Main Criteria: Virtual Field Trips

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

Subjects: Science, Social Studies

Grade: 3

Virtual Field Trips

Grade 4 - West Region Geography

National Council for the Social Studies (NCSS)

Social Studies

Grade **3** - Adopted: **2010**

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.	That people view and interpret historical events differently because of the times in which they live, the experiences they have, and the point of view they hold.

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	**2.2.**	**PROCESSES - Learners will be able to:**
LEARNING EXPECTATION	2.2.5.	Compare and contrast differing stories or accounts about past events, people, places, or situations, and offer possible reasons for the differences.

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 location, place, and the interactions of people with their surroundings.
LEARNING EXPECTATION	3.1.5.	Physical changes in community, state, and region, such as seasons, climate, and weather, and their effects on plants and animals.
LEARNING EXPECTATION	3.1.7.	Benefits and problems resulting from the discovery and use of resources.

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 the school, community, state, region, and world.

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	**3.3.**	**PRODUCTS - Learners demonstrate understanding by:**
LEARNING EXPECTATION	3.3.1.	Creating illustrations and composing answers to geographic questions about people, places, and environments.

National Geography Standards (NGS)

Science

Grade **3** - 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 features of human and/or physical systems**
BENCHMARK	**WST.3.3.A.**	**Describe and construct models illustrating the properties of human and/or physical systems, as exemplified by being able to**
EXPECTATION	WST.3.3.A.1.	Construct a model of Earth and describe its shape, size, and key features (e.g., equator, poles, prime meridian, oceans, continents).

ESSENTIAL ELEMENT	**NGS.PR.**	**Places and Regions**
STANDARD	**PR.4.**	**The physical and human characteristics of places**
STRAND	**PR.4.2.**	**The Characteristics of Places: Places have physical and human characteristics**
BENCHMARK	**PR.4.2.A.**	**Describe and compare the physical characteristics of places at a variety of scales, local to global, as exemplified by being able to**
EXPECTATION	PR.4.2.A.2.	Describe and compare the vegetation in different places in the world (e.g., deserts, mountains, rain forests, plains).
EXPECTATION	PR.4.2.A.3.	Describe and compare the physical environments and landforms of different places in the world (e.g., mountains, islands, valleys or canyons, mesas).

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: There are four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere)**
BENCHMARK	**PS.7.1.A.**	**Identify attributes of Earth's different physical systems, as exemplified by being able to**
EXPECTATION	PS.7.1.A.3.	Identify examples of landforms on Earth's surface (e.g., mountains, volcanoes, valleys, plains).

ESSENTIAL ELEMENT	**NGS.PS.**	**Physical Systems**
STANDARD	**PS.7.**	**The physical processes that shape the patterns of Earth's surface**
STRAND	**PS.7.3.**	**Physical Processes: Physical processes shape features on Earth's surface**
BENCHMARK	**PS.7.3.B.**	**Describe how physical processes shape features on Earth's surface, as exemplified by being able to**

EXPECTATION	PS.7.3.B.2.	Describe the physical processes that shaped particular landform features using pictures of landforms such as canyons, mesas, and deltas.
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: The components of ecosystems**
BENCHMARK	**PS.8.1.A.**	**Identify the components of different ecosystems, as exemplified by being able to**
EXPECTATION	PS.8.1.A.2.	Identify examples of each ecosystem component (e.g., pine trees versus grasslands, low versus high rainfall, clay versus sandy soils).
EXPECTATION	PS.8.1.A.3.	Describe local ecosystems by surveying and recording the properties of their components.
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 of ecosystems**
BENCHMARK	**PS.8.2.A.**	**Identify and describe the characteristics of ecosystems, as exemplified by being able to**
EXPECTATION	PS.8.2.A.1.	Identify and describe the characteristics of an ecosystem (specific types of plants, climate, and soil) in which a favorite or interesting creature lives.
EXPECTATION	PS.8.2.A.2.	Identify and draw pictures of different plants and animals in various local ecosystems (e.g., a pond, forest, city park).
EXPECTATION	PS.8.2.A.3.	Compare the characteristics of different ecosystems (e.g., pond, deciduous forest, coral reef).
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: The characteristics of biomes**
BENCHMARK	**PS.8.3.A.**	**Describe the characteristics of biomes, as exemplified by being able to**
EXPECTATION	PS.8.3.A.1.	Describe the defining characteristics of a biome as a large region of ecosystems with similar climate and vegetation characteristics.
EXPECTATION	PS.8.3.A.2.	Describe the temperature, precipitation, and vegetation characteristics of various biomes, (e.g., deserts, grasslands, savannahs, temperate forests, tropical forests, arctic tundra).
EXPECTATION	PS.8.3.A.3.	Identify the characteristics in photographs of different types of vegetation and match them to the appropriate sections of a world climate map (e.g., cacti and succulents on a desert climate region, tropical forest trees on a tropical climate region, coral in shallow, tropical marine waters).
ESSENTIAL ELEMENT	**NGS.ES.**	**Environment and Society**

STANDARD	**ES.15.**	**How physical systems affect human systems**
STRAND	**ES.15.2.**	**Environmental Hazards: Environmental hazards affect human activities**
BENCHMARK	**ES.15.2.A.**	**Identify and describe the locations of environmental hazards, as exemplified by being able to**
EXPECTATION	ES.15.2.A.2.	Identify on a map of the Pacific basin the occurrences of earthquakes and volcanoes and describe the pattern that results (e.g., the Pacific Ring of Fire).

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: The characteristics of renewable, nonrenewable, and flow resources**
BENCHMARK	**ES.16.1.A.**	**Identify and explain the characteristics of renewable, nonrenewable, and flow resources, as exemplified by being able to**
EXPECTATION	ES.16.1.A.1.	Explain the meaning of the term "resource" and then illustrate the idea of renewable, nonrenewable, and flow resources by sorting example photographs into each of the three categories.

