatement costs them.**

|          |                                             |             |                                              |         |
|----------|---------------------------------------------|-------------|----------------------------------------------|---------|
|          |                                             | Costs:      |                                              |         |
| Firm A – | eliminates 15,000 tons                      | \$ 15,000   |                                              |         |
|          | sells 7,500T credits to Firm C for \$1.01/T | - 7,575     |                                              |         |
|          | Cost to Firm A: <b>\$7,425</b>              |             |                                              |         |
| <br>     |                                             |             |                                              |         |
| Firm B – | reduce emissions by 30,000                  | \$60,000    | sells 15,000T credits to Firm C for \$2.01/T | -30,150 |
|          | Cost to Firm B: <b>\$29,850</b>             |             |                                              |         |
| <br>     |                                             |             |                                              |         |
| Firm C   | purchase 7,500T credits from firm A         | \$ 7,575    |                                              |         |
|          | purchase 15,000T credits firm B             | \$ 30,150   |                                              |         |
|          | use owned 25,000T credits                   | <u>\$ 0</u> |                                              |         |
|          | Cost to Firm C: <b>\$37,775</b>             |             |                                              |         |

**Total Cost of 45,000T reduction = \$75,000**

**A better solution at high prices**

|          |                                              |           |                                              |         |
|----------|----------------------------------------------|-----------|----------------------------------------------|---------|
|          |                                              | Costs:    |                                              |         |
| Firm A – | eliminates 15,000 tons                       | \$ 15,000 |                                              |         |
|          | sells 7,500 T credits to Firm C for \$2.99/T | - 22,425  |                                              |         |
|          | Cost to Firm A: <b>+\$7,425</b>              |           |                                              |         |
| <br>     |                                              |           |                                              |         |
| Firm B – | reduce emissions by 30,000                   | \$60,000  | sells 15,000T credits to Firm C for \$2.99/T | -44,850 |
|          | Cost to Firm B: <b>\$15,150</b>              |           |                                              |         |



|        |                                     |             |
|--------|-------------------------------------|-------------|
| Firm C | purchase 7,500T credits from firm A | \$ 22,425   |
|        | purchase 15,000T credits firm B     | \$ 44,850   |
|        | use owned 22,500T credits           | \$ <u>0</u> |
|        | <b>Cost to Firm C: \$67,275</b>     |             |

**Total Cost of 45,000T reduction = \$75,000**

# Accounting Sheet: TEAM A

           BEGINNING BALANCE  
**\$7500** (Amount budgeted to clean up 50% of your YUK emissions)

           **Add** any money earned from sale of emission credits. If none, enter 0.

           **Subtract** any money paid to purchase emission credits from other teams.  
If none, enter 0.

           SUBTOTAL

*Now turn in certificates for your emissions. If you do not have certificates or you do not have enough to cover your emissions, write a check to cover the cost of clean-up.*

           **Subtract** the amount you have to pay to clean up any YUK Emissions for which you do not have credits. If you have credits for all your emissions, enter 0.

           ENDING BALANCE

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# Accounting Sheet: TEAM A

           BEGINNING BALANCE  
**\$7500** (Amount budgeted to clean up 50% of your YUK emissions)

           **Add** any money earned from sale of emission credits. If none, enter 0.

           **Subtract** any money paid to purchase emission credits from other teams.  
If none, enter 0.

           SUBTOTAL

*Now turn in certificates for your emissions. If you do not have certificates or you do not have enough to cover your emissions, write a check to cover the cost of clean-up.*

\_\_\_\_\_ **Subtract** the amount you have to pay to clean up any YUK Emissions for which you do not have credits. If you have credits for all your emissions, enter 0.

\_\_\_\_\_ **ENDING BALANCE**

## Accounting Sheet: TEAM B

\_\_\_\_\_ BEGINNING BALANCE  
**\$30,000** (Amount budgeted to clean up 50% of your YUK emissions)

\_\_\_\_\_ **Add** any money earned from sale of emission credits. If none, enter 0.

\_\_\_\_\_ **Subtract** any money paid to purchase emission credits from other teams.  
 If none, enter 0.

