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 1 - 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	3.1.1.	The theme of people, places, and environments involves the study of the relationships between human populations in different locations and geographic phenomena such as climate, vegetation, and natural resources.
LEARNING EXPECTATION	3.1.3.	Past and present changes in physical systems, such as seasons, climate, and weather, and the water cycle, in both national and global contexts.
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	3.1.7.	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	3.2.3.	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	1.1.1.	'Culture" refers to the socially transmitted behaviors, beliefs, values, traditions,

EXPECTATION		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	3.1.1.	The theme of people, places, and environments involves the study of the relationships between human populations in different locations and geographic phenomena such as climate, vegetation, and natural resources.
LEARNING EXPECTATION	3.1.3.	Past and present changes in physical systems, such as seasons, climate, and weather, and the water cycle, in both national and global contexts.
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	3.1.7.	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	3.2.3.	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 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	3.1.1.	The theme of people, places, and environments involves the study of the relationships between human populations in different locations and geographic phenomena such as climate, vegetation, and natural resources.
LEARNING EXPECTATION	3.1.3.	Past and present changes in physical systems, such as seasons, climate, and weather, and the water cycle, in both national and global contexts.
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	3.1.7.	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	3.2.3.	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 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	3.1.1.	The theme of people, places, and environments involves the study of the relationships between human populations in different locations and geographic phenomena such as climate, vegetation, and natural resources.
LEARNING EXPECTATION	3.1.3.	Past and present changes in physical systems, such as seasons, climate, and weather, and the water cycle, in both national and global contexts.
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	3.1.7.	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	3.2.3.	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 OP PEOPLE, PLACES, AND ENVIRONMENTS.
CATEGORY	3.1.	KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION	3.1.1.	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	3.1.2.	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.
LEARNING EXPECTATION	3.1.3.	Consequences of changes in regional and global physical systems, such as seasons, climate, and weather, and the water cycle.
THEME	NCSS.3.	PEOPLE, PLACES, AND ENVIRONMENTS
DEFINITION		SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OP PEOPLE, PLACES, AND ENVIRONMENTS.
CATEGORY	3.2.	PROCESSES - Learners will be able to:
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:
LEARNING EXPECTATION	4.3.3.	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.
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, 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.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.2.	Earth-Sun Relationships: Earth-Sun relationships drives physical processes that follow an annual cycle and create patterns on Earth
BENCHMARK	PS.7.2.A.	Explain how Earth-Sun relationships drive Earth's physical processes and create annual patterns, as exemplified by being able to
EXPECTATION	PS.7.2.A.2.	Explain why the hours of visible sunlight changes with seasons (e.g., the equatorial region experiences approximately 12 hours of sunlight year round while places in the Arctic and Antarctic circles vary from 0 to 24 hours of visible sunlight).
EXPECTATION	PS.7.2.A.3.	Describe how the angle of the Sun's rays changes at different latitudes by shining a light directly on the equator of a globe and noting the change in the location (on the tropic lines) and angle of the direct rays as the tilted globe is moved to represent the different seasons.
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.

National Geography Standards (NGS)

Science

Grade 6 - 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.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.2.	Earth-Sun Relationships: Earth-Sun relationships drives physical processes that follow an annual cycle and create patterns on Earth
BENCHMARK	PS.7.2.A.	Explain how Earth-Sun relationships drive Earth’s physical processes and create annual patterns, as exemplified by being able to
EXPECTATION	PS.7.2.A.2.	Explain why the hours of visible sunlight changes with seasons (e.g., the equatorial region experiences approximately 12 hours of sunlight year round while places in the Arctic and Antarctic circles vary from 0 to 24 hours of visible sunlight).
EXPECTATION	PS.7.2.A.3.	Describe how the angle of the Sun’s rays changes at different latitudes by shining a light directly on the equator of a globe and noting the change in the

		location (on the tropic lines) and angle of the direct rays as the tilted globe is moved to represent the different seasons.
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.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.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.2.	Earth-Sun Relationships: Earth-Sun relationships drives physical processes that follow an annual cycle and create patterns on Earth
BENCHMARK	PS.7.2.A.	Explain how Earth-Sun relationships drive Earth's physical processes and create annual patterns, as exemplified by being able to
EXPECTATION	PS.7.2.A.2.	Explain why the hours of visible sunlight changes with seasons (e.g., the equatorial region experiences approximately 12 hours of sunlight year round while places in the Arctic and Antarctic circles vary from 0 to 24 hours of visible sunlight).
EXPECTATION	PS.7.2.A.3.	Describe how the angle of the Sun's rays changes at different latitudes by shining a light directly on the equator of a globe and noting the change in the location (on the tropic lines) and angle of the direct rays as the tilted globe is moved to represent the different seasons.
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.

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.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.2.	Earth-Sun Relationships: Earth-Sun relationships drives physical processes that follow an annual cycle and create patterns on Earth
BENCHMARK	PS.7.2.A.	Explain how Earth-Sun relationships drive Earth’s physical processes and create annual patterns, as exemplified by being able to
EXPECTATION	PS.7.2.A.2.	Explain why the hours of visible sunlight changes with seasons (e.g., the equatorial region experiences approximately 12 hours of sunlight year round while places in the Arctic and Antarctic circles vary from 0 to 24 hours of visible sunlight).
EXPECTATION	PS.7.2.A.3.	Describe how the angle of the Sun’s rays changes at different latitudes by shining a light directly on the equator of a globe and noting the change in the location (on the tropic lines) and angle of the direct rays as the tilted

		globe is moved to represent the different seasons.
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.

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.A.	Explain how the effects of physical processes vary across regions of the world and over time, as exemplified by being able to
EXPECTATION	PS.7.1.A.2.	Analyze and explain the differential effects on climate of the relationship between water and wind at different latitudes (e.g., cold currents influence the creation of deserts at 20 and 30 degrees north and south latitudes, the formation of hurricanes and tropical storms).
EXPECTATION	PS.7.1.A.3.	Analyze and explain the relationships between physical processes and the location of land features (e.g., river valleys, canyons, deltas, glaciated lakes and moraines, limestone deposits, caves, alluvial fans, canyons).
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).
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.1.	Evaluate ecosystems for their level of biodiversity and productivity (e.g., the low productivity of deserts and the high productivity of estuaries and tropical forests).
EXPECTATION	PS.8.2.B.2.	Compare the biodiversity and productivity in an ecosystem that is experiencing some form of stress with a similar healthy ecosystem.

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.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.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.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.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.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.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.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.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.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.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.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.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 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).

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.

Next Generation Science Standards (NGSS)

Science

Grade 6 - Adopted: **2013**

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.

Next Generation Science Standards (NGSS)

Science

Grade 7 - Adopted: **2013**

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.

Next Generation Science Standards (NGSS)

Science

Grade 8 - Adopted: **2013**

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.

Next Generation Science Standards (NGSS)

Science

Grade 9 - Adopted: **2013**

STRAND	NGSS.HS-LS.	LIFE SCIENCE
TITLE	HS-LS1.	From Molecules to Organisms: Structures and Processes
		Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	HS-LS1-3.	Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.
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	HS-LS2-3.	Construct and revise an explanation based on evidence for the cycling of

EXPECTATION		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-LS2-6.	Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.
STRAND	NGSS.HS-ESS.	EARTH AND SPACE SCIENCE
TITLE	HS-ESS2.	Earth's Systems
		Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	HS-ESS2-4.	Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.