National Geography Standards (NGS)

Social Studies

Grade **3** - Adopted: **2012**

ESSENTIAL ELEMENT	**NGS.PR.**	**Places and Regions**
STANDARD	**PR.4.**	**The physical and human characteristics of places**
STRAND	**PR.4.1.**	**The Concept of Place: Places are locations having distinctive characteristics that give them meaning and distinguish them from other locations**
BENCHMARK	**PR.4.1.A.**	**Describe the distinguishing characteristics and meanings of several different places, as exemplified by being able to**
EXPECTATION	PR.4.1.A.1.	Identify and describe categories of characteristics that define a location as a place (e.g., weather characteristics, population density, architectural styles, landforms, vegetation, cultures, types of industry).

ESSENTIAL ELEMENT	**NGS.PR.**	**Places and Regions**
STANDARD	**PR.4.**	**The physical and human characteristics of places**
STRAND	**PR.4.2.**	**The Characteristics of Places: Places have physical and human characteristics**
BENCHMARK	**PR.4.2.A.**	**Describe and compare the physical characteristics of places at a variety of scales, local to global, as exemplified by being able to**
EXPECTATION	PR.4.2.A.1.	Describe and compare the climatic conditions at different places in the United States (e.g., deserts, mountains, rainy regions of the Pacific Northwest).

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: Regions are areas of Earth's surface with unifying physical and/or human characteristics**
BENCHMARK	**PR.5.1.A.**	**Describe the distinguishing characteristics and meanings of several different regions, as exemplified by being able to**

EXPECTATION	PR.5.1.A.1.	Identify unifying areas on a map that define those areas as regions (e.g., a zoo map showing how animal exhibits are organized by regions related to climate, landforms, and vegetation zones).

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: There are four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere)**
BENCHMARK	**PS.7.1.A.**	**Identify attributes of Earth's different physical systems, as exemplified by being able to**
EXPECTATION	PS.7.1.A.3.	Identify examples of landforms on Earth's surface (e.g., mountains, volcanoes, valleys, plains).

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 affect conditions on Earth**
BENCHMARK	**PS.7.2.A.**	**Describe how Earth's position relative to the Sun affects conditions on Earth, as exemplified by being able to**
EXPECTATION	PS.7.2.A.1.	Describe the relationship between the cycle of seasons and months in the Northern and Southern hemispheres.
EXPECTATION	PS.7.2.A.2.	Describe the differences in seasons based on latitude (e.g., first and last frost in different locations, length of growing season, bird migrations).

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: The components of ecosystems**
BENCHMARK	**PS.8.1.A.**	**Identify the components of different ecosystems, as exemplified by being able to**
EXPECTATION	PS.8.1.A.1.	Identify the three major components of an ecosystem (i.e., biomass, climate, and soil).
EXPECTATION	PS.8.1.A.2.	Identify examples of each ecosystem component (e.g., pine trees versus grasslands, low versus high rainfall, clay versus sandy soils).

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 of ecosystems**
BENCHMARK	**PS.8.2.A.**	**Identify and describe the characteristics of ecosystems, as exemplified by being able to**
EXPECTATION	PS.8.2.A.1.	Identify and describe the characteristics of an ecosystem (specific types of plants, climate, and soil) in which a favorite or interesting creature lives.

EXPECTATION	PS.8.2.A.3.	Compare the characteristics of different ecosystems (e.g., pond, deciduous forest, coral reef).

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: The characteristics of biomes**
BENCHMARK	**PS.8.3.A.**	**Describe the characteristics of biomes, as exemplified by being able to**
EXPECTATION	PS.8.3.A.1.	Describe the defining characteristics of a biome as a large region of ecosystems with similar climate and vegetation characteristics.
EXPECTATION	PS.8.3.A.2.	Describe the temperature, precipitation, and vegetation characteristics of various biomes, (e.g., deserts, grasslands, savannahs, temperate forests, tropical forests, arctic tundra).
EXPECTATION	PS.8.3.A.3.	Identify the characteristics in photographs of different types of vegetation and match them to the appropriate sections of a world climate map (e.g., cacti and succulents on a desert climate region, tropical forest trees on a tropical climate region, coral in shallow, tropical marine waters).

ESSENTIAL ELEMENT	**NGS.HS.**	**Human Systems**
STANDARD	**HS.9.**	**The characteristics, distribution, and migration of human populations on Earth's surface**
STRAND	**HS.9.2.**	**Spatial Distribution of Population: People live in many different places on Earth**
BENCHMARK	**HS.9.2.A.**	**Describe how the number of people varies from place to place, as exemplified by being able to**
EXPECTATION	HS.9.2.A.2.	Describe how ways of making a living influence how many people live in a certain place (e.g., farm communities versus cities).
EXPECTATION	HS.9.2.A.3.	Identify and describe places in the state where the greatest and fewest numbers of people live.

ESSENTIAL ELEMENT	**NGS.HS.**	**Human Systems**
STANDARD	**HS.9.**	**The characteristics, distribution, and migration of human populations on Earth's surface**
STRAND	**HS.9.2.**	**Spatial Distribution of Population: People live in many different places on Earth**
BENCHMARK	**HS.9.2.B.**	**Explain why people live in different types of places, as exemplified by being able to**
EXPECTATION	HS.9.2.B.3.	Explain why people sometimes settle in inhospitable environments (e.g., availability of valuable resources, economic opportunities, diminishing availability of more desirable locations).

ESSENTIAL ELEMENT	**NGS.HS.**	**Human Systems**
STANDARD	**HS.9.**	**The characteristics, distribution, and migration of human populations on Earth's surface**
STRAND	**HS.9.3.**	**Migration: People move for a variety of reasons**
BENCHMARK	**HS.9.3.A.**	**Describe examples of different human migrations, as exemplified by being able to**

EXPECTATION	HS.9.3.A.1.	Describe why and how people moved west during the California Gold Rush.

ESSENTIAL ELEMENT	**NGS.HS.**	**Human Systems**
STANDARD	**HS.12.**	**The processes, patterns, and functions of human settlement**
STRAND	**HS.12.3.**	**Patterns of Settlement: There are different types of settlements**
BENCHMARK	**HS.12.3.A.**	**Compare and explain the different types of settlements in the local region and the United States, as exemplified by being able to**
EXPECTATION	HS.12.3.A.3.	Analyze a map of US population density and describe where the major clusters of settlements are located.

