

National Council for the Social Studies (NCSS), National Geography Standards (NGS), Next Generation Science Standards (NGSS)

Subjects: Science, Social Studies

Grades: 5, 6, 7, 8, 9

Virtual Field Trips

The Amazon Rainforest - Part 2 - Older Grades

National Council for the Social Studies (NCSS)

Social Studies

Grade 5 - Adopted: 2010

THEME	NCSS.1. CULTURE
DEFINITION	SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.1. KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	1.1.1. 'Culture" refers to the socially transmitted behaviors, beliefs, values, traditions, institutions, and ways of living together of a group of people.
LEARNING EXPECTATION	1.1.3. How culture influences the ways in which human groups solve the problems of daily living.
LEARNING EXPECTATION	1.1.6. That culture may change in response to changing needs, concerns, social, political, and geographic conditions.
LEARNING EXPECTATION	1.1.7. How people from different cultures develop different values and ways of interpreting experience.
THEME	NCSS.1. CULTURE
DEFINITION	SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.2. PROCESSES - Learners will be able to:
LEARNING EXPECTATION	1.2.1. Ask and find answers to questions related to culture.
LEARNING EXPECTATION	1.2.7. Draw inferences from data about the ways in which given cultures respond to persistent human issues, and how culture influences those responses.
THEME	NCSS.2. TIME, CONTINUITY, AND CHANGE
DEFINITION	SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF THE PAST AND ITS LEGACY.
CATEGORY	2.1. KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	2.1.6. The origins and influences of social, cultural, political, and economic systems.
THEME	NCSS.3. PEOPLE, PLACES, AND ENVIRONMENTS

DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.
CATEGORY	3.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	3.1.2.	Concepts such as: location, region, place, and migration, as well as human and physical systems.
LEARNING EXPECTATION	3.1.5.	The concept of regions identifies links between people in different locations according to specific criteria (e.g., physical, economic, social, cultural, or religious).
LEARNING EXPECTATION	3.1.6.	Patterns of demographic and political change, and cultural diffusion in the past and present (e.g., changing national boundaries, migration, and settlement, and the diffusion of and changes in customs and ideas).
LEARNING EXPECTATION	3.1.7.	Human modifications of the environment.

THEME NCSS.3. PEOPLE, PLACES, AND ENVIRONMENTS

DEFINITION SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.

CATEGORY	3.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	3.2.1.	Ask and find answers to geographic questions related to regions, nations, and the world in the past and present.
LEARNING EXPECTATION	3.2.3.	Acquire, organize, and analyze information and use geographic tools to draw conclusions about historic or current national and global environmental change.

THEME NCSS.5. INDIVIDUALS, GROUPS, AND INSTITUTIONS

DEFINITION SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF INTERACTIONS AMONG INDIVIDUALS, GROUPS, AND INSTITUTIONS.

CATEGORY	5.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	5.1.2.	Concepts such as: mores, norms, status, role, socialization, ethnocentrism, cultural diffusion, competition, cooperation, conflict, race, ethnicity, and gender.
LEARNING EXPECTATION	5.1.9.	That groups and institutions influence culture in a variety of ways.

THEME NCSS.9. GLOBAL CONNECTIONS

DEFINITION SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF GLOBAL CONNECTIONS AND INTERDEPENDENCE.

CATEGORY	9.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	9.2.3.	Investigate and explain the ways in which aspects of culture, such as language, beliefs, and traditions, may facilitate understanding, or lead to misunderstanding between cultures.

National Council for the Social Studies (NCSS)

Social Studies

Grade 6 - Adopted: 2010

THEME NCSS.1. CULTURE

DEFINITION SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES

THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.

CATEGORY	1.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	1.1.1.	'Culture" refers to the socially transmitted behaviors, beliefs, values, traditions, institutions, and ways of living together of a group of people.
LEARNING EXPECTATION	1.1.3.	How culture influences the ways in which human groups solve the problems of daily living.
LEARNING EXPECTATION	1.1.6.	That culture may change in response to changing needs, concerns, social, political, and geographic conditions.
LEARNING EXPECTATION	1.1.7.	How people from different cultures develop different values and ways of interpreting experience.
THEME	NCSS.1.	CULTURE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	1.2.1.	Ask and find answers to questions related to culture.
LEARNING EXPECTATION	1.2.7.	Draw inferences from data about the ways in which given cultures respond to persistent human issues, and how culture influences those responses.
THEME	NCSS.2.	TIME, CONTINUITY, AND CHANGE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF THE PAST AND ITS LEGACY.
CATEGORY	2.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	2.1.6.	The origins and influences of social, cultural, political, and economic systems.
THEME	NCSS.3.	PEOPLE, PLACES, AND ENVIRONMENTS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.
CATEGORY	3.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	3.1.2.	Concepts such as: location, region, place, and migration, as well as human and physical systems.
LEARNING EXPECTATION	3.1.5.	The concept of regions identifies links between people in different locations according to specific criteria (e.g., physical, economic, social, cultural, or religious).
LEARNING EXPECTATION	3.1.6.	Patterns of demographic and political change, and cultural diffusion in the past and present (e.g., changing national boundaries, migration, and settlement, and the diffusion of and changes in customs and ideas).
LEARNING EXPECTATION	3.1.7.	Human modifications of the environment.
THEME	NCSS.3.	PEOPLE, PLACES, AND ENVIRONMENTS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.
CATEGORY	3.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	3.2.1.	Ask and find answers to geographic questions related to regions, nations, and the world in the past and present.

LEARNING EXPECTATION	3.2.3.	Acquire, organize, and analyze information and use geographic tools to draw conclusions about historic or current national and global environmental change.
THEME	NCSS.5.	INDIVIDUALS, GROUPS, AND INSTITUTIONS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF INTERACTIONS AMONG INDIVIDUALS, GROUPS, AND INSTITUTIONS.
CATEGORY	5.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	5.1.2.	Concepts such as: mores, norms, status, role, socialization, ethnocentrism, cultural diffusion, competition, cooperation, conflict, race, ethnicity, and gender.
LEARNING EXPECTATION	5.1.9.	That groups and institutions influence culture in a variety of ways.
THEME	NCSS.9.	GLOBAL CONNECTIONS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF GLOBAL CONNECTIONS AND INTERDEPENDENCE.
CATEGORY	9.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	9.2.3.	Investigate and explain the ways in which aspects of culture, such as language, beliefs, and traditions, may facilitate understanding, or lead to misunderstanding between cultures.

