

PERFORMANCE DESCRIPTORS FOR MASTERY

10TH GRADE SCIENCE

Nature of Science:

SC.PD.10.1

Mastery

Students analyze the importance of scientific innovation and relate these innovations to the utilization of scientific methodology, variability in experimental results to advances in societal, cultural and economic issues; design, conduct, communicate, evaluate and revise experiments utilizing safe procedures and appropriate technology; draw conclusions from multiple data sources and interpretation of models.

Students will:

- Demonstrate an understanding of history and nature of science as a human endeavor encompassing the contributions of diverse cultures and scientists.
- Demonstrate the ability to use the inquiry process to solve problems.

Application of Science:

SC.PD.10.3

Mastery

Students will construct, test and analyze data to explore systems, models, and changes across science disciplines; analyze technological innovations and identify the science that makes them possible; evaluate the personal and societal benefits of a scientific discovery; assess the impacts of a public policy decision regarding health, population resources or environmental issues.

Students will:

- Demonstrate the ability to use inquiry process to explore systems, models, and changes.
- Demonstrate an understanding of the interdependence between science and technology.
- Demonstrate an understanding of the utilization of technology to gather data and communicate designs, results and conclusions.
- Demonstrate an understanding of personal and societal benefits of science, and an understanding of public policy decisions as related to health, population, resource and environmental issues.

Content of Science:

SC.PD.10.2

Mastery

Students relate cell structure to function; apply DNA's structure to its role in heredity; compare ontogeny and phylogeny of an animal; compare traditional and modern classification systems; diagram biogeochemical cycles; describe how human body systems work together; describe fossil and modern adaptations of plant and animal populations to their changing environment; experimentally determine characteristics of substances; mathematically determine the relationships among temperature-pressure-volume and heat in substances during physical /chemical changes; characterize electromagnetic waves and their uses; describe the relationship between electricity and magnetism; quantitatively determine conservation of thermal energy; relate Newton's Laws of Motion to rate, force, momentum, work and time; calculate mechanical advantage of simple machines; compare the effect of different forces on vibrating systems; predict tidal phenomenon; determine impacts of geological and biological processes on climate; explain geological and biological processes of fossil formation; explain theories of cosmology using electromagnetic evidence.

Students will:

- Demonstrate knowledge, understanding and applications of scientific facts, concepts, principles, theories and models as delineated in the objectives.
- Demonstrate an understanding of the interrelationships among physics, chemistry, biology, earth/environmental science and astronomy.
- Apply knowledge, understanding and skills of science subject matter/concepts to daily life experiences.



10TH GRADE SOCIAL STUDIES

Geography:

Performance Descriptors

Mastery

Tenth grade students at mastery level in geography:
locate geographic features and interpret information using geographic tools;
compare essays, novels, poems, short stories, feature films, and songs that demonstrate how people express attachment to places and regions;
describe the geographic and regional differences during various eras of U.S. History (colonial era, Civil War, etc.);
explain the importance of the cultural contributions of all immigrants;
explain the connection between world resources and economic development; and
connect cultural settlement patterns with physical geography identifying significant historic events and movements.

Civics:

Performance Descriptors

Mastery

Tenth grade students performing at the mastery level in civics:
describe the changing roles of citizens and assess levels of civic involvement;
compare various public policies (current and historical);
evaluate the purposes and contributions of government and explain the events that led to constitutional democracy;
compare fundamental democratic values and principles of a constitutional democracy;
analyze conflicts between nations and propose resolutions;
evaluate the roles of citizens in a democracy reflected in active participation in government; and
explain why you chose to participate in a volunteer project.

Economics:

Performance Descriptors

Mastery

Tenth grade students at mastery level in economics:
identify conflicts between colonies, mother country, regions, and business interests that eventually lead to the free enterprise system;
identify cause/effect relationships in economic change and evaluate the development of economic systems and trade patterns;
compare the development of economic theory based on Federalists' and Anti-Federalists' viewpoints;
compare the economic policy in the United States during each era (e.g., Colonial period, Revolutionary, Westward Expansion, Civil War, late 19th /early 20th Centuries);
determine reasons for the rise of labor unions as a result of industrialization and urbanization in the United States;
analyze and compare capitalism with other economic systems; and
evaluate the effects of the evolution of global economic interdependence prior to 1912.

Literacy:

Performance Descriptors

Mastery

Ninth and tenth grade students at mastery level in literacy:
cite textual evidence; summarize how key events or ideas develop; analyze events determining whether earlier events caused later ones;
determine the meaning of domain-specific vocabulary; compare the point of view of two or more authors;
integrate information, assess whether the reasoning and evidence support the author's claims;
read and comprehend history/social studies texts in the grades 9-10 text complexity band independently and proficiently;
compose arguments and informative/explanatory texts; manage the complexity of the topic appropriate to the discipline and context as well as the expertise of the audience;
use technology to develop, strengthen, publish and present clear and coherent writing focusing on what is most significant, linking to other information and displaying information;
conduct short and sustained research projects synthesizing multiple useful sources and integrate information selectively; avoid plagiarism; and
write over extended time frames for research-based projects and shorter time frames for a range of discipline-specific tasks, purposes and audiences.

History:

Performance Descriptors

Mastery

Tenth grade students at mastery level in history:
analyze through the use of maps, charts and graphic organizers the religious, economic, social and political motives and results of European colonization in the North America;
interpret through an investigation the relationship between the creation of the United States and the ideas of the Enlightenment, the founding documents, and the events and challenges faced by the new nation;
categorize the various foreign and domestic impacts and political, economic, social, and religious challenges of Westward Expansion by the United States;
categorize the relationships between the social, geographic, political and economic causes, events and results of the Civil War and Reconstruction with charts, graphs, timelines, and other graphic organizers;
investigate key concepts and events that are reflected in the changes in the economic structure, society, politics and geography and their impact on the United States in the late 19th Century; and
summarize the global role of the United States in the early 20th Century from a technological, political, social, and economic perspective.

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