ESSENTIAL ELEMENT	**NGS.ES.**	**Environment and Society**
STANDARD	**ES.14.**	**How human actions modify the physical environment**
STRAND	**ES.14.2.**	**The Use of Technology: People use technology to get what they need from the physical environment**
BENCHMARK	**ES.14.2.A.**	**Describe and explain ways in which people use technology to get what they need from the physical environment, as exemplified by being able to**
EXPECTATION	ES.14.2.A.1.	Describe and explain examples of the technology used in different industries in the United States (e.g., high-tech farming and irrigation, excavating machinery in strip mining, drilling in oil production).

ESSENTIAL ELEMENT	**NGS.ES.**	**Environment and Society**
STANDARD	**ES.15.**	**How physical systems affect human systems**
STRAND	**ES.15.1.**	**Environmental Opportunities and Constraints: The physical environment provides opportunities for and imposes constraints on human activities**
BENCHMARK	**ES.15.1.B.**	**Describe examples in which the physical environment imposes constraints on human activities, as exemplified by being able to**
EXPECTATION	ES.15.1.B.1.	Describe how human activities are limited by landforms such as flood plains, deltas, mountains, and slopes in choices of land use (e.g., agriculture, human settlement, transportation networks).
EXPECTATION	ES.15.1.B.2.	Describe examples in which human activities are limited by different types of climates (e.g., cold or polar, rainy or dry, equatorial).

ESSENTIAL ELEMENT	**NGS.ES.**	**Environment and Society**
STANDARD	**ES.15.**	**How physical systems affect human systems**
STRAND	**ES.15.2.**	**Environmental Hazards: Environmental hazards affect human activities**
BENCHMARK	**ES.15.2.A.**	**Identify and describe the locations of environmental hazards, as exemplified by being able to**
EXPECTATION	ES.15.2.A.2.	Identify on a map of the Pacific basin the occurrences of earthquakes and volcanoes and describe the pattern that results (e.g., the Pacific Ring of Fire).

ESSENTIAL ELEMENT	**NGS.ES.**	**Environment and Society**
STANDARD	**ES.15.**	**How physical systems affect human systems**

STRAND	**ES.15.2.**	**Environmental Hazards: Environmental hazards affect human activities**
BENCHMARK	**ES.15.2.B.**	**Describe and analyze the effects of environmental hazards on human activities, as exemplified by being able to**
EXPECTATION	ES.15.2.B.1.	Describe how people change their behaviors in response to environmental hazards (e.g., knowing evacuation routes, building a storm shelter, conducting earthquake or tornado drills).
EXPECTATION	ES.15.2.B.2.	Describe how people might build their houses differently on a coast or beach as compared to another location (e.g., elevated footings for storm surge, shutters over windows, metal reinforced roof trusses for wind).
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 types of resources**
BENCHMARK	**ES.16.2.A.**	**Identify the locations of examples of each type of resource, as exemplified by being able to**
EXPECTATION	ES.16.2.A.1.	Identify the locations on a US map of various types of renewable, nonrenewable, and flow resources.
EXPECTATION	ES.16.2.A.2.	Identify the locations of examples of each of the three types of resources that are found in the student's state or region.

Next Generation Science Standards (NGSS)

Science

Grade **3** - Adopted: **2013**

STRAND	**NGSS.3-LS**	**LIFE SCIENCE**
TITLE	**3-LS1**	**From Molecules to Organisms: Structures and Processes**
		Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	3-LS1-1	Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.
STRAND	**NGSS.3-LS**	**LIFE SCIENCE**
TITLE	**3-LS4**	**Biological Evolution: Unity and Diversity**
		Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	3-LS4-2	Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.
PERFORMANCE EXPECTATION	3-LS4-3	Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
STRAND	**NGSS.3-ESS**	**EARTH AND SPACE SCIENCE**
TITLE	**3-ESS2**	**Earth's Systems**
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	3-ESS2-1	Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.
PERFORMANCE EXPECTATION	3-ESS2-2	Obtain and combine information to describe climates in different regions of the world.

Main Criteria: Virtual Field Trips

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

Subjects: Science, Social Studies

Grade: 4

Virtual Field Trips

Grade 4 - West Region Geography

National Council for the Social Studies (NCSS)

Social Studies

Grade **4** - Adopted: **2010**

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.	That people view and interpret historical events differently because of the times in which they live, the experiences they have, and the point of view they hold.

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	**2.2.**	**PROCESSES - Learners will be able to:**
LEARNING EXPECTATION	2.2.5.	Compare and contrast differing stories or accounts about past events, people, places, or situations, and offer possible reasons for the differences.

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 location, place, and the interactions of people with their surroundings.
LEARNING EXPECTATION	3.1.5.	Physical changes in community, state, and region, such as seasons, climate, and weather, and their effects on plants and animals.
LEARNING EXPECTATION	3.1.7.	Benefits and problems resulting from the discovery and use of resources.

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 the school, community, state, region, and world.

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	**3.3.**	**PRODUCTS - Learners demonstrate understanding by:**
LEARNING EXPECTATION	3.3.1.	Creating illustrations and composing answers to geographic questions about people, places, and environments.

National Geography Standards (NGS)

Science

Grade **4** - 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 features of human and/or physical systems**
BENCHMARK	**WST.3.3.A.**	**Describe and construct models illustrating the properties of human and/or physical systems, as exemplified by being able to**
EXPECTATION	WST.3.3.A.1.	Construct a model of Earth and describe its shape, size, and key features (e.g., equator, poles, prime meridian, oceans, continents).

ESSENTIAL ELEMENT	**NGS.PR.**	**Places and Regions**
STANDARD	**PR.4.**	**The physical and human characteristics of places**
STRAND	**PR.4.2.**	**The Characteristics of Places: Places have physical and human characteristics**
BENCHMARK	**PR.4.2.A.**	**Describe and compare the physical characteristics of places at a variety of scales, local to global, as exemplified by being able to**
EXPECTATION	PR.4.2.A.2.	Describe and compare the vegetation in different places in the world (e.g., deserts, mountains, rain forests, plains).
EXPECTATION	PR.4.2.A.3.	Describe and compare the physical environments and landforms of different places in the world (e.g., mountains, islands, valleys or canyons, mesas).

