Unit D -- The Scientific Revolution and the Enlightenment

Content Area: **Social Studies**
Course(s): **Advanced Placement Modern European History**
Time Period: **October**
Length: **Approximately 2 Weeks**
Status: **Published**

Unit Overview

This unit covers the Scientific Revolution and the Enlightenment from the 1500s to the 1700s. The unit will cover the following:

* European views of the world before the Scientific Revolution

* Copernicus, Kepler, Galileo, Newton

* Causes of the Scientific Revolution

* Bacon and Descartes

* Consequences of the Scientific Revolution

* Central concepts of the Enlightenment

* John Locke

* The Philosophes

* Montesquieu and Voltaire

* Later Enlightenment

Enduring Understandings

- Historians and scientists interpret evidence to solve problems and make decisions

- Social scientists gather, classify, sequence, and interpret information and visual data in order to recognize how people, places, ideas, and events shape our world.

Essential Questions

- How and why do historians and scientists gather, classify, sequence, and interpret information and visual data?

- How can we use technology to gather, classify, sequence, and interpret information and visual data?

- How can you determine if evidence is valid and reasonable?

- How can you use evidence to solve problems and make decisions?

- To what extent can the study of history help us develop chronological thinking?

- What evidence do historians and scientists collect?

- What types of problems are of concern for historians, geographers, civic leaders, economists?

- Why is visual data important for understanding people, places, ideas, and events that shape our world?

Standards/Indicators/Student Learning Objectives (SLOs)

SWBAT determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.

SWBAT compare the point of view of two or more authors (Hobbes and Locke) for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.

SWBAT assess the extent to which the reasoning and evidence in a text support the author's claims.

SWBAT determine how the principle ideas of the Enlightenment (e.g., rationalism, secularism, tolerance, empiricism, natural rights, contractual government, laissez-faire economics, promotion by merit, and new theories of education) altered political thought in Europe, and trace the impact of these ideas over time.

SWBAT explain the paradox between the ideology of the Enlightenment and the treatment of women and non-Europeans in European society.

SWBAT analyze the impact of new intellectual, philosophical, and scientific ideas on how humans viewed themselves and how they viewed their physical and spiritual worlds.

SWBAT analyze how the discoveries of Copernicus, Galileo, Bacon, Newton, and Kepler challenged traditional teachings and beliefs.

SWBAT draw evidence from informational text to explain the impact of the Enlightenment on social change in Europe regarding the treatment of women (e.g., property, marriage) and the toleration of minority groups (e.g., religious, ethnic).

SWBAT determine the meaning of laissez-faire economics and describe how it led to the development of a new merchant class during this time period (e.g., supply and demand, free markets, efficient production).

SOC.6.2.12.2	Renaissance, Reformation, Scientific Revolution, and Enlightenment (1350-1700)
SOC.6.2.12.A.2.a	Compare the principle ideas of the Enlightenment in Europe (e.g., political, social, gender, education) with similar ideas in Asia and the Muslim empires of the Middle East and North Africa.
SOC.6.2.12.A.3.a	Explain how and why various ideals (e.g., liberty, popular sovereignty, natural rights, democracy, nationalism) became driving forces for reforms and revolutions, their influence on Latin American independence movements, and evaluate their impact on government, society, and economic opportunities.
SOC.6.2.12.A.3.d	Compare and contrast the struggles for women's suffrage and workers' rights in Europe and North America, and evaluate the degree to which each movement achieved its goals.
SOC.6.2.12.B.1.a	Explain major changes in world political boundaries between 1450 and 1770, and assess

	the extent of European political and military control in Africa, Asia, and the Americas by the mid-18th century.
SOC.6.2.12.D.2.d	Analyze the impact of new intellectual, philosophical, and scientific ideas on how humans viewed themselves and how they viewed their physical and spiritual worlds.
SOC.6.2.12.D.3.a	Explain how individuals and groups promoted revolutionary actions and brought about change during this time period.
SOC.6.2.12.CS2	Renaissance, Reformation, Scientific Revolution, and Enlightenment: Ideas developed during the Renaissance, Scientific Revolution, Reformation, and Enlightenment led to political, economic, and cultural changes that have had a lasting impact.

Lesson Titles

- Beginning of the Scientific Revolution
- Causes of the Scientific Revolution
- Later Enlightenment
- Name Activity
- Science vs. Religion
- The Enlightenment
- The Philosophes

21st Century Skills and Career Ready Practices

Analayze Media

Critical thinking and Problem Solving

Guide and Lead Others

Information Literacy

Media Literacy

Technology

Initiative and Self-direction

Work Independently

CRP.K-12.CRP1.1	Career-ready individuals understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.
CRP.K-12.CRP2.1	Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between

abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation.

CRP.K-12.CRP4.1	Career-ready individuals communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others' time. They are excellent writers; they master conventions, word choice, and organization, and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.
CRP.K-12.CRP5.1	Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organization, and the environment. They are aware of and utilize new technologies, understandings, procedures, materials, and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and the profitability of the organization.
CRP.K-12.CRP6.1	Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.
CRP.K-12.CRP11.1	Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.
CAEP.9.2.12.C.1	Review career goals and determine steps necessary for attainment.
CAEP.9.2.12.C.2	Modify Personalized Student Learning Plans to support declared career goals.
CAEP.9.2.12.C.3	Identify transferable career skills and design alternate career plans.