National Council for the Social Studies (NCSS)

Social Studies

Grade 7 - Adopted: 2010

THEME	NCSS.1.	CULTURE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	1.1.1.	'Culture" refers to the socially transmitted behaviors, beliefs, values, traditions, institutions, and ways of living together of a group of people.
LEARNING EXPECTATION	1.1.3.	How culture influences the ways in which human groups solve the problems of daily living.
LEARNING EXPECTATION	1.1.6.	That culture may change in response to changing needs, concerns, social, political, and geographic conditions.
LEARNING EXPECTATION	1.1.7.	How people from different cultures develop different values and ways of interpreting experience.
THEME	NCSS.1.	CULTURE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	1.2.1.	Ask and find answers to questions related to culture.
LEARNING	1.2.7.	Draw inferences from data about the ways in which given cultures respond to

EXPECTATION		persistent human issues, and how culture influences those responses.
THEME	NCSS.2.	TIME, CONTINUITY, AND CHANGE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF THE PAST AND ITS LEGACY.
CATEGORY	2.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	2.1.6.	The origins and influences of social, cultural, political, and economic systems.
THEME	NCSS.3.	PEOPLE, PLACES, AND ENVIRONMENTS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.
CATEGORY	3.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	3.1.2.	Concepts such as: location, region, place, and migration, as well as human and physical systems.
LEARNING EXPECTATION	3.1.5.	The concept of regions identifies links between people in different locations according to specific criteria (e.g., physical, economic, social, cultural, or religious).
LEARNING EXPECTATION	3.1.6.	Patterns of demographic and political change, and cultural diffusion in the past and present (e.g., changing national boundaries, migration, and settlement, and the diffusion of and changes in customs and ideas).
LEARNING EXPECTATION	3.1.7.	Human modifications of the environment.
THEME	NCSS.3.	PEOPLE, PLACES, AND ENVIRONMENTS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.
CATEGORY	3.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	3.2.1.	Ask and find answers to geographic questions related to regions, nations, and the world in the past and present.
LEARNING EXPECTATION	3.2.3.	Acquire, organize, and analyze information and use geographic tools to draw conclusions about historic or current national and global environmental change.
THEME	NCSS.5.	INDIVIDUALS, GROUPS, AND INSTITUTIONS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF INTERACTIONS AMONG INDIVIDUALS, GROUPS, AND INSTITUTIONS.
CATEGORY	5.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	5.1.2.	Concepts such as: mores, norms, status, role, socialization, ethnocentrism, cultural diffusion, competition, cooperation, conflict, race, ethnicity, and gender.
LEARNING EXPECTATION	5.1.9.	That groups and institutions influence culture in a variety of ways.
THEME	NCSS.9.	GLOBAL CONNECTIONS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF GLOBAL CONNECTIONS AND INTERDEPENDENCE.
CATEGORY	9.2.	PROCESSES - Learners will be able to:
LEARNING	9.2.3.	Investigate and explain the ways in which aspects of culture, such as

EXPECTATION language, beliefs, and traditions, may facilitate understanding, or lead to misunderstanding between cultures.

National Council for the Social Studies (NCSS)

Social Studies

Grade 8 - Adopted: 2010

THEME	NCSS.1. CULTURE	
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	1.1.1.	'Culture" refers to the socially transmitted behaviors, beliefs, values, traditions, institutions, and ways of living together of a group of people.
LEARNING EXPECTATION	1.1.3.	How culture influences the ways in which human groups solve the problems of daily living.
LEARNING EXPECTATION	1.1.6.	That culture may change in response to changing needs, concerns, social, political, and geographic conditions.
LEARNING EXPECTATION	1.1.7.	How people from different cultures develop different values and ways of interpreting experience.
THEME	NCSS.1. CULTURE	
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	1.2.1.	Ask and find answers to questions related to culture.
LEARNING EXPECTATION	1.2.7.	Draw inferences from data about the ways in which given cultures respond to persistent human issues, and how culture influences those responses.
THEME	NCSS.2. TIME, CONTINUITY, AND CHANGE	
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF THE PAST AND ITS LEGACY.
CATEGORY	2.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	2.1.6.	The origins and influences of social, cultural, political, and economic systems.
THEME	NCSS.3. PEOPLE, PLACES, AND ENVIRONMENTS	
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.
CATEGORY	3.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	3.1.2.	Concepts such as: location, region, place, and migration, as well as human and physical systems.
LEARNING EXPECTATION	3.1.5.	The concept of regions identifies links between people in different locations according to specific criteria (e.g., physical, economic, social, cultural, or religious).
LEARNING EXPECTATION	3.1.6.	Patterns of demographic and political change, and cultural diffusion in the past and present (e.g., changing national boundaries, migration, and settlement, and the diffusion of and changes in customs and ideas).

LEARNING EXPECTATION	3.1.7.	Human modifications of the environment.
THEME	NCSS.3.	PEOPLE, PLACES, AND ENVIRONMENTS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.
CATEGORY	3.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	3.2.1.	Ask and find answers to geographic questions related to regions, nations, and the world in the past and present.
LEARNING EXPECTATION	3.2.3.	Acquire, organize, and analyze information and use geographic tools to draw conclusions about historic or current national and global environmental change.
THEME	NCSS.5.	INDIVIDUALS, GROUPS, AND INSTITUTIONS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF INTERACTIONS AMONG INDIVIDUALS, GROUPS, AND INSTITUTIONS.
CATEGORY	5.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	5.1.2.	Concepts such as: mores, norms, status, role, socialization, ethnocentrism, cultural diffusion, competition, cooperation, conflict, race, ethnicity, and gender.
LEARNING EXPECTATION	5.1.9.	That groups and institutions influence culture in a variety of ways.
THEME	NCSS.9.	GLOBAL CONNECTIONS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF GLOBAL CONNECTIONS AND INTERDEPENDENCE.
CATEGORY	9.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	9.2.3.	Investigate and explain the ways in which aspects of culture, such as language, beliefs, and traditions, may facilitate understanding, or lead to misunderstanding between cultures.

National Council for the Social Studies (NCSS)

Social Studies

Grade 9 - Adopted: 2010

THEME	NCSS.1.	CULTURE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.
CATEGORY	1.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	1.1.1.	'Culture' refers to the socially transmitted behaviors, beliefs, values, traditions, institutions, and ways of living together of a group of people.
LEARNING EXPECTATION	1.1.4.	How culture develops and changes in ways that allow human societies to address their needs and concerns.
LEARNING EXPECTATION	1.1.6.	How people from different cultures develop diverse cultural perspectives and frames of reference.
THEME	NCSS.1.	CULTURE
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES

THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.

CATEGORY	1.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	1.2.1.	Ask questions related to culture and find, select, organize, and interpret data from research to address research questions.
LEARNING EXPECTATION	1.2.4.	Evaluate how data and experiences may be interpreted by people from diverse cultural perspectives and frames of reference.
LEARNING EXPECTATION	1.2.5.	Analyze data from various cultural perspectives and evaluate the consequences of interpretations associated with the world views of different cultures.
LEARNING EXPECTATION	1.2.7.	Construct reasoned judgments about specific cultural responses to persistent human issues.
LEARNING EXPECTATION	1.2.8.	Analyze historic and current issues to determine the role that culture has played.

THEME NCSS.3. PEOPLE, PLACES, AND ENVIRONMENTS

DEFINITION SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.

CATEGORY	3.1.	KNOWLEDGE - Learners will understand: The theme of people, places, and environments involves the study of the relationships between human populations in different locations and regional and global geographic phenomena, such as landforms, soils, climate, vegetation, and natural resources.
LEARNING EXPECTATION	3.1.1.	
LEARNING EXPECTATION	3.1.2.	Concepts such as: location, physical and human characteristics of national and global regions in the past and present, and the interactions of humans with the environment.

THEME NCSS.3. PEOPLE, PLACES, AND ENVIRONMENTS

DEFINITION SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.

CATEGORY	3.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	3.2.1.	Ask and find answers to geographic questions related to regions, nations, and the world in the past and present.
LEARNING EXPECTATION	3.2.6.	Evaluate the consequences of human actions in environmental terms.

THEME NCSS.4. INDIVIDUAL DEVELOPMENT AND IDENTITY

DEFINITION SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF INDIVIDUAL DEVELOPMENT AND IDENTITY.

CATEGORY	4.3.	PRODUCTS - Learners demonstrate understanding by: Analyzing the similarities and differences in the values and traditions honored across cultures or historical eras, and presenting the findings in a product of their choice.
LEARNING EXPECTATION	4.3.3.	