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: There are four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere)**
BENCHMARK	**PS.7.1.A.**	**Identify attributes of Earth's different physical systems, as exemplified by being able to**
EXPECTATION	PS.7.1.A.3.	Identify examples of landforms on Earth's surface (e.g., mountains, volcanoes, valleys, plains).

ESSENTIAL ELEMENT	**NGS.PS.**	**Physical Systems**
STANDARD	**PS.7.**	**The physical processes that shape the patterns of Earth's surface**
STRAND	**PS.7.3.**	**Physical Processes: Physical processes shape features on Earth's surface**
BENCHMARK	**PS.7.3.B.**	**Describe how physical processes shape features on Earth's surface, as exemplified by being able to**

EXPECTATION	PS.7.3.B.2.	Describe the physical processes that shaped particular landform features using pictures of landforms such as canyons, mesas, and deltas.

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: The components of ecosystems**
BENCHMARK	**PS.8.1.A.**	**Identify the components of different ecosystems, as exemplified by being able to**
EXPECTATION	PS.8.1.A.2.	Identify examples of each ecosystem component (e.g., pine trees versus grasslands, low versus high rainfall, clay versus sandy soils).
EXPECTATION	PS.8.1.A.3.	Describe local ecosystems by surveying and recording the properties of their components.

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 of ecosystems**
BENCHMARK	**PS.8.2.A.**	**Identify and describe the characteristics of ecosystems, as exemplified by being able to**
EXPECTATION	PS.8.2.A.1.	Identify and describe the characteristics of an ecosystem (specific types of plants, climate, and soil) in which a favorite or interesting creature lives.
EXPECTATION	PS.8.2.A.2.	Identify and draw pictures of different plants and animals in various local ecosystems (e.g., a pond, forest, city park).
EXPECTATION	PS.8.2.A.3.	Compare the characteristics of different ecosystems (e.g., pond, deciduous forest, coral reef).

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: The characteristics of biomes**
BENCHMARK	**PS.8.3.A.**	**Describe the characteristics of biomes, as exemplified by being able to**
EXPECTATION	PS.8.3.A.1.	Describe the defining characteristics of a biome as a large region of ecosystems with similar climate and vegetation characteristics.
EXPECTATION	PS.8.3.A.2.	Describe the temperature, precipitation, and vegetation characteristics of various biomes, (e.g., deserts, grasslands, savannahs, temperate forests, tropical forests, arctic tundra).
EXPECTATION	PS.8.3.A.3.	Identify the characteristics in photographs of different types of vegetation and match them to the appropriate sections of a world climate map (e.g., cacti and succulents on a desert climate region, tropical forest trees on a tropical climate region, coral in shallow, tropical marine waters).

ESSENTIAL ELEMENT	**NGS.ES.**	**Environment and Society**

STANDARD	**ES.15.**	**How physical systems affect human systems**
STRAND	**ES.15.2.**	**Environmental Hazards: Environmental hazards affect human activities**
BENCHMARK	**ES.15.2.A.**	**Identify and describe the locations of environmental hazards, as exemplified by being able to**
EXPECTATION	ES.15.2.A.2.	Identify on a map of the Pacific basin the occurrences of earthquakes and volcanoes and describe the pattern that results (e.g., the Pacific Ring of Fire).

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: The characteristics of renewable, nonrenewable, and flow resources**
BENCHMARK	**ES.16.1.A.**	**Identify and explain the characteristics of renewable, nonrenewable, and flow resources, as exemplified by being able to**
EXPECTATION	ES.16.1.A.1.	Explain the meaning of the term "resource" and then illustrate the idea of renewable, nonrenewable, and flow resources by sorting example photographs into each of the three categories.

National Geography Standards (NGS)

Social Studies

Grade **4** - Adopted: **2012**

ESSENTIAL ELEMENT	**NGS.PR.**	**Places and Regions**
STANDARD	**PR.4.**	**The physical and human characteristics of places**
STRAND	**PR.4.1.**	**The Concept of Place: Places are locations having distinctive characteristics that give them meaning and distinguish them from other locations**
BENCHMARK	**PR.4.1.A.**	**Describe the distinguishing characteristics and meanings of several different places, as exemplified by being able to**
EXPECTATION	PR.4.1.A.1.	Identify and describe categories of characteristics that define a location as a place (e.g., weather characteristics, population density, architectural styles, landforms, vegetation, cultures, types of industry).

ESSENTIAL ELEMENT	**NGS.PR.**	**Places and Regions**
STANDARD	**PR.4.**	**The physical and human characteristics of places**
STRAND	**PR.4.2.**	**The Characteristics of Places: Places have physical and human characteristics**
BENCHMARK	**PR.4.2.A.**	**Describe and compare the physical characteristics of places at a variety of scales, local to global, as exemplified by being able to**
EXPECTATION	PR.4.2.A.1.	Describe and compare the climatic conditions at different places in the United States (e.g., deserts, mountains, rainy regions of the Pacific Northwest).

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: Regions are areas of Earth's surface with unifying physical and/or human characteristics**
BENCHMARK	**PR.5.1.A.**	**Describe the distinguishing characteristics and meanings of several different regions, as exemplified by being able to**

EXPECTATION	PR.5.1.A.1.	Identify unifying areas on a map that define those areas as regions (e.g., a zoo map showing how animal exhibits are organized by re□gions related to climate, landforms, and vegetation zones).

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: There are four components of Earth's physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere)**
BENCHMARK	**PS.7.1.A.**	**Identify attributes of Earth's different physical systems, as exemplified by being able to**
EXPECTATION	PS.7.1.A.3.	Identify examples of landforms on Earth's surface (e.g., mountains, volcanoes, valleys, plains).

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 affect conditions on Earth**
BENCHMARK	**PS.7.2.A.**	**Describe how Earth's position relative to the Sun affects conditions on Earth, as exemplified by being able to**
EXPECTATION	PS.7.2.A.1.	Describe the relationship between the cycle of seasons and months in the Northern and Southern hemispheres.
EXPECTATION	PS.7.2.A.2.	Describe the differences in seasons based on latitude (e.g., first and last frost in different locations, length of growing season, bird migra□tions).

