

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

National Parks - Alaska & Hawaii

National Council for the Social Studies (NCSS)

Social Studies

Grade 4 - Adopted: 2010

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	3.1.3.	Physical and human characteristics of the school, community, state, and region, and the interactions of people in these places with the environment.
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.

National Geography Standards (NGS)

Science

Grade 4 - 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 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. 2.	Identify examples of water features on Earth's surface that comprise the hydrosphere (e.g., oceans, rivers, lakes, water vapor, ground water, different types of precipitation).
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.A	Identify examples of physical processes, as exemplified by being able to

EXPECTATION PS.7.3.A. 3. Identify the components and relationships in the erosion cycle (e.g., water carving canyons, wind sculpting mesas, landslides, avalanches).

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.
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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).
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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).
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ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.14.	How human actions modify the physical environment
STRAND	ES.14.3.	Consequences for People and Environments: The consequences of human modifications of the physical environment
BENCHMARK	ES.14.3.A.	Identify and describe examples of how human activities impact the physical environment, as exemplified by being able to

EXPECTATION	ES.14.3.A .1.	Identify and describe the changes in local habitats that resulted from human activities.
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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.
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ESSENTIAL ELEMENT	NGS.UG.	The Uses of Geography
STANDARD	UG.18.	How to apply geography to interpret the present and plan for the future
STRAND	UG.18.1.	Using Geography to Interpret the Present and Plan for the Future: Geographic contexts (the human and physical characteristics of places and environments) are the settings for current events
BENCHMARK	UG.18.1.A.	Analyze geographic contexts in which current events and issues occur, as exemplified by being able to

EXPECTATION	UG.18.1. A.3.	Analyze a current environmental issue in the region (e.g., building or demolishing a dam, building or expansion of freeway system, creation of parks and open spaces, regulatory legislation on industry to prevent further air, water, and land pollution) and describe ways in which people and the environment interact to affect the issue positively and negatively.
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ESSENTIAL ELEMENT	NGS.UG.	The Uses of Geography
STANDARD	UG.18.	How to apply geography to interpret the present and plan for the future
STRAND	UG.18.2	Changes in Geographic Contexts: Places, regions, and environments will continue to change
BENCHMARK	UG.18.2.A.	Describe current changes in places, regions, and environments and predict how these locations may be different in the future, as exemplified by being able to

EXPECTATION UG.18.2.A.1. Describe how to plan for the environmental future of a place by completing the following statements: "I will keep...." "I will change...." and "I will remove...."

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.3. Describe how certain places may have meanings that distinguish them from other places (e.g., cemetery, historical park or battlefield, religious shrines or temples, state or national parks).

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.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.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.3. Describe the characteristics that define a physical region in the state (e.g., Front Range in Colorado, Sand Hills in Nebraska, Hill Country in Texas).

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.1.	Identify different attributes of physical systems in photographs (e.g., sky, clouds, plants, soil, oceans, lakes, mountains).
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.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.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).

Next Generation Science Standards (NGSS)

Science

Grade 4 - Adopted: 2013

STRAND	NGSS.4-ESS	EARTH AND SPACE SCIENCE
TITLE	4-ESS2	Earth's Systems
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION 4-ESS2-1 Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

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

National Parks - Alaska & Hawaii

National Council for the Social Studies (NCSS)

Social Studies

Grade 5 - Adopted: 2010

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	3.1.5.	The concept of regions identifies links between people in different locations according to specific criteria (e.g., physical, economic, social, cultural, or religious).
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National Geography Standards (NGS)

Science

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.3.2.	Spatial Patterns and Processes: Processes shape the spatial patterns of people, places, and environments over time
BENCHMARK	WST.3.2.A.	Describe and compare the processes that influence the distribution of human and physical phenomena, as exemplified by being able to

EXPECTATION	WST.3.2.A.3.	Describe and compare changes in natural vegetation zones and land uses on the slopes of a mountain (e.g., vertical zonation, tree lines in middle latitudes).
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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.
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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. 2.	Analyze the pattern of glacial features as a result of glacial retreat (e.g., moraines, kettle lakes, cirques).
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).
EXPECTATION	PS.7.3.A. 3.	Explain the effects of erosion processes on landscape features over time (e.g., Chimney Rock, Devil's Tower, Grand Canyon, Arches National Park).
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. 3.	Identify and describe the variable components in an ocean ecosystem that influence the interdependencies in an ecosystem (e.g., water temperature, depth, salinity, acidity, plants, fish, and marine mammals in an aquatic ecosystem).
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.ES.	Environment and Society
STANDARD	ES.14.	How human actions modify the physical environment
STRAND	ES.14.3.	Consequences for People and Environments: The physical environment can both accommodate and be endangered by human activities
BENCHMARK	ES.14.3.A.	Analyze the positive and negative consequences of humans changing the physical environment, as exemplified by being able to

EXPECTATION ES.14.3.A.1. Analyze the positive and negative effects of human actions on the lithosphere (e.g., land degradation and erosion, soil salinization and acidification).