\_\_\_\_\_ SUBTOTAL

*Now turn in certificates for your emissions. If you do not have certificates or you do not have enough to cover your emissions, write a check to cover the cost of clean-up.*

\_\_\_\_\_ **Subtract** the amount you have to pay to clean up any YUK Emissions for which you do not have credits. If you have credits for all your emissions, enter 0.

\_\_\_\_\_ ENDING BALANCE

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## Accounting Sheet: TEAM B

\_\_\_\_\_ BEGINNING BALANCE  
**\$30,000** (Amount budgeted to clean up 50% of your YUK emissions)

\_\_\_\_\_ **Add** any money earned from sale of emission credits. If none, enter 0.

\_\_\_\_\_ **Subtract** any money paid to purchase emission credits from other teams.

If none, enter 0.

\_\_\_\_\_ SUBTOTAL

*Now turn in certificates for your emissions. If you do not have certificates or you do not have enough to cover your emissions, write a check to cover the cost of clean-up.*

\_\_\_\_\_ **Subtract** the amount you have to pay to clean up any YUK Emissions for which you do not have credits. If you have credits for all your emissions, enter 0.

\_\_\_\_\_ ENDING BALANCE

## Accounting Sheet: TEAM C

\_\_\_\_\_ BEGINNING BALANCE  
**\$67,500** (Amount budgeted to clean up 50% of your YUK emissions)

\_\_\_\_\_ **Add** any money earned from sale of emission credits. If none, enter 0.

\_\_\_\_\_ **Subtract** any money paid to purchase emission credits from other teams.  
 If none, enter 0.

\_\_\_\_\_ SUBTOTAL

*Now turn in certificates for your emissions. If you do not have certificates or you do not have enough to cover your emissions, write a check to cover the cost of clean-up.*

\_\_\_\_\_ **Subtract** the amount you have to pay to clean up any YUK Emissions for which you do not have credits. If you have credits for all your emissions, enter 0.

\_\_\_\_\_ ENDING BALANCE

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## Accounting Sheet: TEAM C

\_\_\_\_\_ BEGINNING BALANCE  
**\$67,500** (Amount budgeted to clean up 50% of your YUK emissions)

\_\_\_\_\_ **Add** any money earned from sale of emission credits. If none, enter 0.

\_\_\_\_\_ **Subtract** any money paid to purchase emission credits from other teams.  
 If none, enter 0.

\_\_\_\_\_ SUBTOTAL

*Now turn in certificates for your emissions. If you do not have certificates or you do not have enough to cover your emissions, write a check to cover the cost of clean-up.*

\_\_\_\_\_ **Subtract** the amount you have to pay to clean up any YUK Emissions for which you do not have credits. If you have credits for all your emissions, enter 0.

\_\_\_\_\_ ENDING BALANCE

Date \_\_\_\_\_

Pay to: Company \$ \_\_\_\_\_  
\_\_\_\_\_ / 100 Dollars

Memo: for \_\_\_\_\_ Tons Emissions credits  
Signature \_\_\_\_\_  
Company \_\_\_\_\_

μ76009283 35378 129856μ

Date \_\_\_\_\_

Pay to: Company \$ \_\_\_\_\_  
\_\_\_\_\_ / 100 Dollars

Memo: for \_\_\_\_\_ Tons Emissions credits  
Signature \_\_\_\_\_  
Company \_\_\_\_\_

μ76009283 35378 129856μ

Date \_\_\_\_\_



Pay to: \_\_\_\_\_ \$ \_\_\_\_\_  
\_\_\_\_\_ / 100 Dollars

Memo: for \_\_\_\_\_ Tons Emissions credits

\_\_\_\_\_  
Signature

Company \_\_\_\_\_

μ76009283 35378 129856μ

**EMISSION CREDIT  
CERTIFICATE**

**1000 T**

**This certificate entitles the holder to emit  
1000T Yuk**

**EMISSION CREDIT  
CERTIFICATE**

**1000 T**

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CERTIFICATE**

**1000 T**

**This certificate entitles the holder to emit  
1000T Yuk**

**EMISSION CREDIT  
CERTIFICATE**

**500 T**

**This certificate entitles the holder to emit  
500T Yuk**

**EMISSION CREDIT  
CERTIFICATE**

**500 T**

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