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: The components of ecosystems**
BENCHMARK	**PS.8.1.A.**	**Identify the components of different ecosystems, as exemplified by being able to**
EXPECTATION	PS.8.1.A.1.	Identify the three major components of an ecosystem (i.e., biomass, climate, and soil).
EXPECTATION	PS.8.1.A.2.	Identify examples of each ecosystem component (e.g., pine trees versus grasslands, low versus high rainfall, clay versus sandy soils).

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 of ecosystems**
BENCHMARK	**PS.8.2.A.**	**Identify and describe the characteristics of ecosystems, as exemplified by being able to**
EXPECTATION	PS.8.2.A.1.	Identify and describe the characteristics of an ecosystem (specific types of plants, climate, and soil) in which a favorite or interesting creature lives.

EXPECTATION	PS.8.2.A.3.	Compare the characteristics of different ecosystems (e.g., pond, deciduous forest, coral reef).

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: The characteristics of biomes**
BENCHMARK	**PS.8.3.A.**	**Describe the characteristics of biomes, as exemplified by being able to**
EXPECTATION	PS.8.3.A.1.	Describe the defining characteristics of a biome as a large region of ecosystems with similar climate and vegetation characteristics.
EXPECTATION	PS.8.3.A.2.	Describe the temperature, precipitation, and vegetation characteristics of various biomes, (e.g., deserts, grasslands, savannahs, temperate forests, tropical forests, arctic tundra).
EXPECTATION	PS.8.3.A.3.	Identify the characteristics in photographs of different types of vegetation and match them to the appropriate sections of a world climate map (e.g., cacti and succulents on a desert climate region, tropical forest trees on a tropical climate region, coral in shallow, tropical marine waters).

ESSENTIAL ELEMENT	**NGS.HS.**	**Human Systems**
STANDARD	**HS.9.**	**The characteristics, distribution, and migration of human populations on Earth's surface**
STRAND	**HS.9.2.**	**Spatial Distribution of Population: People live in many different places on Earth**
BENCHMARK	**HS.9.2.A.**	**Describe how the number of people varies from place to place, as exemplified by being able to**
EXPECTATION	HS.9.2.A.2.	Describe how ways of making a living influence how many people live in a certain place (e.g., farm communities versus cities).
EXPECTATION	HS.9.2.A.3.	Identify and describe places in the state where the greatest and fewest numbers of people live.

ESSENTIAL ELEMENT	**NGS.HS.**	**Human Systems**
STANDARD	**HS.9.**	**The characteristics, distribution, and migration of human populations on Earth's surface**
STRAND	**HS.9.2.**	**Spatial Distribution of Population: People live in many different places on Earth**
BENCHMARK	**HS.9.2.B.**	**Explain why people live in different types of places, as exemplified by being able to**
EXPECTATION	HS.9.2.B.3.	Explain why people sometimes settle in inhospitable environments (e.g., availability of valuable resources, economic opportunities, diminishing availability of more desirable locations).

ESSENTIAL ELEMENT	**NGS.HS.**	**Human Systems**
STANDARD	**HS.9.**	**The characteristics, distribution, and migration of human populations on Earth's surface**
STRAND	**HS.9.3.**	**Migration: People move for a variety of reasons**
BENCHMARK	**HS.9.3.A.**	**Describe examples of different human migrations, as exemplified by being able to**

EXPECTATION	HS.9.3.A.1.	Describe why and how people moved west during the California Gold Rush.

ESSENTIAL ELEMENT	**NGS.HS.**	**Human Systems**
STANDARD	**HS.12.**	**The processes, patterns, and functions of human settlement**
STRAND	**HS.12.3.**	**Patterns of Settlement: There are different types of settlements**
BENCHMARK	**HS.12.3.A.**	**Compare and explain the different types of settlements in the local region and the United States, as exemplified by being able to**
EXPECTATION	HS.12.3.A.3.	Analyze a map of US population density and describe where the major clusters of settlements are located.

ESSENTIAL ELEMENT	**NGS.ES.**	**Environment and Society**
STANDARD	**ES.14.**	**How human actions modify the physical environment**
STRAND	**ES.14.2.**	**The Use of Technology: People use technology to get what they need from the physical environment**
BENCHMARK	**ES.14.2.A.**	**Describe and explain ways in which people use technology to get what they need from the physical environment, as exemplified by being able to**
EXPECTATION	ES.14.2.A.1.	Describe and explain examples of the technology used in different industries in the United States (e.g., high-tech farming and irrigation, excavating machinery in strip mining, drilling in oil production).

ESSENTIAL ELEMENT	**NGS.ES.**	**Environment and Society**
STANDARD	**ES.15.**	**How physical systems affect human systems**
STRAND	**ES.15.1.**	**Environmental Opportunities and Constraints: The physical environment provides opportunities for and imposes constraints on human activities**
BENCHMARK	**ES.15.1.B.**	**Describe examples in which the physical environment imposes constraints on human activities, as exemplified by being able to**
EXPECTATION	ES.15.1.B.1.	Describe how human activities are limited by landforms such as flood plains, deltas, mountains, and slopes in choices of land use (e.g., agriculture, human settlement, transportation networks).
EXPECTATION	ES.15.1.B.2.	Describe examples in which human activities are limited by different types of climates (e.g., cold or polar, rainy or dry, equatorial).

ESSENTIAL ELEMENT	**NGS.ES.**	**Environment and Society**
STANDARD	**ES.15.**	**How physical systems affect human systems**
STRAND	**ES.15.2.**	**Environmental Hazards: Environmental hazards affect human activities**
BENCHMARK	**ES.15.2.A.**	**Identify and describe the locations of environmental hazards, as exemplified by being able to**
EXPECTATION	ES.15.2.A.2.	Identify on a map of the Pacific basin the occurrences of earthquakes and volcanoes and describe the pattern that results (e.g., the Pacific Ring of Fire).

