Education in the Global Era: Curriculum design for the Twenty-First Century Learner

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Education in the Global Era: Curriculum design for the Twenty-First Century Learner

Heather Ball

EDCI 590 INDIVIDUAL RESEARCH

April 13, 2009

__________________________________________
Signature of Project Advisor

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Introduction

This project will argue the need for social studies educators to go beyond minimal competency standards to teach skills vital to success in the twenty-first century. Two curriculum frameworks will be reviewed and assessed as viable alternatives to the current methods of “drill and kill” to meet standards and the twenty-first century skills all students should acquire prior to graduation. Samples of curriculum frameworks including the Virginia Standards of Learning and twenty-first century skills will be provided as well as a sample World History II curriculum using the guided inquiry and supported literacy frameworks.

Today, most educators know and believe that there is too much emphasis given to students taking standardized tests and whether students are able to meet minimal competencies. The argument for standardized testing and minimal competency tests were once well documented; but the research now shows that more attention must be paid to a different set of skills that students must acquire if America is going to continue to be competitive in the global era. The research for this project began with reviewing a variety of literature on where education has been and then deciding what really needed to be the focus of our educational programs and in what direction those programs should be going. Interest in this subject was piqued by studying the standards currently taught in history compared to the literature stating what skills are required in today’s world. After a thorough investigation of the Standards of Learning frameworks currently in place in most schools, it became clear that a direct emphasis on the twenty-first century skills within high school history curriculums is clearly lacking; and that if
educators do not purposely incorporate these skills into their classes then a larger and more global achievement gap will be created.

**Literature Review**

**Education: Then and Now**

While the purpose of education has remained virtually unchanged in the sense that it should help develop the knowledge, skills, and character of students, what has changed greatly in education has been through what skills should students acquire this knowledge. During the Colonial Era, America was a mostly an agrarian society and many of the values regarding education come from the “old world.” Education tended to be for the elite, and the wealthy that could afford to pay private tutors or send their children away to school. During this time, most people never traveled too far from their places of birth and so education hinged on local geography, local social organizations, and local world views and religions. No one during this time saw much need for a universal public education as each locality could take care of their own needs as they saw fit. However, some, including Thomas Jefferson, began to change their way of thinking with the adoption of the United States Constitution in 1787. Now, it would become important to have some type of universal education system in order to inform the electorate that would be picking the President of the United States of America every four years. Suddenly, in addition to the basic reading, writing, and mathematics instruction of most agrarian societies there was now also a call for civics instruction. Jefferson even began to advocate for the need for a public school system; but this would not fully come to fruition until the late nineteenth and early twentieth centuries. (Jewett, 1996)

The Industrial Era of the late 1800s brought with it another wave of educational reform. Society had now radically shifted from an agrarian society to an industrial society. More people
had moved to cities to work in factories in both skilled and unskilled positions. During this period in history, labor became much simpler through the specialization of labor and most factory workers only had to perform one task. However, human labor still was very important and valued in this society and so people fought for reforms to make sure that education was providing a well-trained, skilled labor force. To try to combat the ills that industrialization had brought to American society, reformers sought compulsory attendance laws and public education was finally made a reality. Children were now required to attend school until the age of twelve. In later years, the age would be increased to eighteen and a high school education would become mandatory. (Ryan & Cooper, 1995)

In the early 1900s, America began to shift in its thinking on education once again. With the cognitive revolution that stated that “learning was a complex act of meaning making,” (Lévesque, 2008, p. 10) and John Dewey coming on the scene, individuality began once again to be embraced and now rather than turning out good little factory workers, it became necessary for educators to take a more constructivist approach to instruction. No longer was the way of having students sit in classrooms and listening to a lecture considered acceptable or even an appropriate education. Constructivism, or learning by doing, became the new buzzwords in education and students’ ideas and individuality were to be valued and now students were to learn by doing. (Kuhlthau, Maniotes, and Caspari, 2007)

Then, in 1957, during the Cold War, the Soviets launched Sputnik; a new era in education reform was underway: Standards Based Education. Education had now entered an era where emphasis was on accountability. Standardized testing became the routine with the Scholastic Achievement Test, Stanford 9, and ultimately the adoption of the Standards of Learning testing in the mid 1990’s. Many attribute this increased emphasis on testing to a “growing fear shared
by many in this country that if we do not turn out better educated and more highly qualified students, especially in math and science the more and more of our best jobs will go to better prepared children in developing countries.” (Wagner, 2008) The thought was that these tests would demonstrate and show educators what needs to be done to make sure that Americans are competitive with the rest of the world, especially in the areas of math and science. However, the case may be that while America has put so much emphasis on creating and testing the current standards, the government and educators have failed to realize that globalization has become a dominant influence on education.

The era of globalization has made the world much smaller. Unlike any other period in history, where problems were usually on a more local scale, now issues are usually global in scope as in global terrorism, HIV/AIDS, and global warming. Nations will have to work interdependently to solve these and other issues that arise. Innovations in technology including the Internet have made communication instantaneous and further help connect people to a larger world. This has led to an increase in multinational corporations. Students will need a whole array of skills that are often not taught in classrooms today to compete in what will become their world. In order to meet the needs of an increasingly complex global society that the American youth will inherit, it is necessary once again to reform education to meet the skill set that will be required. (Stromquist and Monkman, 2000).

**New Skills for the Twenty-First Century**

America must take a hard look at the rapid change that is going on throughout the world. “Globalization is changing the world economy from industry to knowledge.” (Suarez-Orozco, 2004) The reality of this new world economy is that attracting foreign investments requires high productivity as well as the ability to use new technology in order to create and produce higher-
value goods and services. (Suarez-Orozco and Qin-Hillard, 2004) Furthermore, in this era of globalization students need to acquire knowledge and skills that reach far beyond their own country’s borders to combat problems of global terrorism, global warming, and international migration. The increase in technology, especially the Internet and other communicative devices may be the largest contributor to the creation of this era of globalization and the need for changes to be made to our system of schooling. Children are growing up in a whole new era of vocabulary associated with the advent of the Internet as well as a language subculture provided by the evolution of texting. If education does not start paying attention to teaching students how to use these new languages as well as how to evaluate the information contained within them, then the global achievement gap that now exists may become even wider. (Wagner, 2008)

In this new Global era and information age, students are bombarded with information from a variety of sources including, television, Internet, Radio, family, and friends including international pen pals through WebPages like MySpace and Facebook. Schools need to address skills that these students need to process and evaluate all of this information in order for them to compete in this new world. Schools have been concerned with teaching to standardized tests in order to meet the Adequate Yearly Progress requirements under No Child Left Behind, which may have caused educators to ignore the fact that many students are lacking the skills they need to be successful in the twenty-first century. In this global era, no longer is isolationism and merely amassing content knowledge acceptable. In order to be successful, students are going to need instruction in four specific skill sets: critical thinking and problem solving, communication and collaboration, creativity and innovation, and flexibility as well as technology skills. Schools are going to be the places that need to teach these skills. No longer can the emphasis of education be on the outcomes alone, educators must now focus on the process. Teaching critical
literacy will be the underlying principle for effectively educating today’s youth in each of these skill sets necessary for functioning in tomorrow’s world. (Partnership for 21st Century Skills, 2006)

Paramount to teaching critical literacy, educators will need to instruct students in how to develop critical thinking and problem solving skills. Too often educators, due to the constraints of No Child Left Behind, have been forced to focus on outcomes rather than the process of learning. More often than not, the problems found in the world today are bringing up more questions than solutions. Students are used to a teacher telling them what they need to know and answering questions that have a right answer. However, the world of work is typically defined today by the task or problem that needs to be solved and the end goal that needs to be accomplished. (Wagner, 2008) Teaching students critical thinking skills will help them compete in this new world by giving them the ability first of all to ask good questions. Critical Thinking skills will also be very valuable in helping students develop the ability to evaluate the many sources of information they receive everyday through various technological resources.

Another skill that students will need to develop in order to be successful in the twenty-first century is the ability to communicate and collaborate effectively. To illustrate this point, a recent United Nations report estimated that 175 million people are now living in countries other than where they were born. (Suarez-Orozco and Qin-Hillard, 2004) Schools need to help students understand a wide variety of cultural differences and help them overcome traditional communication barriers. Businesses, including multinational corporations that many young people will work for, need to learn to “work effectively with others and respect differences — not just in our own country but around the world.” (Wagner, 28) Increasingly, students will be
working on projects with people from other countries and so need to be taught valuable skills of how to communicate effectively by email or conference calls.