THEME NCSS.5. INDIVIDUALS, GROUPS, AND INSTITUTIONS

DEFINITION SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF INTERACTIONS AMONG INDIVIDUALS, GROUPS, AND INSTITUTIONS.

CATEGORY	5.1.	KNOWLEDGE - Learners will understand:
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LEARNING EXPECTATION	5.1.2.	Concepts such as: mores, norms, ritual, status, role, socialization, ethnocentrism, cultural diffusion, competition, cooperation, conflict, assimilation, race, ethnicity, and gender.
THEME	NCSS.9.	GLOBAL CONNECTIONS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF GLOBAL CONNECTIONS AND INTERDEPENDENCE.
CATEGORY	9.2.	PROCESSES - Learners will be able to:
LEARNING EXPECTATION	9.2.3.	Explain how language, belief systems, and other cultural elements can facilitate global understanding or cause misunderstanding.

National Geography Standards (NGS)

Science

Grade 5 - Adopted: 2012

ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: The four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere) are interdependent
BENCHMARK	PS.7.1.A.	Identify and describe patterns in the environment that result from the interaction of Earth's physical processes, as exemplified by being able to
EXPECTATION	PS.7.1.A.2.	Identify and describe the patterns that result from the connections between climate and vegetation (e.g., examples of patterns of ecosystems and biomes).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: Components of ecosystems are interdependent
BENCHMARK	PS.8.1.A.	Describe how the components of ecosystems are connected and contribute to the energy of their own cycles, as exemplified by being able to
EXPECTATION	PS.8.1.A.1.	Describe the flow of energy and the cycling of matter through an ecosystem (e.g., the food chain, photosynthesis).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: Components of ecosystems are interdependent
BENCHMARK	PS.8.1.B.	Construct a model to explain how an ecosystem works, as exemplified by being able to
EXPECTATION	PS.8.1.B.3.	Construct a flow chart to explain the interactions of components within an ecosystem (e.g., water cycle, oxygen and carbon dioxide exchange, producers, consumers, and decomposers).

ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: Physical processes determine the characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.2.	Explain how different locations can have similar ecosystems as a function of temperature, precipitation, elevation, and latitude by using climographs and vegetation maps.
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.3.	Characteristics and Geographic Distribution of Biomes: Climate primarily determines the characteristics and geographic distribution of biomes
BENCHMARK	PS.8.3.A.	Describe and explain how climate (temperature and rainfall) primarily determines the characteristics and geographic distribution of biomes, as exemplified by being able to
EXPECTATION	PS.8.3.A.3.	Explain how biomes do not always follow lines of latitude by identifying the influences of oceans and mountain ranges on the distribution of climate and vegetation.
ESSENTIAL ELEMENT	NGS.HS.	Human Systems
STANDARD	HS.11.	The patterns and networks of economic interdependence on Earth's surface
STRAND	HS.11.1.	Economic Activities: The functions of different types of economic activities
BENCHMARK	HS.11.1.A.	Describe and analyze the functions of economic activities in the primary, secondary, tertiary, and quaternary sectors, as exemplified by being able to
EXPECTATION	HS.11.1.A.2.	Describe the sequence of activities that occur in the manufacture of products (e.g., in the production of a computerized sewing machine, the iron-ore mining is primary, smelting iron and steel are secondary, selling of the steel sewing machines is tertiary, and advertising is quaternary).
ESSENTIAL ELEMENT	NGS.HS.	Human Systems
STANDARD	HS.12.	The processes, patterns, and functions of human settlement
STRAND	HS.12.4.	Urban Forms and Functions: Land uses in urban areas are systematically arranged
BENCHMARK	HS.12.4.A.	Describe and analyze the spatial patterns of land use in cities, as exemplified by being able to
EXPECTATION	HS.12.4.A.3.	Identify and describe a controversial land-use issue in the community and analyze the advantages and disadvantages of making the change in use (e.g., widening a street for more lanes of traffic, tearing down an old building for a new park, converting green space into a new building complex).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society

ELEMENT		
STANDARD	ES.14.	How human actions modify the physical environment
STRAND	ES.14.1.	Modification of the Physical Environment: Human modifications of the physical environment in one place often lead to changes in other places
BENCHMARK	ES.14.1.A.	Describe and explain how human-induced changes in one place can affect the physical environment in other places, as exemplified by being able to
EXPECTATION	ES.14.1.A.2.	Describe how human changes to land cover can have negative impacts on other areas (e.g., deforestation and downstream flooding, siltation, soil erosion).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.14.	How human actions modify the physical environment
STRAND	ES.14.3.	Consequences for People and Environments: The physical environment can both accommodate and be endangered by human activities
BENCHMARK	ES.14.3.A.	Analyze the positive and negative consequences of humans changing the physical environment, as exemplified by being able to
EXPECTATION	ES.14.3.A.3.	Analyze the ways humans can have positive effects on the physical environment (e.g., open green space protection, wetland restoration, sustainable forestry).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.16.	The changes that occur in the meaning, use, distribution, and importance of resources
STRAND	ES.16.1.	Types and Meanings of Resources: People can have different viewpoints regarding the meaning and use of resources
BENCHMARK	ES.16.1.A.	Describe examples of how cultures differ in their definition and use of resources, as exemplified by being able to
EXPECTATION	ES.16.1.A.1.	Describe differences in the types of resources used in different geographic contexts in various parts of the world (e.g., the use of wood or animal dung versus electricity or natural gas as a cooking fuel, the use of electrical appliances versus doing household chores by hand).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.16.	The changes that occur in the meaning, use, distribution, and importance of resources
STRAND	ES.16.3.	Sustainable Resource Use and Management: Humans can manage resources to sustain or prolong their use
BENCHMARK	ES.16.3.A.	Explain how renewable resources can be continuously replenished through sustainable use, as exemplified by being able to
EXPECTATION	ES.16.3.A.1.	Describe and explain how sustainable management techniques can be applied in farming, forestry, and fishing (e.g., soil banks and contour plowing, sustainable timber harvesting practices, aquaculture).

National Geography Standards (NGS)

Science

Grade 6 - Adopted: 2012

ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
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STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: The four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere) are interdependent
BENCHMARK	PS.7.1.A.	Identify and describe patterns in the environment that result from the interaction of Earth's physical processes, as exemplified by being able to
EXPECTATION	PS.7.1.A.2.	Identify and describe the patterns that result from the connections between climate and vegetation (e.g., examples of patterns of ecosystems and biomes).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: Components of ecosystems are interdependent
BENCHMARK	PS.8.1.A.	Describe how the components of ecosystems are connected and contribute to the energy of their own cycles, as exemplified by being able to
EXPECTATION	PS.8.1.A.1.	Describe the flow of energy and the cycling of matter through an ecosystem (e.g., the food chain, photosynthesis).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: Components of ecosystems are interdependent
BENCHMARK	PS.8.1.B.	Construct a model to explain how an ecosystem works, as exemplified by being able to
EXPECTATION	PS.8.1.B.3.	Construct a flow chart to explain the interactions of components within an ecosystem (e.g., water cycle, oxygen and carbon dioxide exchange, producers, consumers, and decomposers).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: Physical processes determine the characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.2.	Explain how different locations can have similar ecosystems as a function of temperature, precipitation, elevation, and latitude by using climographs and vegetation maps.
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.3.	Characteristics and Geographic Distribution of Biomes: Climate primarily determines the characteristics and geographic distribution of biomes
BENCHMARK	PS.8.3.A.	Describe and explain how climate (temperature and rainfall) primarily determines the characteristics and geographic distribution of biomes, as exemplified by being able to

EXPECTATION PS.8.3.A.3. Explain how biomes do not always follow lines of latitude by identifying the influences of oceans and mountain ranges on the distribution of climate and vegetation.