ESSENTIAL ELEMENT	**NGS.ES.**	**Environment and Society**
STANDARD	**ES.15.**	**How physical systems affect human systems**

STRAND	**ES.15.2.**	**Environmental Hazards: Environmental hazards affect human activities**
BENCHMARK	**ES.15.2.B.**	**Describe and analyze the effects of environmental hazards on human activities, as exemplified by being able to**
EXPECTATION	ES.15.2.B.1.	Describe how people change their behaviors in response to environmental hazards (e.g., knowing evacuation routes, building a storm shelter, conducting earthquake or tornado drills).
EXPECTATION	ES.15.2.B.2.	Describe how people might build their houses differently on a coast or beach as compared to another location (e.g., elevated footings for storm surge, shutters over windows, metal reinforced roof trusses for wind).
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 types of resources**
BENCHMARK	**ES.16.2.A.**	**Identify the locations of examples of each type of resource, as exemplified by being able to**
EXPECTATION	ES.16.2.A.1.	Identify the locations on a US map of various types of renewable, nonrenewable, and flow resources.
EXPECTATION	ES.16.2.A.2.	Identify the locations of examples of each of the three types of resources that are found in the student's state or region.

Next Generation Science Standards (NGSS)

Science

Grade **4** - Adopted: **2013**

STRAND	**NGSS.4-LS**	**LIFE SCIENCE**
TITLE	**4-LS1**	**From Molecules to Organisms: Structures and Processes**
		Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	4-LS1-1	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
PERFORMANCE EXPECTATION	4-LS1-2	Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.
STRAND	**NGSS.4-ESS**	**EARTH AND SPACE SCIENCE**
TITLE	**4-ESS3**	**Earth and Human Activity**
		Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	4-ESS3-1	Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

Main Criteria: Virtual Field Trips

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

Subjects: Science, Social Studies

Grade: 5

Virtual Field Trips

Grade 4 - West Region Geography

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	**1.2.**	**PROCESSES - Learners will be able to:**
LEARNING EXPECTATION	1.2.3.	Evaluate how data and experiences may be interpreted differently by people from diverse cultural perspectives and frames of reference.

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	2.1.2.	Concepts such as: chronology, causality, change, conflict, complexity, multiple perspectives, primary and secondary sources, and cause and effect.
LEARNING EXPECTATION	2.1.4.	That historical interpretations of the same event may differ on the basis of such factors as conflicting evidence from varied sources, national or cultural perspectives, and the point of view of the researcher.
LEARNING EXPECTATION	2.1.6.	The origins and influences of social, cultural, political, and economic systems.

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	**2.2.**	**PROCESSES - Learners will be able to:**
LEARNING EXPECTATION	2.2.4.	Evaluate the impact of the values, beliefs, and institutions of people in the past on important historical decisions and developments of their times.

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	3.1.2.	Concerts such as: location, region, place, and migration, as well as human and physical systems.

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).
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.

National Geography Standards (NGS)

Science

Grade **5** - Adopted: **2012**

ESSENTIAL ELEMENT	**NGS.PR.**	**Places and Regions**
STANDARD	**PR.4.**	**The physical and human characteristics of places**
STRAND	**PR.4.2.**	**The Characteristics of Place: Physical and human characteristics of places change**
BENCHMARK	**PR.4.2.A.**	**Explain the ways that physical processes change places, as exemplified by being able to**
EXPECTATION	PR.4.2.A.2.	Explain the ways in which islands and coastal places may change as a result of sea level rise.
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.1.	Identify and describe the connections between ocean circulation system and climate (e.g., North Atlantic Drift and the mild climate of Western Europe, the climatic effects of El Niño or La Niña).
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 ecosys□tems and biomes).
ESSENTIAL ELEMENT	**NGS.PS.**	**Physical Systems**
STANDARD	**PS.7.**	**The physical processes that shape the patterns of Earth's surface**
STRAND	**PS.7.1.**	**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.B.**	**Analyze and explain patterns of physical features resulting from the interactions of Earth's physical processes, as exemplified by being able to**
EXPECTATION	PS.7.1.B.1.	Analyze maps of tectonic plates to predict the location of physical features (e.g., mountain ranges, volcanoes, rift valleys).

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.1.	Explain the occurrences of weather phenomena in different locations due to annual changes in the Earth-Sun relationship (e.g., hurricanes in the fall in subtropical areas, monsoon rainfall, tornadoes in the mid-latitudes during the spring and summer).
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.7.	The physical processes that shape the patterns of Earth's surface
STRAND	PS.7.3.	Physical Processes: Physical processes generate patterns of features across Earth's surface
BENCHMARK	PS.7.3.A.	Analyze and explain the patterns that occur on Earth's surface as a result of physical processes, as exemplified by being able to
EXPECTATION	PS.7.3.A.2.	Explain how physical processes related to plate tectonics form islands (e.g., Hawaiian Islands) or increase the elevation of mountains (e.g., Himalayan Mountains).

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.1.	Describe the rain shadow effect of orographic precipitation and identify the different ecosystems on the windward and leeward side of a mountain range or island (e.g., temperate rain forest on the windward side and high desert on the leeward side of the Cascade Mountain Range).
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.
EXPECTATION	PS.8.2.A.3.	Explain how ocean currents influence the characteristics of ecosystems (e.g., the Peru current and the Atacama Desert, the Benguela current and Namib Desert, East Indian current in the Bay of Bengal and monsoon season in India).

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.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.1.	Describe and explain how the construction of dams and levees on rivers in one region affects places downstream (e.g., water availability for human consumption and agriculture, flood control, electricity generation, aquatic and riparian ecosystems).

ESSENTIAL ELEMENT	**NGS.ES.**	**Environment and Society**
STANDARD	**ES.15.**	**How physical systems affect human systems**
STRAND	**ES.15.2.**	**Environmental Hazards: The types, causes, and characteristics of environmental hazards occur at a variety of scales from local to global**
BENCHMARK	**ES.15.2.A.**	**Describe and explain the types and characteristics of hazards, as exemplified by being able to**
EXPECTATION	ES.15.2.A.1.	Identify and explain the types of threats posed to human settlement by different types of environmental hazards (e.g., wind destruction, fires, flooding, collapse of structures).
EXPECTATION	ES.15.2.A.2.	Construct a table of climate-related and tectonic-related hazards and explain the characteristics of each type of hazard.