Creativity and innovation must be incorporated as part of regular school activities. As mentioned before, with the advent of technology the world is changing at a very rapid pace and students who can think quickly on their feet and come up with creative solutions will be the ones that find the most success. The fastest growing jobs in the country and in the world require unconventional thinking and questioning the status quo. Students who have these skills will be able to create new jobs for themselves and others as well as embrace taking risks and responsibilities. (Partnership for 21st Century Skills, 2008)

In order to help children succeed in today’s world, we need to help them understand that there is not always one right answer. Current trends in education with the focus on standards and testing are teaching students the exact opposite which will be detrimental to them in the future. This goes hand in hand with the need for creativity and innovation in the curriculum. Students need to be praised for taking risks and trying new things within the various disciplines and for seeking out alternative answers or even alternative questions. In this era of globalization, there are very few exact answers and if there is a right answer, it is only the correct answer for a nanosecond. (Wagner, 2008) Students need to be taught to think on their feet and adapt their thinking to new or different interpretations of issues or problems so that they can gain deeper understanding and find viable solutions.

Last, but definitely not least, schools have to incorporate lessons for media literacy into the curriculum. Today, much of the technology used in the classrooms is through PowerPoint presentations directed by the teacher. Students need to be the ones using the technology and have a very knowledgeable grasp of how to locate, access, and evaluate all types of information
that come at them through the Internet. Students need to be aware of new vocabulary that is essential to understanding how to navigate the web, such as, URL, hyperlink, homepage, and blog. Students also need to be taught how to search for information on the Internet and evaluate sources for authenticity and accuracy. Since information comes at students so fast, for instance, a Google search can turn up as many as a few million applicable sites; students need to be taught ways to filter through this information and process it quickly. This all feeds in to the new media literacy that is necessary to understand in order to function effectively in this new global and information era. (Kuhlthau, et al, 2007)

Meeting the standards and global skills of the Twenty-First century in the Social Studies Curriculum through Guided Inquiry and Supported Literacy

Incorporating the global skills required in the twenty-first century and still addressing the content of the standards will be no easy task for social studies educators; but it is a necessity if these educators hope to prepare students for the world outside the classroom. First, social studies educators must be organized into a professional learning community and ultimately the entire school will need to be designed into a professional learning community in order to create effective curriculum to meet the needs of the learner. The social studies teachers, the librarian and the instructional technology resource teacher all need to be included in this professional learning community. The latter two are to be included so they can help incorporate the new media literacy that is required by the global standards. Second, the professional learning community will have the challenging task of redesigning current curriculum maps to incorporate the new global standards mentioned above while still addressing the content standards already in place. Incorporating the ideas of guided inquiry and supported literacy will help educators in this endeavor. (Hanson, 2006)
As social studies educators embark on this monumental task, they must first realize what it means to think historically. “To think historically, students must engage in analytic skills allowing them to study and question historic accounts they encounter and ultimately construct their own historical arguments and interpretations using agreed upon procedures, concepts, and standards of the discipline.” (Levesque, 2008) Guided inquiry and supported literacy will allow social studies educators to address the content of the standards while also allowing them to teach students the global skills that will be required of them in future jobs. Both of these frameworks for curriculum focus on asking or formulating essential open ended questions, allowing students to work in collaborative groups, and creatively work to gather information to help them in their quest to find an answer to questions that are of relevance to them. (Morocco, Aguilar, and Bershad, 2008)

In the guided inquiry framework, social studies educators will start their classes with the K-W-L framework for learning by assessing what students already know, what they want to know, and what did they learn. However, this will be taken a step further in getting students to also answer the questions of how do I find out, how do I share what I find out, and what will I do next time? This forces students to think critically and analyze the facts and ideas they encounter. In other words, guided inquiry focuses on teaching students to find information, to acquire a deep understanding of that information, and to connect that information to something they already know. The professional learning community of the social studies teachers, librarian, and instructional technology resource teacher lead students through this process of building new knowledge and sharing it with others. Finally, the team promotes even higher order thinking by having students transfer that knowledge to a new situation. In guided inquiry, students are involved in every aspect of the process from selecting what they want to learn about a topic; to
deciding what perspective they will take, to choosing how they will present their final product. Guided inquiry incorporates all of the global skills mentioned above as well as helps teach students how to learn in an information rich environment. (Kuhlthau, et al, 2007)

In supported literacy, the student will also acquire valuable critical thinking skills. Students will learn to read for understanding, write to think, hold accountable talk, and obtain digital and media fluency. In this type of curriculum framework, students build a conceptual understanding by thinking critically about what they read and then creatively thinking of ways to connect those concepts. Students work collaboratively with each other to obtain meaning and they learn to listen and communicate with others in a variety of different ways. Unlike guided inquiry, in supported literacy, the teacher retains more control over the lesson by identifying essential broad based questions, resources that can or will be used for teaching and learning and identifying outcomes and assessments. To do this the professional learning community must identify meaning-making cycles developed around an essential question that is posed. The meaning-making cycle consists of five parts. First, teachers must engage students in a content area topic. Then students will respond individually to resources related to the question. Then students will collaborate with other students to elaborate or deepen their responses. Next, students will revisit their understanding by reflecting on their findings. Finally, students have to represent their well-formed understandings in ways that communicate to others. Again, supported literacy addresses the new global skills required of twenty-first century learners. (Morocco, et al, 2008)

Through these two frameworks, social studies educators will be able to meet the increasing and complex needs of all their students. Supported literacy allows teachers to make sure the content of the standards is being addressed but also allows for deep reading and critical
thinking through open-ended essential questions. By utilizing guided inquiry in the social studies curriculum, teachers will further develop students’ critical thinking skills and promote collaboration, communication, as well as skills of flexibility. Guided inquiry addresses the flexibility piece very well because teachers can allow flexibility in the materials students will use to find information. There is also flexibility in the final product students may choose and how to best adapt the material for presentation to others. Both of these frameworks address the global skill of media and technology literacy that is the cornerstone of the twenty-first century and the information age.

**Methodology**

**Research Questions**

1. What are the skills students need to possess to be successful in the twenty-first century?

2. How can educators address the twenty-first century skills through the social studies content?

3. What do social studies lesson plans look like that incorporate the guided inquiry and supported literacy frameworks?

The first part of the project will be an extensive literature review on twenty-first century curriculum and the need for it in classrooms today. The review of the literature will include a discussion of education reform in the past and present to assess what changes need to be made to curriculum design to meet the needs of the twenty-first century student. The literature review will also outline the skills a student of the twenty-first century will need to possess in order to be successful in a global society. Finally, the literature review will offer a discussion on two viable curriculum frameworks that can be used within social studies classes in order to develop students’ knowledge and skills in the twenty-first century. Second, a social studies curriculum framework, specifically World History II, and a sample unit plan that incorporates the principles
of guided inquiry and supported literacy as the foundation to developing students’ twenty-first century skills while still meeting necessary curriculum requirements set forth by state standards will be included. Key resources that will be used to develop the framework and a sample unit plan within this model for World History II will include The Virginia Standards of Learning Curriculum Framework, Guided Inquiry: Learning in the Twenty-First Century, and Supported Literacy for Adolescents: Transforming Teaching and Content Learning for the 21st Century, and World History published by Prentice Hall. Unit plans will be similar in format in that all will contain the essential questions provided by the SOL framework as well as a unique broad open-ended question to develop guided inquiry and supported literacy assignments. Each unit plan will consist of activities involving technology, collaboration, critical thinking, and a creativity component to address the skills that need to be developed in the twenty-first century. To address the barriers to this type of curriculum change, first a meeting will be held with the school faculty to educate them on the need to teach the twenty-first skills and that they can be included into the current standards already required to be taught. Next, another professional development workshop will be held for social studies educators to address supported literacy and guided inquiry. Two PowerPoint presentations will be developed to help facilitate these professional development workshops. The first presentation will include an outline for the school administration and educators regarding the need to develop twenty-first century skills as well as a plan for implementing this type of systemic change within the curriculum. The PowerPoint will include the roles of various individuals in the school building and their effect on the process of implementation. The second PowerPoint will specifically address the models of guided inquiry and supported literacy and will provide some models of these frameworks to social studies educators to help them as they begin to incorporate these strategies into their unit plans.
The instructional technology resource teacher and the librarian will be invited to these workshops as they will be vital assets in helping to develop the framework and to help teachers address twenty-first century skills. Finally, social studies educators will be given common planning time within the school day to develop their curriculum maps, pacing guides, and lesson plans. To evaluate the effectiveness of the implementation of this curriculum model, at the end of each unit teachers will collaborate and evaluate student achievement data (projects, test scores, in class assignments) to determine effectiveness of a particular unit and address any changes that need to be made. After students complete the Virginia Standards of Learning Tests, educators will look at the scores and reports by question to determine where any shortcomings may be and change their instruction accordingly.

Conclusions

Barriers to implementing the curriculum changes needed in order to support the twenty-first century learner.