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

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

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.2.3	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.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.7.3.	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.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).
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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.
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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.
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STRAND	NGSS.5-ESS	EARTH AND SPACE SCIENCE
TITLE	5-ESS3	Earth and Human Activity
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	5-ESS3-1	Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.
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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: 6

Virtual Field Trips

National Parks - Alaska & Hawaii

National Council for the Social Studies (NCSS)

Social Studies

Grade 6 - Adopted: 2010

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 3.1.5. The concept of regions identifies links between people in different locations according to specific criteria (e.g., physical, economic, social, cultural, or religious).

National Geography Standards (NGS)

Science

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.3.2.	Spatial Patterns and Processes: Processes shape the spatial patterns of people, places, and environments over time
BENCHMARK	WST.3.2.A.	Describe and compare the processes that influence the distribution of human and physical phenomena, as exemplified by being able to

EXPECTATION WST.3.2.A.3. Describe and compare changes in natural vegetation zones and land uses on the slopes of a mountain (e.g., vertical zonation, tree lines in middle latitudes).

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. 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. 2.	Analyze the pattern of glacial features as a result of glacial retreat (e.g., moraines, kettle lakes, cirques).
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).
EXPECTATION	PS.7.3.A. 3.	Explain the effects of erosion processes on landscape features over time (e.g., Chimney Rock, Devil's Tower, Grand Canyon, Arches National Park).
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. 3.	Identify and describe the variable components in an ocean ecosystem that influence the interdependencies in an ecosystem (e.g., water temperature, depth, salinity, acidity, plants, fish, and marine mammals in an aquatic ecosystem).
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.ES.	Environment and Society
STANDARD	ES.14.	How human actions modify the physical environment
STRAND	ES.14.3.	Consequences for People and Environments: The physical environment can both accommodate and be endangered by human activities
BENCHMARK	ES.14.3.A.	Analyze the positive and negative consequences of humans changing the physical environment, as exemplified by being able to

EXPECTATION ES.14.3.A.1. Analyze the positive and negative effects of human actions on the lithosphere (e.g., land degradation and erosion, soil salinization and acidification).

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

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

National Geography Standards (NGS)

Social Studies

Grade 6 - 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.2.3	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.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.7.3.	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.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).
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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.
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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.
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PERFORMANCE EXPECTATION	MS-LS2-4	Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
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PERFORMANCE EXPECTATION	MS-LS2-5	Evaluate competing design solutions for maintaining biodiversity and ecosystem services.
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STRAND	NGSS.MS-ESS	EARTH AND SPACE SCIENCE
TITLE	MS-ESS2	Earth's Systems
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	MS-ESS2-2	Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.
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PERFORMANCE EXPECTATION	MS-ESS2-3	Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.
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STRAND	NGSS.MS-ESS	EARTH AND SPACE SCIENCE
TITLE	MS-ESS3	Earth and Human Activity

		Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	MS- ESS3-1	Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.
PERFORMANCE EXPECTATION	MS- ESS3-3	Apply scientific principles to design a method for monitoring and minimizing a human impact on 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: 7

Virtual Field Trips

National Parks - Alaska & Hawaii

National Council for the Social Studies (NCSS)

Social Studies

Grade 7 - Adopted: 2010

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 3.1.5. The concept of regions identifies links between people in different locations according to specific criteria (e.g., physical, economic, social, cultural, or religious).

National Geography Standards (NGS)

Science

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.3.2.	Spatial Patterns and Processes: Processes shape the spatial patterns of people, places, and environments over time
BENCHMARK	WST.3.2.A.	Describe and compare the processes that influence the distribution of human and physical phenomena, as exemplified by being able to

EXPECTATION WST.3.2.A.3. Describe and compare changes in natural vegetation zones and land uses on the slopes of a mountain (e.g., vertical zonation, tree lines in middle latitudes).