ESSENTIAL ELEMENT	**NGS.ES.**	**Environment and Society**
STANDARD	**ES.15.**	**How physical systems affect human systems**
STRAND	**ES.15.2.**	**Environmental Hazards: The types, causes, and characteristics of environmental hazards occur at a variety of scales from local to global**
BENCHMARK	**ES.15.2.B.**	**Explain the causes and locations of various types of environmental hazards, as exemplified by being able to**
EXPECTATION	ES.15.2.B.1.	Describe the physical environmental conditions that create or result in different environmental hazards (e.g., plate tectonics causing earthquakes, sea surface temperatures contributing to hurricane development in the Atlantic, strong frontal systems in thunderstorms spawning tornadoes).
EXPECTATION	ES.15.2.B.2.	Identify the tectonic plate boundaries on a map and analyze the most likely locations of future earthquakes and volcanoes based on an explanation for the causes of these environmental hazards.

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 formation and spatial distribution of types of resources**
BENCHMARK	**ES.16.2.A.**	**Describe the physical processes that influence the formation and therefore spatial distribution of renewable, nonrenewable, and flow resources, as exemplified by being able to**
EXPECTATION	ES.16.2.A.2.	Describe the physical conditions necessary to generate electricity from flow resources (e.g., water, geothermal, solar, wind) and then identify on a US map potential locations for the generation of electricity from these flow resources.

National Geography Standards (NGS)

Social Studies

Grade **5** - Adopted: **2012**

ESSENTIAL ELEMENT	**NGS.WST.**	**The World in Spatial Terms**
STANDARD	**WST.2.**	**How to use mental maps to organize information about people, places, and environments in a spatial context**
STRAND	**WST.2.1.**	**Developing Mental Maps: The locations, characteristics, and patterns of physical and human features are the basis for mental maps at local to global scales**
BENCHMARK	**WST.2.1.A.**	**Identify from memory and describe locations, patterns, and characteristics of physical and human features, as exemplified by being able to**
EXPECTATION	WST.2.1.A.3.	Identify from memory and describe the major climate and vegeta□tion regions of the United States.

ESSENTIAL ELEMENT	**NGS.WST.**	**The World in Spatial Terms**
STANDARD	**WST.2.**	**How to use mental maps to organize information about people, places, and environments in a spatial context**
STRAND	**WST.2.3.**	**Using Mental Maps: Mental maps are used to answer geographic questions about locations, characteristics, and patterns of places and regions**
BENCHMARK	**WST.2.3.A.**	**Identify from memory and describe the locations, characteristics, and patterns of places and regions to answer geographic questions, as exemplified by being able to**
EXPECTATION	WST.2.3.A.3.	Identify from memory the distribution, pattern, and characteristics of major world deserts and mountain ranges that can be barriers to travel or settlement.

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.3.	Describe urban models, such as sector or ring models, using a digi□tal globe or map (e.g., Paris as an example of a sector model, Moscow as an example of a ring model).

ESSENTIAL ELEMENT	**NGS.PR.**	**Places and Regions**
STANDARD	**PR.4.**	**The physical and human characteristics of places**
STRAND	**PR.4.2.**	**The Characteristics of Place: Physical and human characteristics of places change**
BENCHMARK	**PR.4.2.B.**	**Explain the ways that human processes change places, as exemplified by being able to**

EXPECTATION	PR.4.2.B.1.	Describe and explain how the introduction of a new industry or the closing of an existing industry could change the characteristics of a place.

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.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.B.**	**Analyze and explain patterns of physical features resulting from the interactions of Earth's physical processes, as exemplified by being able to**
EXPECTATION	PS.7.1.B.1.	Analyze maps of tectonic plates to predict the location of physical features (e.g., mountain ranges, volcanoes, rift valleys).

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.1.	Explain the occurrences of weather phenomena in different locations due to annual changes in the Earth-Sun relationship (e.g., hurricanes in the fall in subtropical areas, monsoon rainfall, tornadoes in the mid-latitudes during the spring and summer).

ESSENTIAL ELEMENT	**NGS.PS.**	**Physical Systems**
STANDARD	**PS.7.**	**The physical processes that shape the patterns of Earth's surface**
STRAND	**PS.7.3.**	**Physical Processes: Physical processes generate patterns of features across Earth's surface**
BENCHMARK	**PS.7.3.A.**	**Analyze and explain the patterns that occur on Earth's surface as a result of physical processes, as exemplified by being able to**
EXPECTATION	PS.7.3.A.2.	Explain how physical processes related to plate tectonics form islands (e.g., Hawaiian Islands) or increase the elevation of mountains (e.g., Himalayan Mountains).

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.9.**	**The characteristics, distribution, and migration of human populations on Earth's surface**
STRAND	**HS.9.2.**	**Spatial Distribution of Population: The distribution and density of population varies over space and time**
BENCHMARK	**HS.9.2.B.**	**Analyze and explain the variations of population distribution on national and global scales, as exemplified by being able to**
EXPECTATION	HS.9.2.B.1.	Describe and analyze the current distribution of population in the United States (e.g., comparing the East and West Coasts, pattern of population east versus west of the 100th meridian).

ESSENTIAL ELEMENT	**NGS.HS.**	**Human Systems**
STANDARD	**HS.10.**	**The characteristics, distribution, and complexity of Earth's cultural mosaics**
STRAND	**HS.10.2.**	**Patterns of Culture: Multiple cultural landscapes exist and vary across space**
BENCHMARK	**HS.10.2.B.**	**Compare different cultural landscapes, as exemplified by being able to**

EXPECTATION	HS.10.2.B.2.	Compare the cultural landscapes of urban and suburban residential areas in terms of the amount of space, population density, and horizontal versus vertical use of space.

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.1.	Analyze a list of economic activities and identify them as primary (e.g., forestry, copper mining, and growing coffee), secondary (e.g., producing furniture, copper wire, and grinding coffee beans), tertiary (e.g., furniture sales, selling copper wire, and selling latte) or quaternary (e.g., advertising and marketing research) activities.