ESSENTIAL ELEMENT NGS.HS. Human Systems

STANDARD HS.11. The patterns and networks of economic interdependence on Earth's surface

STRAND HS.11.1. Economic Activities: The functions of different types of economic activities

BENCHMARK HS.11.1.A. Describe and analyze the functions of economic activities in the primary, secondary, tertiary, and quaternary sectors, as exemplified by being able to

EXPECTATION HS.11.1.A.2. Describe the sequence of activities that occur in the manufacture of products (e.g., in the production of a computerized sewing machine, the iron-ore mining is primary, smelting iron and steel are secondary, selling of the steel sewing machines is tertiary, and advertising is quaternary).

ESSENTIAL ELEMENT NGS.HS. Human Systems

STANDARD HS.12. The processes, patterns, and functions of human settlement

STRAND HS.12.4. Urban Forms and Functions: Land uses in urban areas are systematically arranged

BENCHMARK HS.12.4.A. Describe and analyze the spatial patterns of land use in cities, as exemplified by being able to

EXPECTATION HS.12.4.A.3. Identify and describe a controversial land-use issue in the community and analyze the advantages and disadvantages of making the change in use (e.g., widening a street for more lanes of traffic, tearing down an old building for a new park, converting green space into a new building complex).

ESSENTIAL ELEMENT NGS.ES. Environment and Society

STANDARD ES.14. How human actions modify the physical environment

STRAND ES.14.1. Modification of the Physical Environment: Human modifications of the physical environment in one place often lead to changes in other places

BENCHMARK ES.14.1.A. Describe and explain how human-induced changes in one place can affect the physical environment in other places, as exemplified by being able to

EXPECTATION ES.14.1.A.2. Describe how human changes to land cover can have negative impacts on other areas (e.g., deforestation and downstream flooding, siltation, soil erosion).

ESSENTIAL ELEMENT NGS.ES. Environment and Society

STANDARD ES.14. How human actions modify the physical environment

STRAND ES.14.3. Consequences for People and Environments: The physical environment can both accommodate and be endangered by human activities

BENCHMARK ES.14.3.A. Analyze the positive and negative consequences of humans changing the physical environment, as exemplified by being able to

EXPECTATION ES.14.3.A.3. Analyze the ways humans can have positive effects on the physical environment (e.g., open green space protection, wetland restoration, sustainable forestry).

ESSENTIAL NGS.ES. Environment and Society

ELEMENT		
STANDARD	ES.16.	The changes that occur in the meaning, use, distribution, and importance of resources
STRAND	ES.16.1.	Types and Meanings of Resources: People can have different viewpoints regarding the meaning and use of resources
BENCHMARK	ES.16.1.A.	Describe examples of how cultures differ in their definition and use of resources, as exemplified by being able to
EXPECTATION	ES.16.1.A.1.	Describe differences in the types of resources used in different geographic contexts in various parts of the world (e.g., the use of wood or animal dung versus electricity or natural gas as a cooking fuel, the use of electrical appliances versus doing household chores by hand).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.16.	The changes that occur in the meaning, use, distribution, and importance of resources
STRAND	ES.16.3.	Sustainable Resource Use and Management: Humans can manage resources to sustain or prolong their use
BENCHMARK	ES.16.3.A.	Explain how renewable resources can be continuously replenished through sustainable use, as exemplified by being able to
EXPECTATION	ES.16.3.A.1.	Describe and explain how sustainable management techniques can be applied in farming, forestry, and fishing (e.g., soil banks and contour plowing, sustainable timber harvesting practices, aquaculture).

National Geography Standards (NGS)

Science

Grade 7 - Adopted: 2012

ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: The four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere) are interdependent
BENCHMARK	PS.7.1.A.	Identify and describe patterns in the environment that result from the interaction of Earth's physical processes, as exemplified by being able to
EXPECTATION	PS.7.1.A.2.	Identify and describe the patterns that result from the connections between climate and vegetation (e.g., examples of patterns of ecosystems and biomes).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: Components of ecosystems are interdependent
BENCHMARK	PS.8.1.A.	Describe how the components of ecosystems are connected and contribute to the energy of their own cycles, as exemplified by being able to
EXPECTATION	PS.8.1.A.1.	Describe the flow of energy and the cycling of matter through an ecosystem (e.g., the food chain, photosynthesis).

ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: Components of ecosystems are interdependent
BENCHMARK	PS.8.1.B.	Construct a model to explain how an ecosystem works, as exemplified by being able to
EXPECTATION	PS.8.1.B.3.	Construct a flow chart to explain the interactions of components within an ecosystem (e.g., water cycle, oxygen and carbon dioxide exchange, producers, consumers, and decomposers).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: Physical processes determine the characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.2.	Explain how different locations can have similar ecosystems as a function of temperature, precipitation, elevation, and latitude by using climographs and vegetation maps.
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.3.	Characteristics and Geographic Distribution of Biomes: Climate primarily determines the characteristics and geographic distribution of biomes
BENCHMARK	PS.8.3.A.	Describe and explain how climate (temperature and rainfall) primarily determines the characteristics and geographic distribution of biomes, as exemplified by being able to
EXPECTATION	PS.8.3.A.3.	Explain how biomes do not always follow lines of latitude by identifying the influences of oceans and mountain ranges on the distribution of climate and vegetation.
ESSENTIAL ELEMENT	NGS.HS.	Human Systems
STANDARD	HS.11.	The patterns and networks of economic interdependence on Earth's surface
STRAND	HS.11.1.	Economic Activities: The functions of different types of economic activities
BENCHMARK	HS.11.1.A.	Describe and analyze the functions of economic activities in the primary, secondary, tertiary, and quaternary sectors, as exemplified by being able to
EXPECTATION	HS.11.1.A.2.	Describe the sequence of activities that occur in the manufacture of products (e.g., in the production of a computerized sewing machine, the iron-ore mining is primary, smelting iron and steel are secondary, selling of the steel sewing machines is tertiary, and advertising is quaternary).
ESSENTIAL ELEMENT	NGS.HS.	Human Systems
STANDARD	HS.12.	The processes, patterns, and functions of human settlement

STRAND	HS.12.4.	Urban Forms and Functions: Land uses in urban areas are systematically arranged
BENCHMARK	HS.12.4.A.	Describe and analyze the spatial patterns of land use in cities, as exemplified by being able to
EXPECTATION	HS.12.4.A.3.	Identify and describe a controversial land-use issue in the community and analyze the advantages and disadvantages of making the change in use (e.g., widening a street for more lanes of traffic, tearing down an old building for a new park, converting green space into a new building complex).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.14.	How human actions modify the physical environment
STRAND	ES.14.1.	Modification of the Physical Environment: Human modifications of the physical environment in one place often lead to changes in other places
BENCHMARK	ES.14.1.A.	Describe and explain how human-induced changes in one place can affect the physical environment in other places, as exemplified by being able to
EXPECTATION	ES.14.1.A.2.	Describe how human changes to land cover can have negative impacts on other areas (e.g., deforestation and downstream flooding, siltation, soil erosion).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.14.	How human actions modify the physical environment
STRAND	ES.14.3.	Consequences for People and Environments: The physical environment can both accommodate and be endangered by human activities
BENCHMARK	ES.14.3.A.	Analyze the positive and negative consequences of humans changing the physical environment, as exemplified by being able to
EXPECTATION	ES.14.3.A.3.	Analyze the ways humans can have positive effects on the physical environment (e.g., open green space protection, wetland restoration, sustainable forestry).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.16.	The changes that occur in the meaning, use, distribution, and importance of resources
STRAND	ES.16.1.	Types and Meanings of Resources: People can have different viewpoints regarding the meaning and use of resources
BENCHMARK	ES.16.1.A.	Describe examples of how cultures differ in their definition and use of resources, as exemplified by being able to
EXPECTATION	ES.16.1.A.1.	Describe differences in the types of resources used in different geographic contexts in various parts of the world (e.g., the use of wood or animal dung versus electricity or natural gas as a cooking fuel, the use of electrical appliances versus doing household chores by hand).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.16.	The changes that occur in the meaning, use, distribution, and importance of resources
STRAND	ES.16.3.	Sustainable Resource Use and Management: Humans can manage resources to sustain or prolong their use
BENCHMARK	ES.16.3.A.	Explain how renewable resources can be continuously replenished through sustainable use, as exemplified by being able to