A major barrier that exists to making these types of curriculum changes is time. However, before discussing the barrier of time, the question of administrative support for implementing this type of change must be present and unfortunately, as education is still driven by testing the standards, the mindset must be changed from the top down so that teachers will not have to fear repercussions. Teachers must be encouraged to take risks that may in the beginning produce lower test results but in the long run will ultimately pay huge dividends for all students regardless of cultural background or ability. This will be due to educators teaching students the vital skills they need to function in their global environment.

As for time, once administrative support is in place, common planning time needs to be given to social studies educators to redesign current curriculum maps to weave the skills of the
twenty-first century into the content strands. Once that has been accomplished, which is no small task; the social studies educators can begin designing broad open-ended essential questions to have students address through content. The next piece involving a big chunk of time will be along with the librarian to identify resources that can be used to help students address these questions. During this process, money may need to be used to purchase additional resources, which could pose another barrier.

Finally, the biggest barrier to implementing these curriculum changes will be if there is not buy-in from the teachers from the beginning. The educators will ultimately drive these curriculum changes as they are the content experts and can address both the standards and the global skills of the twenty-first century. Educators will need to see that this is not just another quick fix but a systemic change that will take time to develop and implement but will benefit both student achievement and performance on assessments.
References


Appendix A—Professional Development—Why Teach Twenty-First Century Skills and How to Incorporate them into the Current Standards

Education for a Global Era
Helping Students Prepare for their World in the twenty-first century

Our Student’s World

- Advent of technology is making the world smaller
- 175 million jobs are currently outsourced to other countries
- Problems will have to be solved interdependently by nations—terrorism, global warming, and HIV/AIDS
- Most companies are now multinational corporations and our student will be working for them
Skills Our Students Need

- Creative Problem Solving
- Critical Thinking
- Technology
- Collaboration/Communication

Why We Should Implement Open Ended Questions into our curriculum?

- Allows for a wide range of responses
- Individuals may approach problems however they choose
- Fosters Higher Level Thinking skills
- Give Teachers insight as to how students think and what they know
Using Open Ended Questioning to include Twenty-First Century Skills into the Current Standards

- At the beginning of the lesson to get a student thinking about a unit or topic
- During a lesson to help them achieve deeper understanding or explore a topic that is relevant to them
- At the end of a lesson or during a project where students have to answer a “big question” and back it up with evidence
- By using guided inquiry and supported literacy strategies when creating lesson plans

Great Open Ended Question Starters to Use with Supported Literacy or Guided Inquiry

- To what extent....
- How are ______ and ______ alike? Different?
- What would happen if...?
- What is your opinion of...?
- What choice would you have made...?
- Predict the outcome if...?
- How would you explain the reason for...?
- Discuss the pros and cons of...?
Personnel Roles

- **Principal**—oversee overall implementation of design, provide teachers with professional development training on design and assessment of open ended questioning, provide training to assistant principals as to what they should look for in, observations regarding open ended questions and student responses, communication to parents/business partners/community about the program
- **Assistant Principals**—implementation of plan, use of classroom walkthroughs to assure that teachers are using the open-ended questioning techniques in their classes
- **Department Heads**—establish meeting times within departments to address curriculum and develop open ended questions that address the overall standards
- **Classroom teachers**—implementation of design in their classrooms, collaborate with members of their department to develop open ended questions that address the standards, use open ended questioning techniques in their classrooms daily

Timeline for Implementation

- **April of 2009**—Faculty In-service on Designs of Open Ended Questioning
- **May of 2009**—Curricular experts to share within departments how to develop and assess effective open ended questions
- **Summer 2009**—Professional Development opt-out and possible stipend for teachers to work on developing open ended questions tied to standards across the curriculum
- **Early August**—Administrative team professional development on how to observe, assess, and support teachers implementing this curriculum design in their classes
- **Fall of 2009**—Begin Implementation of Open Ended Questioning as way of helping students achieve skills needed to be successful in the Twenty-first century
- **Quarterly**—Using results of benchmark tests, observations, and examples of student work evaluate effectiveness of open ended questions in meeting the standards and development of skills for the twenty-first century
- **January and May 2010**—See if student achievement on SOL’s has increased as a result of implementation of curriculum design and make any changes necessary

Next step: determine how we can further meet the needs of students growing up in the twenty-first century
Appendix B—Professional Development on Guided Inquiry and Supported Literacy for Social Studies Teachers

What we as Educators already know about student learning

- Children learn by being actively engaged in and reflecting on an experience
- Children learn by building on what they already know
- Children develop higher order thinking through guidance at critical points in the learning process
- Children have different ways and modes of learning
- Children learn through social interaction with others
Six Components of Supported Literacy

- Vision for Adolescent Learning—Students engage in critical inquiry in traditional as well as global content areas
- Essential Questions—broad, open ended questions that allow for student investigation
- Meaning-Making Cycles—students are engaged in topic, they respond individually to question, elaborate on their responses by collaborating with others, revisit their understanding by evaluating their findings, and represent understandings in ways that communicate their knowledge to others
- Includes a variety of resources—books, texts, articles, videos, speeches, literature, diaries, etc.
- Students develop twenty-first century competencies
- Assessment of Student Understanding

What Does Supported Literacy Look Like?

Engage
Pose Question
Build Understanding
Revisit
Report Group Results
Represent
Elaborate
Discuss
Answer in Writing
Review
List Questions
What is Guided Inquiry

- Inquiry is an approach to learning whereby students find and use a variety of sources to increase their understanding of a problem, topic, or issue.
- Inquiry promotes investigation, exploration, research, and study, not simply getting to the right answer.
- Inquiry is about helping students construct new knowledge and sharing it with others.
- Connects the curriculum to the student's world.
- Prepares students for lifelong learning.

A Model for Guided Inquiry

What do I Know

What do I want to know?

How do I Find Out?

What did I learn?

How do I use what I learned?

What will I do next time?
Why should we incorporate these two models into our lessons?

- Schools must prepare children for living and working in an information-rich technological environment
- Twenty-first Century skills and content standards can be taught simultaneously
- Students can construct their own meaning
- Students gain independence in research and learning
- Students will learn skills and strategies that are transferrable to new situations
- Helps to establish a community of learners and encourages collaboration

Using the Standards of Learning Frameworks—teachers will break into curricular groups and develop broad, open ended focus questions for each of their units to help facilitate the development of Supported Literacy and Guided Inquiry Lessons in the future.
In subsequent monthly department meetings, social studies teachers will meet with their curricular groups to develop their unit lesson plans using Supported Literacy and guided inquiry models as a basis for planning instruction.
## Appendix C—World History II Curriculum Framework