Inter-Disciplinary Connections

This unit will cross-content with the following:

- English -- Close reading of primary sources including Locke and Hobbes
- Mathematics -- Reviewing new ideas like calculus from Newton
- Science -- Reviewing the impact of new science ideas that contradicted religion
- Sociology -- Reviewing the impact from religious turmoil
- Visual and Performing Arts -- Reviewing Enlightenment art work

LA.RH.11-12.1	Accurately cite strong and thorough textual evidence, (e.g., via discussion, written response, etc.), to support analysis of primary and secondary sources, connecting insights gained from specific details to develop an understanding of the text as a whole.
LA.RH.11-12.2	Determine the theme, central ideas, information and/or perspective(s) presented in a primary or secondary source; provide an accurate summary of how key events, ideas and/or author's perspective(s) develop over the course of the text.

LA.RH.11-12.3	Evaluate various perspectives for actions or events; determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.
MA.N-CN.B.5	Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation.
LA.WHST.11-12.1	Write arguments focused on discipline-specific content.
LA.WHST.11-12.1.A	Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.
LA.WHST.11-12.1.B	Develop claim(s) and counterclaims using sound reasoning and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.
LA.WHST.11-12.1.D	Establish and maintain a style and tone appropriate to the audience and purpose (e.g., formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing.
LA.WHST.11-12.1.E	Provide a concluding paragraph or section that supports the argument presented.
LA.WHST.11-12.2	Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.
MA.N-VM.C.6	Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.
MA.N-VM.C.8	Add, subtract, and multiply matrices of appropriate dimensions.
SOC.9-12.4.1.1	Privilege
SOC.9-12.4.1.2	Power
SOC.9-12.4.1.4	Class inequality
SOC.9-12.4.1.5	Gender inequality
SOC.9-12.4.2.1	Life chances
SOC.9-12.4.2.2	Social problems
SOC.9-12.4.3.1	Distribution of power through social institutions
SOC.9-12.4.4.1	Individual responses to inequality
SOC.9-12.4.4.2	Group responses to inequality such as social movements
VPA.1.1.12.D.CS1	Common themes exist in artwork from a variety of cultures across time and are communicated through metaphor, symbolism, and allegory.
VPA.1.1.12.D.CS2	Stimuli for the creation of artworks can come from many places, including other arts disciplines.
9-12.HS-PS1-2.1.1	students observe patterns in systems at different scales and cite patterns as empirical evidence for causality in supporting their explanations of phenomena. They recognize classifications or explanations used at one scale may not be useful or need revision using a different scale; thus requiring improved investigations and experiments. They use mathematical representations to identify certain patterns and analyze patterns of performance in order to reengineer and improve a designed system.
9-12.HS-PS1-5.1.1	students observe patterns in systems at different scales and cite patterns as empirical evidence for causality in supporting their explanations of phenomena. They recognize classifications or explanations used at one scale may not be useful or need revision using a different scale; thus requiring improved investigations and experiments. They use mathematical representations to identify certain patterns and analyze patterns of performance in order to reengineer and improve a designed system.

9-12.HS-PS1-3.PS1.A.1	The structure and interactions of matter at the bulk scale are determined by electrical forces within and between atoms.

Instructional Strategies,Learning Activities, and Levels of Blooms/DOK

- Analyzing Primary Sources on the Enlightenment (Analysis/DOK 4)
- AP Test Preparation by translating multiple choice (Application/DOK 2)
- Delsea One
- Group Activity on political reasoning (Inspect/DOK 3)
- In Class Reading on Hobbes and Locke (Review/DOK1)
- Lecture/Discussion on Enlightenment and Religion (Compare and Contrast/DOK 2)
- SWAG
- Video Analysis on the Enlightenment (Analysis/DOK 4)
- Vocabulary Exercise from the unit (Review/DOK 1)
- Writing Exercises on DBQ and Essay from the Enlightenment (Synthesis/DOK 4)

Modifications

Formative Assessment

- Anticipatory Set: Explain review game rules
- Anticipatory Set: Hobbes vs. Locke
- Anticipatory Set: Prepare and motivate students for their test/quiz
- Closure: Discuss Key Terms
- Closure: Exit Card on Lectures
- Closure: Review Enlightenment Quiz
- Warm Up: AP DBQ writing tips
- Warm Up: AP Essay writing tips
- Warm Up: Review Enlightenment Lecture
- Warm Up: Review key terms from the unit
- Warm Up: Review Test/Quiz results

Summative Assessment

MPA

- Alternate Assessment: Student created AP Questions on the Reformation

- Benchmark: AP Testing strategies

- Benchmark: Differences in Enlightenment values

- Marking Period Assessment: Quiz on Enlightened philosophies

- Marking Period Assessment: Test on the Enlightenment

Benchmark Assessments

Skills-based assessment

Reading responses

Writing responses

Alternative Assessments

Performance tasks

Project-based assignments

Problem-based assignments

Presentations

Reflective pieces

Concept maps

Case-based scenarios

Portfolios

Resources & Materials

Primary Source Book -- Western Civilization (Houghton Mifflin 4th Edition)

Textbook -- A History of Western Society (McKay)