Describe and explain how sustainable management techniques can be applied in farming, forestry, and fishing (e.g., soil banks and contour plowing, sustainable timber harvesting practices, aquaculture).

EXPECTATION ES.16.3.A.1.

National Geography Standards (NGS)

Science

Grade 8 - Adopted: 2012

ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: The four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere) are interdependent
BENCHMARK	PS.7.1.A.	Identify and describe patterns in the environment that result from the interaction of Earth's physical processes, as exemplified by being able to
EXPECTATION	PS.7.1.A.2.	Identify and describe the patterns that result from the connections between climate and vegetation (e.g., examples of patterns of ecosystems and biomes).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: Components of ecosystems are interdependent
BENCHMARK	PS.8.1.A.	Describe how the components of ecosystems are connected and contribute to the energy of their own cycles, as exemplified by being able to
EXPECTATION	PS.8.1.A.1.	Describe the flow of energy and the cycling of matter through an ecosystem (e.g., the food chain, photosynthesis).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: Components of ecosystems are interdependent
BENCHMARK	PS.8.1.B.	Construct a model to explain how an ecosystem works, as exemplified by being able to
EXPECTATION	PS.8.1.B.3.	Construct a flow chart to explain the interactions of components within an ecosystem (e.g., water cycle, oxygen and carbon dioxide exchange, producers, consumers, and decomposers).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: Physical processes determine the characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.2.	Explain how different locations can have similar ecosystems as a function of temperature, precipitation, elevation, and latitude by using climographs and vegetation maps.

ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.3.	Characteristics and Geographic Distribution of Biomes: Climate primarily determines the characteristics and geographic distribution of biomes
BENCHMARK	PS.8.3.A.	Describe and explain how climate (temperature and rainfall) primarily determines the characteristics and geographic distribution of biomes, as exemplified by being able to
EXPECTATION	PS.8.3.A.3.	Explain how biomes do not always follow lines of latitude by identifying the influences of oceans and mountain ranges on the distribution of climate and vegetation.
ESSENTIAL ELEMENT	NGS.HS.	Human Systems
STANDARD	HS.11.	The patterns and networks of economic interdependence on Earth's surface
STRAND	HS.11.1.	Economic Activities: The functions of different types of economic activities
BENCHMARK	HS.11.1.A.	Describe and analyze the functions of economic activities in the primary, secondary, tertiary, and quaternary sectors, as exemplified by being able to
EXPECTATION	HS.11.1.A.2.	Describe the sequence of activities that occur in the manufacture of products (e.g., in the production of a computerized sewing machine, the iron-ore mining is primary, smelting iron and steel are secondary, selling of the steel sewing machines is tertiary, and advertising is quaternary).
ESSENTIAL ELEMENT	NGS.HS.	Human Systems
STANDARD	HS.12.	The processes, patterns, and functions of human settlement
STRAND	HS.12.4.	Urban Forms and Functions: Land uses in urban areas are systematically arranged
BENCHMARK	HS.12.4.A.	Describe and analyze the spatial patterns of land use in cities, as exemplified by being able to
EXPECTATION	HS.12.4.A.3.	Identify and describe a controversial land-use issue in the community and analyze the advantages and disadvantages of making the change in use (e.g., widening a street for more lanes of traffic, tearing down an old building for a new park, converting green space into a new building complex).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.14.	How human actions modify the physical environment
STRAND	ES.14.1.	Modification of the Physical Environment: Human modifications of the physical environment in one place often lead to changes in other places
BENCHMARK	ES.14.1.A.	Describe and explain how human-induced changes in one place can affect the physical environment in other places, as exemplified by being able to
EXPECTATION	ES.14.1.A.2.	Describe how human changes to land cover can have negative impacts on other areas (e.g., deforestation and downstream flooding, siltation, soil erosion).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society

STANDARD	ES.14.	How human actions modify the physical environment
STRAND	ES.14.3.	Consequences for People and Environments: The physical environment can both accommodate and be endangered by human activities
BENCHMARK	ES.14.3.A.	Analyze the positive and negative consequences of humans changing the physical environment, as exemplified by being able to
EXPECTATION	ES.14.3.A.3.	Analyze the ways humans can have positive effects on the physical environment (e.g., open green space protection, wetland restoration, sustainable forestry).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.16.	The changes that occur in the meaning, use, distribution, and importance of resources
STRAND	ES.16.1.	Types and Meanings of Resources: People can have different viewpoints regarding the meaning and use of resources
BENCHMARK	ES.16.1.A.	Describe examples of how cultures differ in their definition and use of resources, as exemplified by being able to
EXPECTATION	ES.16.1.A.1.	Describe differences in the types of resources used in different geographic contexts in various parts of the world (e.g., the use of wood or animal dung versus electricity or natural gas as a cooking fuel, the use of electrical appliances versus doing household chores by hand).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.16.	The changes that occur in the meaning, use, distribution, and importance of resources
STRAND	ES.16.3.	Sustainable Resource Use and Management: Humans can manage resources to sustain or prolong their use
BENCHMARK	ES.16.3.A.	Explain how renewable resources can be continuously replenished through sustainable use, as exemplified by being able to
EXPECTATION	ES.16.3.A.1.	Describe and explain how sustainable management techniques can be applied in farming, forestry, and fishing (e.g., soil banks and contour plowing, sustainable timber harvesting practices, aquaculture).

National Geography Standards (NGS)

Science

Grade 9 - Adopted: 2012

ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: The interactions of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere) vary across space and time
BENCHMARK	PS.7.1.B.	Explain the ways in which Earth's physical processes are dynamic and interactive, as exemplified by being able to
EXPECTATION	PS.7.1.B.1.	Explain how volcanic eruptions and forest fires change atmospheric conditions and disrupt the nitrogen and carbon cycles.
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on

		Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: The characteristics and geographic distribution of ecosystems
BENCHMARK	PS.8.2.B.	Evaluate ecosystems in terms of their biodiversity and productivity, as exemplified by being able to
EXPECTATION	PS.8.2.B.3.	Evaluate changes in the biodiversity and productivity of an ecosystem following the loss or introduction of a plant or animal species.
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.16.	The changes that occur in the meaning, use, distribution, and importance of resources
STRAND	ES.16.2.	Location and Distribution of Resources: The spatial distribution of resources affects patterns of human settlement and trade
BENCHMARK	ES.16.2.B.	Analyze and evaluate patterns of trade in resources, as exemplified by being able to
EXPECTATION	ES.16.2.B.1.	Analyze the positive and negative economic, social, and environmental consequences of extracting and/or using specific resources to trade in foreign markets (e.g., timber, coal, petroleum, uranium).
ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.16.	The changes that occur in the meaning, use, distribution, and importance of resources
STRAND	ES.16.3.	Sustainable Resource Use and Management: Policies and programs that promote the sustainable use and management of resources impact people and the environment
BENCHMARK	ES.16.3.B.	Evaluate policy decisions regarding the sustainable use of resources in different regions and at different spatial scales in the world, as exemplified by being able to
EXPECTATION	ES.16.3.B.2.	Compare government policies and programs to promote sustainability (e.g., reducing fossil-fuel dependency, recycling, conserving water) in developed and developing countries.
ESSENTIAL ELEMENT	NGS.UG.	The Uses of Geography
STANDARD	UG.18.	How to apply geography to interpret the present and plan for the future
STRAND	UG.18.1.	Using Geography to Interpret the Present and Plan for the Future: Geographic contexts (the human and physical characteristics of places and environments) provide the basis for analyzing current events and making predictions about future issues
BENCHMARK	UG.18.1.B.	Analyze and evaluate the connections between the geographic contexts of current events and possible future issues, as exemplified by being able to
EXPECTATION	UG.18.1.B.1.	Evaluate the feasibility and long-range impacts in a series of scenarios for dealing with social and environmental issues (e.g., absorbing and dispersing refugees, responding to threats from global warming, managing the future of Antarctica).

National Geography Standards (NGS)

Social Studies

Grade 5 - Adopted: 2012

ESSENTIAL ELEMENT	NGS.WST.	The World in Spatial Terms
STANDARD	WST.3.	How to analyze the spatial organization of people, places, and environments on Earth's surface
STRAND	WST.3.3.	Spatial Models: Models are used to represent spatial processes that shape human and physical systems
BENCHMARK	WST.3.3.A.	Describe the processes that shape human and physical systems (e.g., diffusion, migration, and plate tectonics) using models, as exemplified by being able to
EXPECTATION	WST.3.3.A.1.	Describe a model that illustrates the diffusion of cultural characteristics (e.g., music styles, clothing styles, fast-food preferences).
ESSENTIAL ELEMENT	NGS.PR.	Places and Regions
STANDARD	PR.5.	That people create regions to interpret Earth's complexity
STRAND	PR.5.1.	The Concept of Region: Different types of regions are used to organize and interpret areas of Earth's surface
BENCHMARK	PR.5.1.A.	Identify and explain the criteria used to define formal, functional, and perceptual regions, as exemplified by being able to
EXPECTATION	PR.5.1.A.1.	Identify and explain the bases for the formal region(s), functional region(s), and perceptual region(s) for the community or state where the students live (e.g., for Michigan, the Kalamazoo-Battle Creek Metropolitan Statistical Area is a formal region, the fruit belt in Southwest Michigan is a functional region, Kalamazoo as the snow belt capital of Lake Michigan is a perceptual region).
EXPECTATION	PR.5.1.A.3.	Analyze collected maps with regional labels as examples of formal, functional, or perceptual regions (e.g., maps of physical regions as formal, weather maps as functional, tourist maps as perceptual).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: The four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere) are interdependent
BENCHMARK	PS.7.1.A.	Identify and describe patterns in the environment that result from the interaction of Earth's physical processes, as exemplified by being able to
EXPECTATION	PS.7.1.A.2.	Identify and describe the patterns that result from the connections between climate and vegetation (e.g., examples of patterns of ecosystems and biomes).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: Physical processes determine the characteristics of ecosystems

BENCHMARK	PS.8.2.A.	Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.2.	Explain how different locations can have similar ecosystems as a function of temperature, precipitation, elevation, and latitude by using climographs and vegetation maps.
ESSENTIAL ELEMENT	NGS.HS.	Human Systems
STANDARD	HS.10.	The characteristics, distribution, and complexity of Earth's cultural mosaics
STRAND	HS.10.1.	Characteristics of Culture: There are many different cultures, each with its own distinctive characteristics
BENCHMARK	HS.10.1.A.	Compare the cultural characteristics of different cultures, as exemplified by being able to
EXPECTATION	HS.10.1.A.3.	Describe and explain the spatial patterns of different cultural characteristics across regions or countries (e.g., the pattern of languages and dialects within a country, the architectural styles predominant in rural areas of European countries, the worldwide distribution of different religions).
ESSENTIAL ELEMENT	NGS.UG.	The Uses of Geography
STANDARD	UG.17.	How to apply geography to interpret the past
STRAND	UG.17.1.	Using Geography to Interpret the Past: A historical event is influenced by the geographic context (the human and physical characteristics of places and environments) in which it occurred
BENCHMARK	UG.17.1.A.	Analyze and explain the influence of the geographic context on historical events, as exemplified by being able to
EXPECTATION	UG.17.1.A.1.	Analyze the significance of physical features that have influenced historical events (e.g., the role of hydrologic features such as the fall line, Cumberland Gap, the Ohio River, the Ogallala Aquifer, or artesian wells of the Great Plains in the settlement of the United States, the role of ocean currents and prevailing winds in exploration by Columbus, the forced transport of Africans to North and South America).

National Geography Standards (NGS)

Social Studies

Grade 6 - Adopted: 2012

ESSENTIAL ELEMENT	NGS.WST.	The World in Spatial Terms
STANDARD	WST.3.	How to analyze the spatial organization of people, places, and environments on Earth's surface
STRAND	WST.3.3.	Spatial Models: Models are used to represent spatial processes that shape human and physical systems
BENCHMARK	WST.3.3.A.	Describe the processes that shape human and physical systems (e.g., diffusion, migration, and plate tectonics) using models, as exemplified by being able to
EXPECTATION	WST.3.3.A.1.	Describe a model that illustrates the diffusion of cultural characteristics (e.g., music styles, clothing styles, fast-food preferences).
ESSENTIAL ELEMENT	NGS.PR.	Places and Regions

STANDARD	PR.5.	That people create regions to interpret Earth's complexity
STRAND	PR.5.1.	The Concept of Region: Different types of regions are used to organize and interpret areas of Earth's surface
BENCHMARK	PR.5.1.A.	Identify and explain the criteria used to define formal, functional, and perceptual regions, as exemplified by being able to
EXPECTATION	PR.5.1.A.1.	Identify and explain the bases for the formal region(s), functional region(s), and perceptual region(s) for the community or state where the students live (e.g., for Michigan, the Kalamazoo-Battle Creek Metropolitan Statistical Area is a formal region, the fruit belt in Southwest Michigan is a functional region, Kalamazoo as the snow belt capital of Lake Michigan is a perceptual region).
EXPECTATION	PR.5.1.A.3.	Analyze collected maps with regional labels as examples of formal, functional, or perceptual regions (e.g., maps of physical regions as formal, weather maps as functional, tourist maps as perceptual).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.1.	Components of Earth's Physical Systems: The four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere) are interdependent
BENCHMARK	PS.7.1.A.	Identify and describe patterns in the environment that result from the interaction of Earth's physical processes, as exemplified by being able to
EXPECTATION	PS.7.1.A.2.	Identify and describe the patterns that result from the connections between climate and vegetation (e.g., examples of patterns of ecosystems and biomes).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: Physical processes determine the characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.2.	Explain how different locations can have similar ecosystems as a function of temperature, precipitation, elevation, and latitude by using climographs and vegetation maps.
ESSENTIAL ELEMENT	NGS.HS.	Human Systems
STANDARD	HS.10.	The characteristics, distribution, and complexity of Earth's cultural mosaics
STRAND	HS.10.1.	Characteristics of Culture: There are many different cultures, each with its own distinctive characteristics
BENCHMARK	HS.10.1.A.	Compare the cultural characteristics of different cultures, as exemplified by being able to
EXPECTATION	HS.10.1.A.3.	Describe and explain the spatial patterns of different cultural characteristics across regions or countries (e.g., the pattern of languages and dialects within a country, the architectural styles predominant in rural areas of European countries, the worldwide distribution of different religions).