<table>
<thead>
<tr>
<th>Unit Title</th>
<th>Days</th>
<th>Unit Focus Question</th>
<th>SOL Essential Questions</th>
</tr>
</thead>
</table>
| World Religions, Trade Routes, & Renaissance   | 6    | 1. To what extent has each of these five major religions impacted the modern world?  
2. To what extent was trade the key to prosperity, status, and power in the world in 1500 AD?  
3. In what ways did the Renaissance move Europe away from the medieval and toward the modern? | 1. On a world map, where were some of the major states and empires in 1500?  
2. What are some characteristics of 5 major religions?  
3. Where are the followers of 5 major religions concentrated?  
4. What were the regional trading patterns around 1500?  
5. Why were regional trading patterns important?  
6. What technological and scientific advancements had been made and exchanged by 1500?  
7. What were the artistic, literary, and intellectual ideas of the Renaissance? |
| Protestant Reformation                          | 6    | 1. How did the conflict between Catholicism and Protestantism lead to the growth of power for nation states and other political figures in Europe? | 1. What were the problems and issues that provoked religious reforms in Western Christianity?  
2. What were the beliefs of Martin Luther, John Calvin, and Henry VIII?  
3. What were the major economic, political, and theological issues involved in the Reformation?  
4. What were some of the changing cultural values, traditions, and philosophies during the Reformation?  
5. What was the role of the printing press in the spread of new ideas? |
| Global Trade & Age of Discovery                 | 5    | 1. How did competition among European countries affect overseas exploration and conquest?  
2. How did European colonization shape global societies and economies?  
3. Why were East Asians generally resistant to European trade and ideas? | 1. Where was the Ottoman Empire and how did it expand?  
2. What were the contributions of the Mughal emperors of India?  
3. How did the Mughal Empire trade with European nations?  
4. How did the Chinese and Japanese attempt to limit the influence of foreign merchants  
5. How did Africa become involved in foreign trade?  
6. Why were Europeans interested in discovering new lands and markets?  
7. Who were some important explorers?  
8. How did the expansion of European empires into the Americas, Africa, and Asia affect the religion in those areas?  
9. What was the effect of European migration and settlement on the Americas, Africa, and Asia?  
10. What was the impact of the Columbian Exchange between European and indigenous cultures?  
11. What was the triangular trade?  
12. What was the impact of precious metal exports from the Americas?  
13. What were the roles of the Commercial Revolution and mercantilism in the growth of European nations? |
| Scientific Revolution & The Enlightenment       | 5    | 1. How did the Scientific Revolution and the Enlightenment completely break away from Classical traditions?  
2. To what extent can the Scientific Revolution and the Enlightenment be considered global movements? | 1. What were some new scientific theories and discoveries?  
2. What were some of the effects of these new theories?  
3. Who were some Enlightenment thinkers, and what were their ideas?  
4. How did philosophers of the Enlightenment influence thinking on political issues?  
5. How did the Enlightenment promote revolution in the American colonies?  
6. Who were some of the artists, philosophers, and writers of the time period?  
7. What improved technologies and institutions were important to European economies? |
| Absolutism, English Revolutions, French Revolution, & Napoleon Bonaparte | 10   | 1. What were the distinguishing features of political absolutism, and what and where were its greatest successes and failures?  
2. How did the British Parliament assert its rights against royal claims to absolute power in the 1600’s?  
3. What impact did Enlightenment ideas have on the French Revolution?  
4. What were the causes and effects of the French Revolution and how did the revolution lead to the Napoleonic era? | 1. Who were the absolute monarchs?  
2. What effect did the absolute monarchs have on their countries?  
3. How did the English Civil war and the Glorious Revolution promote the development of the rights of Englishmen?  
4. How did Enlightenment ideas contribute to causing the French Revolution?  
5. What was the legacy of Napoleon?  
6. What was the significance of the Congress of Vienna?  
7. How did the French and American Revolutions influence Latin American independence movements? |
| Industrial Revolution & Unification of Italy & Germany | 8    | 1. What events helped bring about the Industrial Revolution?  
2. Describe how the Industrial Revolution impacted each of the following: size of population, cities, working and living conditions, and women and children.  
3. Explain the major differences between Adam Smith’s free market ideas and Karl Marx’s socialist ideas.  
4. How did Otto von Bismarck lead the drive for German unity?  
5. How did influential leaders help to create a unified Italy | 1. Why did the Industrial revolution originate in England?  
2. Why did the spread of industrialism in Europe and the United Stated accelerate colonialism and imperialism?  
3. How did the Industrial Revolution produce changes in culture and society?  
4. How did the Industrial Revolution impact the lives of women, children, and the family?  
5. How did the Industrial Revolution affect slavery?
<table>
<thead>
<tr>
<th>Topic</th>
<th>Questions</th>
<th>Questions</th>
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<tbody>
<tr>
<td>World War I</td>
<td>1. What caused World War I and the Russian Revolution and what effect did they have on world events?  2. What factors influenced the peace treaties that ended World War I, and how did people react to the treaties?  3. How did two revolutions and a civil war bring about Communist control of Russia?</td>
<td>1. What were factors that produced World War I?  2. What were the major events of World War I?  3. Who were the major leaders?  4. What were the outcomes and global effects of World War I?  5. What were the terms of the Treaty of Versailles?  6. Why did Russia erupt in revolution while fighting in World War I?  7. How did communism rise in Russia?</td>
</tr>
<tr>
<td>Europe Between the Wars</td>
<td>1. What political and economic challenges did the Western world face in the 1920’s and 1930’s, and how did various countries react to these changes?</td>
<td>1. What was the League of Nations and why did it fail?  2. Why was the mandate system created?  3. Why did the world experience depression in the 1930’s?  4. What political changes resulted from the worldwide depression?  5. Why did dictatorial governments emerge in Germany, Italy, Japan, and the U.S.S.R. after World War I?  6. How did these regimes affect the world following World War I?</td>
</tr>
<tr>
<td>World War II</td>
<td>1. How did aggressive world powers emerge, and what did it take to defeat them in World War II?  2. What lessons does the Holocaust have for people today?</td>
<td>1. What were the causes of World War II?  2. What were the major events of World War II?  3. Who were the major leaders of World War II?  4. Why did the Holocaust occur?  5. What are other examples of genocides in the twentieth century?  6. What were the outcomes of World War II?  7. What were the war crimes trials?  8. How did the Allies promote reconstruction of the defeated powers?  9. What were the international cooperative organizations created after World War II?</td>
</tr>
<tr>
<td>Cold War, Independence Movements, Ethnic &amp; Religious Conflicts, Contemporary Politics</td>
<td>1. How did the Cold War develop, how did it shape political and economic life in individual nations, and how did it end?  2. How did Gandhi and the Congress Party work for independence in India?  3. What were the consequences of independence in South Asia for the region and for the world?  4. What challenges did new African nations face?  5. Why have deadly conflicts plagued some regions of the world?  6. What challenges have nations of the developing world faced, and what steps have they taken to meet those challenges?  7. What are the major issues facing the world today?  8. How is globalization affecting economies and societies around the world?</td>
<td>1. What events led to the Cold War?  2. What was the impact of nuclear weapons?  3. What were causes and consequences of the collapse of the Soviet Union?  4. How did the Cold War influence in Eastern Asia after World War II?  5. What was the policy of containment?  6. Who was the leader of the Indian Independence movement and what tactics did he use?  7. What were the outcomes of the Indian Independence Movement?  8. Why did independence movements in Africa gain success after World War II?  9. What was Kenyatta’s leadership role in Kenya?  10. What were the results of the United Nations’ decision to end the mandate system in terms of states created and their subsequent problems?  11. What are some challenges faced by the contemporary world?  12. What new technologies have created opportunities and challenges?  13. How does the developing world compare with the developed world in terms of economic, social, and population characteristics?  14. What impact are economic development and rapid population growth having on the environment?  15. What are the links between economic development and political freedom?  16. How is economic interdependence changing the world?</td>
</tr>
</tbody>
</table>
Appendix D—Sample Unit Plan for Scientific Revolution and The Enlightenment

Unit 4--Lesson Plans
Topic: Scientific Revolution and the Enlightenment
Objective: The student will be able to describe the Scientific Revolution and its effects. The Student will be able to explain the political, religious, and social ideas of the Enlightenment and the ways in which they influenced the founders of the United States.

Unit Questions:
1. How did the Scientific Revolution and the Enlightenment completely break away from Classical traditions?
2. To what extent can the Scientific Revolution and the Enlightenment be considered global movements?

Essential Questions from SOL:
1. What were some new scientific theories and discoveries?
2. What were some of the effects of these discoveries?
3. Who were the Enlightenment Thinkers and what were their ideas?
4. How did philosophers of the Enlightenment influence thinking on political issues?
5. How did the Enlightenment promote revolution in the American Colonies?

Materials:
1. The Royal Academy and its Protectors picture—Sebastien Le Clerc—picture
2. PowerPoints on Scientific Revolution and Enlightenment—SOL Info
3. Quizzes—Scientific Revolution and Enlightenment
4. Fill-ins on Scientific Revolution and Enlightenment—SOL info
5. Readings on Scientific Revolution and Enlightenment—Supported Literacy
6. Project Hand out on Scientific Revolution and Enlightenment—Guided Inquiry
7. Q-Sheet—study guide for SOLs and also promotes supported literacy
8. Unit Test Scientific Revolution and Enlightenment

Time—6 days
Procedure:
Day 1: Engagement Activity: Analyze Royal Academy picture. Students
identify as many pieces of scientific equipment they can find in the engraving. With a partner, answer the following: What do the equipment and other paraphernalia reveal about the scientific interests and methodology of the academicians?

Notes and PowerPoint discussion on Scientific Revolution
Reading—Scientific Revolution and journal activity—Supported Literacy
Q-Sheet—Scientific Revolution
Assign Project and students sign up—Guided Inquiry

Day 2: Quiz—Scientific Revolution
Notes and PowerPoint Discussion—Enlightenment Thinkers
Reading—Enlightenment—Supported Literacy
Library and ITRT discuss with students fundamentals of researching and evaluating resources and fundamentals of effective PowerPoint design

Day 3: Quiz—Enlightenment Thinkers
Notes and PowerPoint Discussion on Effects of the Enlightenment
Q-Sheet—Enlightenment
Go to library to research projects

Day 4: Quiz—Effects of the Enlightenment
Go to library/lab to research and work on projects

Day 5: Unit Test—Scientific Revolution and Enlightenment
Library/lab to work and finish up projects

Day 6: Present Projects to class
WHAT IS THE SCIENTIFIC REVOLUTION?

The Scientific Revolution began in ______________________________. It is a period of time when people began to view ________________________________ in a new way and peoples' knowledge of __________________ was greatly expanded. There was an increased emphasis on __________________________ & the systematic ______________________________ of __________________________. It was during this time that the ________________________________ was formulated.