ESSENTIAL ELEMENT	**NGS.HS.**	**Human Systems**
STANDARD	**HS.11.**	**The patterns and networks of economic interdependence on Earth's surface**
STRAND	**HS.11.2.**	**Location and Spatial Patterns of Economic Activities: Access to factors of production, such as capital, labor, raw materials, and energy, influence the location of economic activities**
BENCHMARK	**HS.11.2.A.**	**Compare and explain the advantages of one location over another in the access to factors of production, as exemplified by being able to**
EXPECTATION	HS.11.2.A.1.	Explain why certain locations have developed a reputation for producing specific goods or services (e.g., Wyoming is known for its coal and natural gas deposits, China is known for assembly and manufacturing labor, New York is known as a center for investment capital).
EXPECTATION	HS.11.2.A.2.	Construct and analyze maps of the relationships between the different resources in various manufacturing industries (e.g., automobiles with the sources for glass, tires, sheet metal, and assembly locations; computers with the sources for circuit boards, software, electrical components, wireless chips, and assembly locations).

ESSENTIAL ELEMENT	**NGS.HS.**	**Human Systems**
STANDARD	**HS.12.**	**The processes, patterns, and functions of human settlement**
STRAND	**HS.12.1.**	**Functions of Settlements: Different types of functions can influence the success or failure of settlements**
BENCHMARK	**HS.12.1.A.**	**Describe the typical functions of settlements and explain how they might influence the success or failure of a settlement, as exemplified by being able to**
EXPECTATION	HS.12.1.A.1.	Describe and explain the reasons people may choose to settle in cities (e.g., diverse employment opportunities, educational and cultural opportunities, sports and entertainment venues, health and social services, public transportation alternatives, retail shopping centers).
EXPECTATION	HS.12.1.A.2.	Describe and explain the reasons why people may choose to move away from cities (e.g., high crime rates, congested traffic, lack of adequate health and social services, inadequate education facilities).

ESSENTIAL ELEMENT	**NGS.HS.**	**Human Systems**
STANDARD	**HS.12.**	**The processes, patterns, and functions of human settlement**
STRAND	**HS.12.2.**	**Functions of Settlements: A combination of a favorable location and human activities lead to the growth of settlements**
BENCHMARK	**HS.12.2.A.**	**Explain the human activities in favorable locations that attracted people and resulted in the development of settlements, as exemplified by being able to**

EXPECTATION	HS.12.2.A.1.	Describe and explain the human activities (e.g., trade, political administration, transportation, exploiting resources) that led to the development of cities (e.g., Shanghai is a major world port and commercial city, Pittsburgh was a transportation and iron and steel center near large deposits of coal, Singapore is located along one of the world's major ocean transportation corridors).
EXPECTATION	HS.12.2.A.2.	Analyze the growth of three major world cities and explain reasons why their locations may have been favorable for human activities resulting in the development of these places.
EXPECTATION	HS.12.2.A.3.	Describe and explain how recent human activities contributed to the development of cities in different locations (e.g., development of electrical energy capacity and air conditioning in southern US cities, irrigation to increase the number of golf courses in resort towns, tax incentives or policies encouraging new business development).
ESSENTIAL ELEMENT	**NGS.HS.**	**Human Systems**
STANDARD	**HS.12.**	**The processes, patterns, and functions of human settlement**
STRAND	**HS.12.3.**	**Patterns of Settlements: There are patterns of settlements in regions**
BENCHMARK	**HS.12.3.A.**	**Compare and explain the location, number, and sizes of settlements in regions, as exemplified by being able to**
EXPECTATION	HS.12.3.A.1.	Analyze maps and satellite images and compare different types of settlement patterns observed across regions (e.g., linear rural settlement along roadways, railways, and rivers; urban centers that spread from a central node; village clusters or rural landscapes; seaport settlements that are interrupted by water, such as a water body or a large river).
EXPECTATION	HS.12.3.A.2.	Explain possible reasons why some locations can support more population in settlements than other locations.
EXPECTATION	HS.12.3.A.3.	Compare the settlement patterns in three different regions of the world and describe the particular patterns (e.g., linear patterns, clustered patterns, dispersed patterns).
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.1.	Analyze a city map and describe the differences in the spatial patterns of the central business district (CBD) versus residential areas (e.g., flowing traffic patterns to facilitate business versus cul-de-sac design in residential areas that restricts traffic).
ESSENTIAL ELEMENT	**NGS.ES.**	**Environment and Society**
STANDARD	**ES.15.**	**How physical systems affect human systems**
STRAND	**ES.15.1.**	**Environmental Opportunities and Constraints: The characteristics of a physical environment provide opportunities for and impose constraints on human activities**
BENCHMARK	**ES.15.1.B.**	**Explain how the characteristics of different physical environments place constraints on human activities, as exemplified by being able to**
EXPECTATION	ES.15.1.B.3.	Explain how the development of a city can be influenced by the physical environmental characteristics of the area (e.g., requirement of bedrock to support skyscrapers, filling in water areas to add buildable space, reduction of hills to level areas, mountain valleys with limited usable land area).

ESSENTIAL ELEMENT	**NGS.ES.**	**Environment and Society**
STANDARD	**ES.15.**	**How physical systems affect human systems**
STRAND	**ES.15.2.**	**Environmental Hazards: The types, causes, and characteristics of environmental hazards occur at a variety of scales from local to global**
BENCHMARK	**ES.15.2.B.**	**Explain the causes and locations of various types of environmental hazards, as exemplified by being able to**
EXPECTATION	ES.15.2.B.1.	Describe the physical environmental conditions that create or result in different environmental hazards (e.g., plate tectonics causing earthquakes, sea surface temperatures contributing to hurricane development in the Atlantic, strong frontal systems in thunderstorms spawning tornadoes).
EXPECTATION	ES.15.2.B.2.	Identify the tectonic plate boundaries on a map and analyze the most likely locations of future earthquakes and volcanoes based on an explanation for the causes of these environmental hazards.

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.UG.**	**The Uses of Geography**
STANDARD	**UG.17.**	**How to apply geography to interpret the past**
STRAND	**UG.17.2.**	**Changes in Geographic Contexts: Change occurs in the geographic characteristics and spatial organization of places, regions, and environments**
BENCHMARK	**UG.17.2.A.**	**Describe and explain changes in the geographic characteristics and spatial organizations of places, regions, and environments in the past, as exemplified by being able to**
EXPECTATION	UG.17.2.A.3.	Describe the changes in the spatial organization of cities over the past 100 years (e.g., the effects of suburbanization, freeway systems, public transit, skyscrapers, shopping malls).

Next Generation Science Standards (NGSS)

Science

Grade **5** - Adopted: **2013**

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.