ESSENTIAL ELEMENT	NGS.UG.	The Uses of Geography
STANDARD	UG.17.	How to apply geography to interpret the past
STRAND	UG.17.1.	Using Geography to Interpret the Past: A historical event is influenced by the geographic context (the human and physical characteristics of places and environments) in which it occurred
BENCHMARK	UG.17.1.A.	Analyze and explain the influence of the geographic context on historical events, as exemplified by being able to
EXPECTATION	UG.17.1.A.1.	Analyze the significance of physical features that have influenced historical events (e.g., the role of hydrologic features such as the fall line, Cumberland Gap, the Ohio River, the Ogallala Aquifer, or artesian wells of the Great Plains in the settlement of the United States, the role of ocean currents and prevailing winds in exploration by Columbus, the forced transport of Africans to North and South America).

National Geography Standards (NGS)

Social Studies

Grade 7 - Adopted: 2012

ESSENTIAL ELEMENT	NGS.WST.	The World in Spatial Terms
STANDARD	WST.3.	How to analyze the spatial organization of people, places, and environments on Earth's surface
STRAND	WST.3.3.	Spatial Models: Models are used to represent spatial processes that shape human and physical systems
BENCHMARK	WST.3.3.A.	Describe the processes that shape human and physical systems (e.g., diffusion, migration, and plate tectonics) using models, as exemplified by being able to
EXPECTATION	WST.3.3.A.1.	Describe a model that illustrates the diffusion of cultural characteristics (e.g., music styles, clothing styles, fast-food preferences).
ESSENTIAL ELEMENT	NGS.PR.	Places and Regions
STANDARD	PR.5.	That people create regions to interpret Earth's complexity
STRAND	PR.5.1.	The Concept of Region: Different types of regions are used to organize and interpret areas of Earth's surface
BENCHMARK	PR.5.1.A.	Identify and explain the criteria used to define formal, functional, and perceptual regions, as exemplified by being able to
EXPECTATION	PR.5.1.A.1.	Identify and explain the bases for the formal region(s), functional region(s), and perceptual region(s) for the community or state where the students live (e.g., for Michigan, the Kalamazoo-Battle Creek Metropolitan Statistical Area is a formal region, the fruit belt in Southwest Michigan is a functional region, Kalamazoo as the snow belt capital of Lake Michigan is a perceptual region).
EXPECTATION	PR.5.1.A.3.	Analyze collected maps with regional labels as examples of formal, functional, or perceptual regions (e.g., maps of physical regions as formal, weather maps as functional, tourist maps as perceptual).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.7.	The physical processes that shape the patterns of Earth's surface

STRAND	PS.7.1.	Components of Earth’s Physical Systems: The four components of Earth’s physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere) are interdependent
BENCHMARK	PS.7.1.A.	Identify and describe patterns in the environment that result from the interaction of Earth’s physical processes, as exemplified by being able to
EXPECTATION	PS.7.1.A.2.	Identify and describe the patterns that result from the connections between climate and vegetation (e.g., examples of patterns of ecosystems and biomes).
ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth’s surface
STRAND	PS.8.2.	Characteristics and Geographic Distribution of Ecosystems: Physical processes determine the characteristics of ecosystems
BENCHMARK	PS.8.2.A.	Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to
EXPECTATION	PS.8.2.A.2.	Explain how different locations can have similar ecosystems as a function of temperature, precipitation, elevation, and latitude by using climographs and vegetation maps.
ESSENTIAL ELEMENT	NGS.HS.	Human Systems
STANDARD	HS.10.	The characteristics, distribution, and complexity of Earth’s cultural mosaics
STRAND	HS.10.1.	Characteristics of Culture: There are many different cultures, each with its own distinctive characteristics
BENCHMARK	HS.10.1.A.	Compare the cultural characteristics of different cultures, as exemplified by being able to
EXPECTATION	HS.10.1.A.3.	Describe and explain the spatial patterns of different cultural characteristics across regions or countries (e.g., the pattern of languages and dialects within a country, the architectural styles predominant in rural areas of European countries, the worldwide distribution of different religions).
ESSENTIAL ELEMENT	NGS.UG.	The Uses of Geography
STANDARD	UG.17.	How to apply geography to interpret the past
STRAND	UG.17.1.	Using Geography to Interpret the Past: A historical event is influenced by the geographic context (the human and physical characteristics of places and environments) in which it occurred
BENCHMARK	UG.17.1.A.	Analyze and explain the influence of the geographic context on historical events, as exemplified by being able to
EXPECTATION	UG.17.1.A.1.	Analyze the significance of physical features that have influenced historical events (e.g., the role of hydrologic features such as the fall line, Cumberland Gap, the Ohio River, the Ogallala Aquifer, or artesian wells of the Great Plains in the settlement of the United States, the role of ocean currents and prevailing winds in exploration by Columbus, the forced transport of Africans to North and South America).

National Geography Standards (NGS)

Social Studies

Grade 8 - Adopted: 2012

ESSENTIAL ELEMENT	NGS.WST.	The World in Spatial Terms
STANDARD	WST.3.	How to analyze the spatial organization of people, places, and environments on Earth's surface
STRAND	WST.3.3.	Spatial Models: Models are used to represent spatial processes that shape human and physical systems
BENCHMARK	WST.3.3.A.	Describe the processes that shape human and physical systems (e.g., diffusion, migration, and plate tectonics) using models, as exemplified by being able to
EXPECTATION	WST.3.3.A.1.	Describe a model that illustrates the diffusion of cultural characteristics (e.g., music styles, clothing styles, fast-food preferences).
ESSENTIAL ELEMENT	NGS.PR.	Places and Regions
STANDARD	PR.5.	That people create regions to interpret Earth's complexity
STRAND	PR.5.1.	The Concept of Region: Different types of regions are used to organize and interpret areas of Earth's surface
BENCHMARK	PR.5.1.A.	Identify and explain the criteria used to define formal, functional, and perceptual regions, as exemplified by being able to
EXPECTATION	PR.5.1.A.1.	Identify and explain the bases for the formal region(s), functional region(s), and perceptual region(s) for the community or state where the students live (e.g., for Michigan, the Kalamazoo-Battle Creek Metropolitan Statistical Area is a formal region, the fruit belt in Southwest Michigan is a functional region, Kalamazoo as the snow belt capital of Lake Michigan is a perceptual region).
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ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
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BENCHMARK	PS.7.1.A.	Identify and describe patterns in the environment that result from the interaction of Earth's physical processes, as exemplified by being able to
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BENCHMARK	PS.8.2.A.	Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to
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ESSENTIAL ELEMENT	NGS.HS.	Human Systems
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ESSENTIAL ELEMENT	NGS.UG.	The Uses of Geography
STANDARD	UG.17.	How to apply geography to interpret the past
STRAND	UG.17.1.	Using Geography to Interpret the Past: A historical event is influenced by the geographic context (the human and physical characteristics of places and environments) in which it occurred
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EXPECTATION	UG.17.1.A.1.	Analyze the significance of physical features that have influenced historical events (e.g., the role of hydrologic features such as the fall line, Cumberland Gap, the Ohio River, the Ogallala Aquifer, or artesian wells of the Great Plains in the settlement of the United States, the role of ocean currents and prevailing winds in exploration by Columbus, the forced transport of Africans to North and South America).