Define: SCIENTIFIC METHOD—

PIONEERS OF THE SCIENTIFIC REVOLUTION

Nicolaus Copernicus—
Heliocentric Theory:

Ptolemaic System:

Geocentric Theory:

Johannes Kepler—

Galileo Galilei—

Sir Isaac Newton—

Define: UNIVERSAL LAW OF GRAVITATION—

William Harvey—
THE SCIENTIFIC REVOLUTION

• Background to the Revolution

Medieval scientists were known as "natural philosophers." They did not make observations of the natural world. They relied on a few ancient philosophers, especially Aristotle, for their scientific knowledge. In the fifteenth and sixteenth centuries, natural philosophers began to give up their old views and develop new ones. Renaissance humanists had learned Greek and Latin. They were able to read works by Ptolemy, Archimedes, and Plato. These writings made it obvious that some ancient thinkers disagreed with Aristotle. At the same time, the invention of new instruments, such as the telescope and microscope, made new scientific discoveries possible. The printing press helped spread new ideas quickly and easily.

Mathematics played an important role in the scientific achievements of the sixteenth and seventeenth centuries. Nicholas Copernicus, Johannes Kepler, Galileo Galilei, and Isaac Newton were all great mathematicians who believed that the secrets of nature were written in the language of mathematics. After studying the ideas of the ancient mathematicians, they sometimes rejected these ideas. They developed new theories that became the foundation of the Scientific Revolution.

Background to the Revolution

1. What did natural philosophers rely on for scientific knowledge?
2. How were Renaissance philosophers able to read works by Ptolemy, Archimedes, & Plato?
3. How did Copernicus, Kepler, Galileo, & Newton expect to learn the secrets of nature?

• A Revolution in Astronomy

Discoveries in astronomy were an important part of the Scientific Revolution. These discoveries changed how Westerners viewed the universe. During the Middle Ages, philosophers had created a model of the universe known as the Ptolemaic system. Ptolemy was the greatest astronomer of antiquity. He lived during the second century A.D. It was from his ideas and those of Aristotle that philosophers had built the Ptolemaic system. This system is called geocentric because it places Earth at the center of the universe. According to this system, the universe is a series of concentric spheres (spheres one inside the other). Earth is fixed, or motionless, at the center of these spheres. The rotation of these spheres makes the heavenly bodies rotate around Earth.

In 1543, Nicholas Copernicus published his famous book, On the Revolutions of the Heavenly Spheres. Copernicus believed in a heliocentric, or sun-centered, model of the universe. He believed that the Sun, not Earth, was at the center of the universe. The planets, including Earth, revolved around the Sun. Another mathematician, Johannes Kepler, used detailed astronomical data to create laws of planetary motion. His observations confirmed that the Sun was at the center of the universe. He also discovered that the orbits of the planets around the Sun were not circular, as Copernicus had thought. Instead, the orbits were elliptical (egg-shaped).
Another mathematician, Galileo Galilei, was the first European to make regular observations of the heavens with a telescope. He discovered mountains on the Moon, four moons revolving around Jupiter, and sunspots. His observations indicated that heavenly bodies were not pure orbs of light, but were composed of material substance like Earth. After Galileo published his discoveries in *The Starry Messenger* in 1610, the Catholic Church ordered him to abandon the Copernican system. The new system threatened the Church’s view of the universe and seemed to contradict the Bible. In spite of the Church’s position, by the 1620s and 1640s, most astronomers had come to accept the heliocentric model. However, the problem of explaining motion in the universe had not been solved.

Isaac Newton is considered the greatest genius of the Scientific Revolution. His major work, *Mathematical Principles of Natural Philosophy*, is also known as *Principia* (the first word of its Latin title). In the *Principia*, Newton defined the three laws of motion that govern both the planetary bodies and objects on Earth. The universal law of gravitation explains why the planetary bodies do not go off in straight lines but continue in elliptical orbits around the Sun. The law states that every object in the universe is attracted to every other object by a force called gravity. Newton's laws created a new picture of the universe. It was now seen as a huge machine that worked according to natural laws.

**A Revolution in Astronomy**

4. Why is the Ptolemaic system considered to be “geocentric”?
5. What heavenly body did Copernicus believe was at the center of the universe?
6. What is this theory called?
7. What law did Kepler find in Copernicus’ theory?
8. Which scientist was the first to regularly observe the skies with a telescope?
9. What group had issues with Galileo’s discoveries?
10. Name TWO reasons why this group was upset.
11. Who explained the law that states all objects in the universe are attracted to each other by gravity?

**Breakthroughs in Medicine and Chemistry**

A revolution in medicine also began in the sixteenth century. In 1543, Andreas Vesalius wrote *On the Fabric of the Human Body*. In this book, he discussed what he had found when dissecting human bodies. He presented a careful and accurate examination of human organs and the general structure of the human body. In 1628, William Harvey published *On the Motion of the Heart and Blood*. His work was based on close observations and experiments. Harvey showed that the heart was the beginning point for the circulation of blood in the body. He also proved that the same blood flowed in both veins and arteries and that it makes a complete circuit as it passes through the body. These observations disproved many of the theories of Galen, a second century Greek physician. His theories had dominated medicine in the Middle Ages.

The science of chemistry also arose in the seventeenth and eighteenth centuries. Robert Boyle was one of the first scientists to conduct controlled experiments. His work on the properties of gas led to Boyle’s Law. This law states that the volume of a gas varies with the pressure exerted on it. In the eighteenth century, Antoine Lavoisier invented a system of naming the chemical elements. He is considered by many to be the founder of modern chemistry.

12. Whose discoveries regarding the circulation of blood disproved Galen’s theories?
13. Why is Antoine Lavoisier called “the founder of modern chemistry?”
• The Scientific Method

During the Scientific Revolution, the scientific method was created. The scientific method is a systematic procedure for collecting and analyzing evidence. The person who developed the scientific method was Francis Bacon. He believed that instead of relying on the ideas of ancient authorities, scientists should use inductive reasoning to learn about nature. Scientists should proceed from the particular to the general. Systematic observations and carefully organized experiments to test hypotheses (theories) would lead to general principles. Bacon also believed that science could give humans power over nature.

The Scientific Method

14. What did Francis Bacon do?
15. What did Bacon believe that science could do for people?

Journal Entry:
Using information from the reading and our discussion on the Scientific Revolution, respond to the following in your journal:

Was the Scientific Revolution truly revolutionary? What aspects of the medieval period were overturned in the 16th and 17th century?
1. __________________________ What did people begin to view in a new way during the Scientific Revolution?

2. __________________________ When did the Scientific Revolution begin?

3. __________________________ The Scientific Revolution focused on reason and systematic observation of this

4. __________________________ This was created during the Scientific Revolution

5. __________________________ He developed Heliocentric Theory

6. __________________________ He discovered Planetary Motion

7. __________________________ Galileo used this to support Heliocentric Theory

8. __________________________ He discovered Laws of Gravity

9. __________________________ He discovered that blood circulates throughout the body

10. __________________________ This idea says that the sun is the center of the universe

11. __________________________ This idea says that planets move in an egg-shaped ring around the sun

12. __________________________ He supported Heliocentric Theory
Quiz--Scientific Revolution

1. He discovered the Laws of Gravity—that planets stay on their orbital course because they are drawn to each other by the force called “gravity”
   A. Copernicus  B. Isaac Newton  C. Johannes Kepler  D. William Harvey

2. “Heliocentric Theory” claims
   A. the sun is the center of the universe  C. the earth is the center of the universe
   B. the planets revolve around the earth  D. the sun has several orbiting moons

3. Who used a telescope to support Heliocentric Theory?
   A. William Price  B. Galileo  C. William Harvey  D. Isaac Newton

4. Who discovered that blood circulates throughout the body?
   A. Johannes Kepler  B. Galileo  C. William Harvey  D. Copernicus

5. Johannes Kepler discovered that planets move in an egg-shaped ring around the sun, which is called
   A. Laws of Gravity  B. Heliocentric Theory  C. Orbis Maximus  D. Planetary Motion

6. When did the Scientific Revolution begin?
   A. 17th century  B. 18th century  C. 16th century  D. 19th century

7. The Scientific Revolution is characterized by an emphasis on reason and a systematic observation of
   A. human emotion  B. nature  C. religion  D. chemical compounds
WHAT IS THE ENLIGHTENMENT?

Enlightenment thinkers operated on the principle that ________________________________ is possible by applying _______________________ & _____________________ to issues of ______________ & ________________. Unlike ________________________________ thinkers, Enlightenment thinkers, known by the French name _________________________, applied reason to the __________________________________, rather than just the world of ________________. The Enlightenment stimulated _______________________________ & fueled _______________________________ around the world.