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. 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. 2.	Analyze the pattern of glacial features as a result of glacial retreat (e.g., moraines, kettle lakes, cirques).
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).
EXPECTATION	PS.7.3.A. 3.	Explain the effects of erosion processes on landscape features over time (e.g., Chimney Rock, Devil's Tower, Grand Canyon, Arches National Park).
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. 3.	Identify and describe the variable components in an ocean ecosystem that influence the interdependencies in an ecosystem (e.g., water temperature, depth, salinity, acidity, plants, fish, and marine mammals in an aquatic ecosystem).
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.ES.	Environment and Society
STANDARD	ES.14.	How human actions modify the physical environment
STRAND	ES.14.3.	Consequences for People and Environments: The physical environment can both accommodate and be endangered by human activities
BENCHMARK	ES.14.3.A.	Analyze the positive and negative consequences of humans changing the physical environment, as exemplified by being able to

EXPECTATION ES.14.3.A.1. Analyze the positive and negative effects of human actions on the lithosphere (e.g., land degradation and erosion, soil salinization and acidification).

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

ESSENTIAL ELEMENT	NGS.ES.	Environment and Society
STANDARD	ES.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.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.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.7.3.	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.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).
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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.
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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.
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PERFORMANCE EXPECTATION	MS-LS2-4	Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
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PERFORMANCE EXPECTATION	MS-LS2-5	Evaluate competing design solutions for maintaining biodiversity and ecosystem services.
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STRAND	NGSS.MS-ESS	EARTH AND SPACE SCIENCE
TITLE	MS-ESS2	Earth's Systems
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	MS-ESS2-2	Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.
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PERFORMANCE EXPECTATION	MS-ESS2-3	Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.
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STRAND	NGSS.MS-ESS	EARTH AND SPACE SCIENCE
TITLE	MS-ESS3	Earth and Human Activity

		Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	MS- ESS3-1	Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.
PERFORMANCE EXPECTATION	MS- ESS3-3	Apply scientific principles to design a method for monitoring and minimizing a human impact on 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: 8

Virtual Field Trips

National Parks - Alaska & Hawaii

National Council for the Social Studies (NCSS)

Social Studies

Grade 8 - Adopted: 2010

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 3.1.5. The concept of regions identifies links between people in different locations according to specific criteria (e.g., physical, economic, social, cultural, or religious).

National Geography Standards (NGS)

Science

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.3.2 .	Spatial Patterns and Processes: Processes shape the spatial patterns of people, places, and environments over time
BENCHMARK	WST.3.2 .A.	Describe and compare the processes that influence the distribution of human and physical phenomena, as exemplified by being able to

EXPECTATION WST.3.2 .A.3. Describe and compare changes in natural vegetation zones and land uses on the slopes of a mountain (e.g., vertical zonation, tree lines in middle latitudes).

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. 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. 2.	Analyze the pattern of glacial features as a result of glacial retreat (e.g., moraines, kettle lakes, cirques).
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).
EXPECTATION	PS.7.3.A. 3.	Explain the effects of erosion processes on landscape features over time (e.g., Chimney Rock, Devil's Tower, Grand Canyon, Arches National Park).
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. 3.	Identify and describe the variable components in an ocean ecosystem that influence the interdependencies in an ecosystem (e.g., water temperature, depth, salinity, acidity, plants, fish, and marine mammals in an aquatic ecosystem).
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.ES.	Environment and Society
STANDARD	ES.14.	How human actions modify the physical environment
STRAND	ES.14.3.	Consequences for People and Environments: The physical environment can both accommodate and be endangered by human activities
BENCHMARK	ES.14.3.A.	Analyze the positive and negative consequences of humans changing the physical environment, as exemplified by being able to

EXPECTATION ES.14.3.A.1. Analyze the positive and negative effects of human actions on the lithosphere (e.g., land degradation and erosion, soil salinization and acidification).

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

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

National Geography Standards (NGS)

Social Studies

Grade 8 - 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.2.3	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.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.7.3.	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.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).
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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.
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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.
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PERFORMANCE EXPECTATION	MS-LS2-4	Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
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PERFORMANCE EXPECTATION	MS-LS2-5	Evaluate competing design solutions for maintaining biodiversity and ecosystem services.
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STRAND	NGSS.MS-ESS	EARTH AND SPACE SCIENCE
TITLE	MS-ESS2	Earth's Systems
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	MS-ESS2-2	Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.
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PERFORMANCE EXPECTATION	MS-ESS2-3	Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.
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STRAND	NGSS.MS-ESS	EARTH AND SPACE SCIENCE
TITLE	MS-ESS3	Earth and Human Activity

		Students who demonstrate understanding can:
PERFORMANCE EXPECTATION	MS- ESS3-1	Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.
PERFORMANCE EXPECTATION	MS- ESS3-3	Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.