National Geography Standards (NGS)

Social Studies

Grade 9 - Adopted: 2012

ESSENTIAL ELEMENT	NGS.PS.	Physical Systems
STANDARD	PS.8.	The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
STRAND	PS.8.1.	Components of Ecosystems: Ecosystems are dynamic and respond to changes in environmental conditions
BENCHMARK	PS.8.1.A.	Explain how there are short-term and long-term changes in ecosystems, as exemplified by being able to
EXPECTATION	PS.8.1.A.2.	Explain the response of ecosystems to stress caused by physical events in terms of their characteristics and capacity to respond (e.g., changes in mangroves by tsunamis, changes in forest flora and fauna after a fire).
EXPECTATION	PS.8.1.A.3.	Explain how ecosystems respond to long-term changes in the physical environment (e.g., glacial retreat, volcanic eruptions, sea-level rise, increases in sea temperatures).
ESSENTIAL ELEMENT	NGS.HS.	Human Systems

STANDARD	HS.10.	The characteristics, distribution, and complexity of Earth's cultural mosaics
STRAND	HS.10.1.	Characteristics of Culture: Cultural systems provide contexts for living in and viewing the world
BENCHMARK	HS.10.1.A.	Describe and explain the characteristics that constitute any particular cultural system (e.g., Amish, Japanese, Maori), as exemplified by being able to
EXPECTATION	HS.10.1.A.3.	Explain how local customs can contribute to a group's culture (e.g., lion hunting by Masai cattle herders in East Africa, outrigger canoe navigation by Pacific Island cultures).

Next Generation Science Standards (NGSS)

Science

Grade 5 - Adopted: 2013

STRAND	NGSS.5-LS.	LIFE SCIENCE
TITLE	5-LS2.	Ecosystems: Interactions, Energy, and Dynamics Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	5-LS2-1.	Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.
STRAND	NGSS.5-ESS.	EARTH AND SPACE SCIENCE
TITLE	5-ESS2.	Earth's Systems Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	5-ESS2-1.	Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
STRAND	NGSS.5-ESS.	EARTH AND SPACE SCIENCE
TITLE	5-ESS3.	Earth and Human Activity Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	5-ESS3-1.	Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Next Generation Science Standards (NGSS)

Science

Grade 6 - Adopted: 2013

STRAND	NGSS.MS-PS.	PHYSICAL SCIENCE
TITLE	MS-PS1.	Matter and Its Interactions Students who demonstrate understanding can:
PERFORMANCE	MS-PS1-3.	Gather and make sense of information to describe that synthetic materials

EXPECTATION		come from natural resources and impact society.
STRAND	NGSS.MS-LS.	LIFE SCIENCE
TITLE	MS-LS2.	Ecosystems: Interactions, Energy, and Dynamics Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	MS-LS2-2.	Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
PERFORMANCE EXPECTATION	MS-LS2-3.	Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.
PERFORMANCE EXPECTATION	MS-LS2-4.	Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
PERFORMANCE EXPECTATION	MS-LS2-5.	Evaluate competing design solutions for maintaining biodiversity and ecosystem services.
STRAND	NGSS.MS-ESS.	EARTH AND SPACE SCIENCE
TITLE	MS-ESS2.	Earth's Systems Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	MS-ESS2-1.	Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.
STRAND	NGSS.MS-ESS.	EARTH AND SPACE SCIENCE
TITLE	MS-ESS3.	Earth and Human Activity Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	MS-ESS3-4.	Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

Next Generation Science Standards (NGSS)

Science

Grade 7 - Adopted: 2013

STRAND	NGSS.MS-PS.	PHYSICAL SCIENCE
TITLE	MS-PS1.	Matter and Its Interactions Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	MS-PS1-3.	Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.
STRAND	NGSS.MS-LS.	LIFE SCIENCE
TITLE	MS-LS2.	Ecosystems: Interactions, Energy, and Dynamics Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	MS-LS2-2.	Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
PERFORMANCE EXPECTATION	MS-LS2-3.	Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.
PERFORMANCE EXPECTATION	MS-LS2-4.	Construct an argument supported by empirical evidence that changes to

EXPECTATION		physical or biological components of an ecosystem affect populations.
PERFORMANCE EXPECTATION	MS-LS2-5.	Evaluate competing design solutions for maintaining biodiversity and ecosystem services.
STRAND	NGSS.MS-ESS.	EARTH AND SPACE SCIENCE
TITLE	MS-ESS2.	Earth's Systems Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	MS-ESS2-1.	Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.
STRAND	NGSS.MS-ESS.	EARTH AND SPACE SCIENCE
TITLE	MS-ESS3.	Earth and Human Activity Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	MS-ESS3-4.	Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

Next Generation Science Standards (NGSS)
Science

Grade 8 - Adopted: 2013

STRAND	NGSS.MS-PS.	PHYSICAL SCIENCE
TITLE	MS-PS1.	Matter and Its Interactions Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	MS-PS1-3.	Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.
STRAND	NGSS.MS-LS.	LIFE SCIENCE
TITLE	MS-LS2.	Ecosystems: Interactions, Energy, and Dynamics Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	MS-LS2-2.	Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
PERFORMANCE EXPECTATION	MS-LS2-3.	Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.
PERFORMANCE EXPECTATION	MS-LS2-4.	Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
PERFORMANCE EXPECTATION	MS-LS2-5.	Evaluate competing design solutions for maintaining biodiversity and ecosystem services.
STRAND	NGSS.MS-ESS.	EARTH AND SPACE SCIENCE
TITLE	MS-ESS2.	Earth's Systems Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	MS-ESS2-1.	Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.
STRAND	NGSS.MS-ESS.	EARTH AND SPACE SCIENCE

TITLE	MS-ESS3. Earth and Human Activity
	Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	MS-ESS3-4. Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

Next Generation Science Standards (NGSS)
Science

Grade 9 - Adopted: 2013

STRAND	NGSS.HS-LS. LIFE SCIENCE
TITLE	HS-LS2. Ecosystems: Interactions, Energy, and Dynamics
	Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	HS-LS2-2. Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.
PERFORMANCE EXPECTATION	HS-LS2-3. Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.
PERFORMANCE EXPECTATION	HS-LS2-4. Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.
PERFORMANCE EXPECTATION	HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
STRAND	NGSS.HS-LS. LIFE SCIENCE
TITLE	HS-LS4. Biological Evolution: Unity and Diversity
	Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	HS-LS4-5. Evaluate the evidence supporting claims that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.
PERFORMANCE EXPECTATION	HS-LS4-6. Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.
STRAND	NGSS.HS-ESS. EARTH AND SPACE SCIENCE
TITLE	HS-ESS2. Earth's Systems
	Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	HS-ESS2-2. Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth's systems.
PERFORMANCE EXPECTATION	HS-ESS2-6. Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.
STRAND	NGSS.HS-ESS. EARTH AND SPACE SCIENCE
TITLE	HS-ESS3. Earth and Human Activity
	Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate

		have influenced human activity.
PERFORMANCE EXPECTATION	HS-ESS3-2.	Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.
PERFORMANCE EXPECTATION	HS-ESS3-3.	Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.
PERFORMANCE EXPECTATION	HS-ESS3-6.	Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.
STRAND	NGSS.HS-ETS.	ENGINEERING DESIGN
TITLE	HS-ETS1.	Engineering Design
		Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	HS-ETS1-1.	Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

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