IMPORTANT REVOLUTIONS: 1) ________________________________
2) ________________________________

ENLIGHTENMENT THINKERS

Thomas Hobbes—
Wrote: __________________________________________

➢

➢

➢

John Locke—
Wrote: __________________________________________

➢ Belief in SOVEREIGNTY

➢ Monarchs as divine?

➢ People are inherently GOOD

➢ Define: TABULA RASA—
Montesquieu—
Wrote:________________________________________

➢ Separation of Powers

Voltaire—

➢ Religious Tolerance

➢ Church v. State

➢ Define: DEISM (dee-IZM)

Jean-Jacques Rousseau—
Wrote:________________________________________

➢

➢

OTHER CREATIVE MINDS OF THE ENLIGHTENMENT

Composers—

➢

➢
Art—

- Miguel de Cervantes Saavedra

One of the most well-known drawings of Don Quixote, faithful squire Sancho Panza, and Quixote’s steed (old nag!) Rocinante.

*Created in 1955 by Pablo Picasso*
NEW SUBJECTS IN ART
Paintings frequently depicted:

1.

2.

3.

4.

TECHNOLOGIES

➢ “All-weather” roads

➢ Farm tools

➢ Ship design

INFLUENCE OF THE ENLIGHTENMENT

➢ Impact of political philosophies

➢ Important documents influenced by Enlightenment ideas

1.

2.

3.
THE ENLIGHTENMENT

Path to the Enlightenment

The Enlightenment was an eighteenth-century philosophical movement of intellectuals who were impressed with the achievements of the Scientific Revolution. They hoped that by using the scientific method, they could make progress toward a better society. Words such as reason, natural law, hope, and progress were common words to the thinkers of the Enlightenment. The Enlightenment was especially influenced by the ideas of Isaac Newton and John Locke. To Newton, the physical world and everything in it was a giant machine. Because Newton had discovered natural laws that governed the physical world, the intellectuals of the Enlightenment thought they could discover the natural laws that governed human society. John Locke's theory of knowledge also greatly affected eighteenth-century intellectuals. Locke believed that people were born with blank minds and were molded by the experiences that came through their senses from the surrounding world. He believed that if environments were changed and people were exposed to the right influences, people could be changed and a new society could be created.

Path to Enlightenment

1. What did Enlightenment thinkers hope to accomplish by using the scientific method?
2. What did intellectuals of the Enlightenment believe they could do?
3. Who believed people were molded not by nature, but by their environment?
4. List TWO ways a new society could be created, according to Locke.

Philosophes and Their Ideas

The intellectuals of the Enlightenment were known by the French name philosophes. To the philosophes, the purpose of philosophy was to change the world. A spirit of rational criticism was to be applied to everything, including religion and politics. Three French philosophers, Montesquieu, Voltaire, and Diderot, dominated Enlightenment thought. Montesquieu's most famous work, The Spirit of the Laws, was published in 1748. This work was a study of governments. Montesquieu tried to use the scientific method to find the natural laws that govern the social and political relationships of human beings. He identified three basic kinds of governments: republics, despotism, and monarchies. In his study of the English monarchy, he identified three branches: the executive, the legislative, and the judicial. The government functioned through a separation of powers. In this separation, the three branches limit and control each other in a system of checks and balances. By preventing any one person or group from gaining too much power, this system provides the greatest freedom and security for the state. Montesquieu's work was translated into English and influenced the U.S. Constitution.
The greatest figure of the Enlightenment was François-Marie Arouet, known simply as Voltaire. He wrote many pamphlets, novels, plays, letters, essays, and histories, which brought him both fame and wealth. He was especially well known for his criticism of Christianity and his strong belief in religious tolerance. He believed in deism, an eighteenth-century religious philosophy based on reason and natural law. Deism was built on the idea of the Newtonian world-machine. In the Deist view, a mechanism (God) had created the universe. The universe was like a clock. God had created it, set it in motion, and allowed it to run without his interference, according to its own natural laws.

Denis Diderot was a writer who studied and read in many subjects and languages. His most famous contribution to the Enlightenment was his Encyclopedia. This was a 28-volume collection of knowledge that he edited. The purpose of the Encyclopedia was to "change the general way of thinking." Many of its articles attacked religious superstition and supported religious toleration. Other articles called for social, legal, and political improvements that could lead to a more tolerant and humane society. The Encyclopedia was sold to doctors, clergymen, teachers, and lawyers, and helped to spread the ideas of the Enlightenment.

**Philosophers & Their Ideas**

5. What three French philosophers dominated Enlightenment thought?
6. What was Montesquieu's idea?
7. What three basic governments did Montesquieu identify?
8. What does it mean to have a "separation of powers" in government?
9. What is the benefit of a "separation of powers" in government?
10. Who is sometimes called the "greatest figure of the Enlightenment"?
11. What is he commonly known as?
12. What did Voltaire criticize?
13. What did Voltaire strongly believe in?
14. What do moderns compare God to?
15. What do moderns compare to the universe to?

**The Later Enlightenment**

By the late 1780s, there was a new generation of philosophes. The most famous was Jean-Jacques Rousseau. In his *Discourse on the Origin of the Inequality of Mankind*, Rousseau argued that people had adopted laws and government in order to protect their property. In the process, they had become enslaved by government. In another work, *The Social Contract*, Rousseau explained his concept of the social contract. Through a social contract, an entire society agrees to be governed by its general will. Individuals who wish to follow their own self-interests must be forced to abide by the general will.

Unlike many Enlightenment thinkers, Rousseau believed that emotions, as well as reason, were important to human development. He sought a balance between emotions and reason.

**Journal entry:** Choose 3 American ideals/freedoms that actually came from the Enlightenment and describe whose ideas they originated from and in what American documents they can be found?
Quiz--Enlightenment Thinkers

Multiple Choice
Identify the letter of the choice that best completes the statement or answers the question.

____ 1. He wrote that states should have central authority to control behavior of the people in his book *Leviathan*  

____ 2. Which Enlightenment thinker believed the following statements?  
*The state must have absolute power to manage behavior*  
*Life is nasty, brutish, and short*  
*People are generally bad because they are born that way*  

____ 3. Who believed that the government is a contract between rulers and the people?  

____ 4. Why does Montesquieu advocate the separation of powers as the ideal government?  
a. no branch can gain too much power  
b. people are generally bad and need constant supervision  
c. the most powerful governments are based on the separation of powers  
d. it promotes religious tolerance

____ 5. The belief that human progress is possible by applying scientific knowledge and reason to issues of law and government  
a. the Entrancement  b. the Astronomy Overhaul  c. the Enlightenment  d. the Scientific Revolution

____ 6. What is NOT true of the Enlightenment?  
a. did not spread outside of Europe  
b. stimulated religious tolerance  
c. fueled democratic revolutions round the world  
d. reason was applied to the human world

____ 7. What is NOT true of Voltaire’s beliefs?  
a. advocated separation of church and state  b. belief in Deism  c. people are born with a tabula rasa  d. promoted religious tolerance

____ 8. What is NOT an idea of John Locke?  
a. people are born with a blank mind and are molded by their experiences  
b. people are sovereign and can govern themselves without interference  
c. government should have a separation of powers  
d. monarchs are not chosen by God
Quiz--Effects of the Enlightenment

Multiple Choice
Identify the letter of the choice that best completes the statement or answers the question.

___ 1. Eugene Delacroix is known for
   a. writing books
   b. composing music
   c. painting
   d. studies of astronomy

___ 2. What type of a writer was Cervantes?
   a. political commentator
   b. essayist
   c. novelist
   d. religious fiction writer

___ 3. What was NOT commonly depicted in paintings created during the Enlightenment?
   a. portraits
   b. natural scenes
   c. religious subjects
   d. public events

___ 4. Improved ship design during the 17th century had this effect on trade and travel
   a. costs of transport were lowered
   b. few people could afford to travel this way
   c. costs of transport were raised
   d. cost effectiveness of transport was not determined

___ 5. This work by Cervantes about a comical knight who fights windmills is called
   a. Mein Kampf
   b. Zapatos Altos
   c. Don Quixote
   d. Don Geronimo

___ 6. Johann Sebastian Bach and Wolfgang Amadeus Mozart are known for
   a. singing operas
   b. their novels
   c. being composers
   d. studying various governments

___ 7. Enlightenment painters commonly depicted classical subjects. What are “classical” subjects?
   a. inspired by anything old fashioned
   b. inspired by Greek and Roman culture
   c. inspired by a luxurious lifestyle
   d. inspired by the work of Beethoven

___ 8. The political philosophies of the Enlightenment influenced
   a. British monarchs to lessen their power
   b. Italian city-states to remain separate
   c. revolutions in the Americas and France
   d. independent Germanic states to unite

___ 9. Thomas Jefferson was influenced by Enlightenment ideas when he wrote
   a. the Bill of Rights
   b. the U.S. Constitution
   c. the Declaration of Independence
   d. Don Quixote

___ 10. This writing does NOT include ideas of the Enlightenment
    a. Star-Spangled Banner
    b. Declaration of Independence
    c. Bill of Rights
    d. U.S. Constitution

___ 11. What was the effect of creating “all-weather” roads?
    a. culture diffused less rapidly than before
    b. allowed for better trade and travel all year
    c. effective travel was possible even during the night
    d. helped armies invade other states quickly and quietly
1. ___________________________ Scientific Revolution thinkers applied reason to the natural world but Enlightenment thinkers applied reason to this
2. ___________________________ This was stimulated by the Enlightenment
3. ___________________________ These (general) were fueled by ideas of the Enlightenment
4. ___________________________ #4-5: Enlightenment thinkers applied scientific knowledge & reason to these issues
5. ___________________________
6. ___________________________ Wrote Leviathan
7. ___________________________ #7-8: These two democratic revolutions were fueled by the Enlightenment
8. ___________________________
9. ___________________________ Hobbes believed the state should have this type of power over its subjects
10. ___________________________ #10-12: Hobbes believed that life could be described using these three terms
11. ___________________________
12. ___________________________
13. ___________________________ According to Hobbes, people are this
14. ___________________________ Wrote Two Treatises on Government
15. ___________________________ Word that means people can govern themselves fine without interference
16. ___________________________ What is tabula rasa?
17. ___________________________ He believed that people are molded by their experiences in life
18. ___________________________ Wrote The Spirit of Laws
19. ___________________________ Who advocated a separation of powers in government?
20. ___________________________ The best form of government includes this
21. ___________________________ Montesquieu’s ideas influenced these people
22. ___________________________ He supported religious tolerance
23. ______________________ Being tolerant of all religions will prohibit this

24. ______________________ #24-25: What does Voltaire believe should remain separate?

25. ______________________

26. ______________________ Wrote The Social Contract

27. ______________________ #27-28: Rousseau says the government is a contract between these groups

28. ______________________

29. ______________________ According to Rousseau, why should people follow the laws?

30. ______________________ Bach & Mozart are known for being this

31. ______________________ Enlightenment painter

32. ______________________ What specific type of work is Cervantes known for?

33. ______________________ What is the name of Cervantes’ most famous work?

34. ______________________ #34-37: Paintings of the Enlightenment depict these things

35. ______________________

36. ______________________

37. ______________________

38. ______________________ These allowed better year-round transport

39. ______________________ Better farm tools had this effect

40. ______________________ Improved ship design had this effect on the transport of goods & people

41. ______________________ #41-42: Where did revolutions take place following the Enlightenment?

42. ______________________

43. ______________________ This was written by Thomas Jefferson and included Enlightenment ideas

44. ______________________ #44-45: These other American documents included Enlightenment ideas

45. ______________________
46. Knowing what you know about Hobbes’ beliefs, draw a picture depicting his ideas.

47. Knowing what you know about Locke’s beliefs, draw a picture depicting his ideas.
WHII: Scientific Revolution & The Enlightenment

Multiple Choice
Identify the letter of the choice that best completes the statement or answers the question. Read each question carefully. Watch out for NOT and EXCEPT questions. G’luck.

1. Which Enlightenment thinker believed the following statements?
The state must have absolute power to manage behavior
People are generally bad because they are born that way
A. John Locke  B. Montesquieu  C. Thomas Hobbes  D. Voltaire

2. The belief that human progress is possible by applying scientific knowledge and reason to issues of law and government
A. the Scientific Revolution  C. the Astronomy Overhaul
B. the Enlightenment  D. the Entrancement

3. Eugene Delacroix is known for
A. painting  C. studies of astronomy
B. writing books  D. composing music

4. He wrote that states should have central authority to control behavior of the people in his book Leviathan
A. John Locke  B. Thomas Hobbes  C. Voltaire  D. Johannes Kepler

5. Who believed that the government is a contract between rulers and the people?
A. Voltaire  B. Ptolemy  C. Hobbes  D. Rousseau

6. Whose regular observations of the heavens with a telescope led to support of Heliocentric Theory?
A. Galileo  B. William Price  C. William Harvey  D. Isaac Newton

7. What is NOT an idea of John Locke?
A. monarchs are not chosen by God
B. government should have a separation of powers
C. people are born with a blank mind and are molded by their experiences
D. people are sovereign and can govern themselves without interference

8. Why does Montesquieu advocate the separation of powers as the ideal government?
A. the most powerful governments are based on the separation of powers
B. people are generally bad and need constant supervision
C. it promotes religious tolerance
D. no branch can gain too much power through a system of checks and balances
9. What is NOT true of Voltaire’s beliefs?
   A. advocated separation of church and state  
   B. belief in Deism  
   C. promoted religious tolerance  
   D. people are born with a tabula rasa

10. The Scientific Revolution is characterized by an emphasis on reason and a systematic observation of
   A. human emotion  
   B. religion  
   C. chemical elements  
   D. nature

11. What was the effect of creating “all-weather” roads?
   A. helped armies invade other states quickly and quietly  
   B. allowed for better trade and travel all year  
   C. culture diffused less rapidly than before  
   D. effective travel was possible even during the night

12. What type of a writer was Cervantes?
   A. political commentator  
   B. novelist  
   C. religious fiction writer  
   D. essayist

13. The political philosophies of the Enlightenment influenced
   A. British monarchs to lessen their power  
   B. independent Germanic states to unite  
   C. Italian city-states to remain separate  
   D. revolutions in the Americas and France

14. The novel that recounts the tale of a comical knight who fights windmills is called
   A. Don Quixote  
   B. Zapatos Altos  
   C. Don Geronimo  
   D. Frances Bacon

15. When did the Scientific Revolution begin?
   A. 18th century  
   B. 17th century  
   C. 19th century  
   D. 16th century

16. What was NOT commonly depicted in paintings created during the Enlightenment?
   A. public events  
   B. portraits  
   C. natural scenes  
   D. religious subjects

17. Thomas Jefferson was influenced by Enlightenment ideas when he wrote
   A. Don Quixote  
   B. the Bill of Rights  
   C. the Declaration of Independence  
   D. the U.S. Constitution

18. What is NOT true of the Enlightenment?
   A. stimulated religious tolerance  
   B. fueled democratic revolutions round the world  
   C. did not spread outside of Europe  
   D. reason was applied to the human world

19. “Heliocentric Theory” claims
   A. the planets revolve around the earth  
   B. the sun is the center of the universe  
   C. the sun has several orbiting moons  
   D. the earth is the center of the universe

20. Johann Sebastian Bach and Wolfgang Amadeus Mozart are known for
   A. studying various governments  
   B. their novels  
   C. singing operas  
   D. being composers
21. Improved ship design during the 17th century had this effect on trade and travel
   A. few people could afford to travel this way
   B. costs of transporting goods and people were lowered
   C. cost effectiveness of transport was not determined
   D. costs of transporting goods and people were raised

22. This writing does NOT include ideas of the Enlightenment
   A. Declaration of Independence
   B. Star-Spangled Banner
   C. Bill of Rights
   D. U.S. Constitution

23. Enlightenment painters commonly depicted classical subjects. What are “classical” subjects?
   A. inspired by a luxurious lifestyle
   B. inspired by the “common man”
   C. inspired by Greek and Roman culture
   D. inspired by anything old fashioned

Identification
Identify who would MOST LIKELY have given the quotes below. SPELL THEIR NAMES CORRECTLY!!!
All are listed somewhere on this test already...

24. “I was considered the greatest astronomer of ancient times until my geocentric system was disproved.”

25. “I am the mathematician that used astronomical data to create laws of planetary motion. My observations showed that the planets moved around the sun in elliptical, or egg-shaped, orbits.”

26. “I believe I have finally figured out why planets stay on their orbital course—ever object in the universe is attracted to every other object by a force I will call GRAVITY!”

27. “Amazing! I have proven that the heart is the beginning point for the circulation of the blood in the body. The same blood flows in both veins AND arteries and makes a complete circuit as it passes through the body!”

28. “Life is nasty, brutish, and short”

29. “People are shaped by their environment and their experiences in life; they are NOT born with innate wickedness or immorality.”
“I believe that learning about science can give humans over the power of nature. Making systematic observations and setting up carefully organized experiments to test hypotheses is now commonly known as the **SCIENTIFIC METHOD**, which I am credited with developing.”

---

**Short Answer**

*Read the following passage and answer the questions*

“I am the head of an organization that felt threatened by Galileo’s discoveries supporting the Copernican system. His findings challenged my organization’s view of the universe.”

31. **What is this person’s title?** ________________________________

32. **What is the name of the organization?** __________________________

---

**Completion**

*Answer the following questions. Use the blanks provided.*

**List 3 important government documents that contain Enlightenment ideas**

33. __________________________________________________________

34. __________________________________________________________

35. __________________________________________________________
Art Identification

Look at the following images and answer the questions. Be as detailed as possible. SPELL CORRECTLY FOR CREDIT!!

36. Who created Picture A?
   __________________________________________

37. From which country is the author of Don Quixote de la Mancha from?
   __________________________________________

38. Who is Rocinante?
   __________________________________________

39. Who is Sancho Panza?
   __________________________________________

40. Who painted Picture B?
   __________________________________________

BONUS Qs!

Draw your interpretation of both Hobbes and Locke in the space below. Label them. No label, no credit!!! (2 points)

Draw both the Ptolemaic and Copernican models of the universe. Label them. No label, no credit!!! (2 points)
The year 1543 may be taken as the beginning of the scientific revolution, for it was then that Copernicus published *The Revolution of the Heavenly Bodies* and Andreas Vesalius, *On the Structure of the Human Body*. Within a century and a half, man's conception of himself and the universe he inhabited was altered, and the scholastic method of reasoning was replaced by new scientific methods. The triumphs achieved by the mathematical method redoubled the efforts in the field of mathematics itself, and during the seventeenth century, analytic geometry and calculus were discovered, logarithms and the slide rule were invented, and arithmetical and algebraic symbols were improved and came into common use. The need for accurate measuring instruments led to the invention of the barometer, thermometer, pendulum clock, microscope, telescope, and air pump. These and other discoveries had a profound effect. They influenced philosophy, religion, art, and political thought.

Although the intellectual movement called "The Enlightenment" is usually associated with the 18th century, its roots in fact go back much further. Certain thinkers and writers, primarily in London and Paris, believed that they were more enlightened than their compatriots were and set out to enlighten them. They believed that human reason could be used to combat ignorance, superstition, and tyranny to build a better world. Their principle targets were religion (embodied in France in the Catholic Church) and the domination of society by a hereditary aristocracy.

A literary intellectual movement originating in the 17th century, the Enlightenment grew to dominate politics, culture, and religion throughout the 1700’s. Every European country or colony was affected, although to varying extents, especially North America.

Your Assignment: To choose a scientist, philosopher, or artist from the list on the next page and create a PowerPoint that contains the following information:

1. Biography/Personality/Dates
2. Major Accomplishments/Inventions
3. How did his or her accomplishment(s) impact his or her time period?
4. To what extent did his or her accomplishment(s) impact the future or the modern day?

Additional Requirements:
1. Each slide must contain a visual
2. Create a one page handout for your classmates about your scientist, philosopher, or artist. This handout must include your sources (Primary & Secondary) and may not be a printout of slides.

Due Date: _____________________________
<table>
<thead>
<tr>
<th>Scientists:</th>
<th>Philosophers:</th>
<th>Artists, writers, musicians:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicolaus Copernicus</td>
<td>Rene Descartes</td>
<td>Antonio Canova</td>
</tr>
<tr>
<td>Johannes Kepler</td>
<td>Thomas Hobbes</td>
<td>Jean-Antoine Houdon</td>
</tr>
<tr>
<td>Galileo Galilei</td>
<td>John Locke</td>
<td>Jacques-Louis David</td>
</tr>
<tr>
<td>Francis Bacon</td>
<td>Hugo Grotius</td>
<td>Moliere</td>
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<tr>
<td>Isaac Newton</td>
<td>Jean Jacques Rousseau</td>
<td>Jean Racine</td>
</tr>
<tr>
<td>Andreas Vesalius</td>
<td>Baron von Montesquieu</td>
<td>Pierre Corneille</td>
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<tr>
<td>William Harvey</td>
<td>Voltaire</td>
<td>John Dryden</td>
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<td>Robert Hooke</td>
<td>Immanuel Kant</td>
<td>Alexander Pope</td>
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<tr>
<td>Robert Boyle</td>
<td>Baruch Spinoza</td>
<td>John Milton</td>
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<tr>
<td>Joseph Priestley</td>
<td>David Hume</td>
<td>Johann Sebastian Bach</td>
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<tr>
<td>Antoine Lavoisier</td>
<td>Edward Gibbon</td>
<td>George Frederic Handel</td>
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<tr>
<td>Maria Lavoisier</td>
<td>Cesare Beccaria</td>
<td>Joseph Haydn</td>
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<tr>
<td>Tycho Brahe</td>
<td>Gotthold Lessing</td>
<td>Wolfgang Amadeus Mozart</td>
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<tr>
<td>Carolus Linnaeus</td>
<td>Thomas Paine</td>
<td>Ludwig von Beethoven</td>
</tr>
<tr>
<td>Anton von Leeuwenhoek</td>
<td>Thomas Jefferson</td>
<td></td>
</tr>
</tbody>
</table>
PowerPoint How-To:

1. **Choose a slide design:**
Select “Format” on the Menu Bar, then “Slide Design”. Click on the design you like.

2. **Choose a layout:**
Select “Format”, then “Slide Layout”. Click on the layout you like. Hint: You will most likely want the Title Slide Layout for the first slide. Then choose other layouts for the following slides according to your plans. (See step #5 for adding slides)

3. **Adding Text:**
Simply click in any text box and type. To change the font style, size, or color, highlight the text and use the formatting toolbar:

   Style  Size  Color

If you are unable to enter text, you will need to add a text box: from the Menu Bar, select “Insert”, then “Text Box”. You will then use the mouse to click and drag until the text box takes the shape and size you’d like.

4. **Adding Graphics:**

   1. From the menu bar, select “Insert” then “Picture”, then “Clip Art”.
   2. Type in the name of what you are looking for in the search box.
   3. Make sure you are searching *all* collections for *all* media file types.
   4. Click “Go”.
   5. Click and drag the graphic you like onto your slide. Drop it when you like the placement. You may drag it around your slide to reposition later, also.
   6. You may resize your graphic by clicking on it once and then pulling it out by the corner.
5. Adding New Slides:
Select “Insert” from the Menu Bar, then “New Slide”.

6. Saving your Slideshow:
Choose “File” from the Menu Bar, then “Save As”. Go to “My Network Places”, then “Teacher on Chrservlet”, then “4th Grade”, then “Mellon”. Type your name where it says, “File name”. Then click “Save”.

Extras (Only if you have time & after finishing all the basic parts of your slideshow):

Transitions:

- A transition is the action which will happen as you leave one slide to go to another. Choose “View” from the Menu Bar, then “Slide Sorter”. The screen will be covered with miniatures of each slide.
- From the Menu Bar, click on “Slide Show”, then “Slide Transition”. The Transition window will appear. Click the slide you’d like to apply the transition to and then scroll down to select your transition choice. Do this for each slide!

Animations:

Select the slide you wish to animate. From the Menu Bar, click on “Slide Show” and then “Custom animation”. Experiment with different effects. Caution: The purpose of a
PowerPoint slide show is to communicate information, not to show off your animation skills!

Scientific Revolution and Enlightenment
Powerpoint Presentations
Ms. Ball

1. Internet sites:
   a. KRHS Databases (accessed via KRHS website—Library Media Center page)
      i. Biography Resource Center (PW: schools)
      ii. History Resource Center: World (PW: schools)
      iii. Literature Resource Center (PW: schools)

   b. Google as an engine
      i. Search hints and reminders
      ii. Google images
      iii. Citation reminder

2. Print resources—Our library has PLENTY of these!
   a. Searching the KRHS catalog
   b. Individual biographies (call numbers begin with “B”)
   c. Collective biographies (call numbers begin with 920)
   d. Reference sets (call numbers begin with REF followed by specific Dewey number)

   HELPFUL REFERENCE SETS FOR THIS PROJECT:
   For all categories:
   Encyclopedia of World Biography (REF 920 ENC)
   Encyclopedia of the Enlightenment (REF 940.2 ENC)
   Great Lives—The 17th Century (REF 920.009 GRE)

   For Scientists:
   Science and Its Times, VOLUME 3 (REF 508 SCI)
   Scientific Encyclopedia (REF 503 VAN)
   New Dictionary of Scientific Biography (REF 920 NEW)
Encyclopedia of World Scientists (REF 920 OAK)

For Philosophers:

Encyclopedia of Philosophy (REF 103 ENC)

For Artists, writers, musicians:

Arts and Humanities through the Eras: the Age of Baroque and Enlightenment (940.2 AGE)
Bakers Biogr. Dictionary of Musicians (REF 920 BAK)
Artists: From Michelangelo to Maya Lin (REF 920 ART)
British and Irish Lit and its Times (REF 820.9 MOS)
Cambridge Guide to Literature in English (REF 920 CAM)