Virtual Field Trips

The Amazon Rainforest - Part 2 - Younger Grades

Grade 2 - Adopted: 2010

Social Studies

The National Council for the Social Studies (NCSS)

NCSS.1. CULTURE

DEFINITION
SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.

CATEGORY 1.1. KNOWLEDGE - Learners will understand:

LEARNING EXPECTATION 1.1.1. 'Culture' refers to the behaviors, beliefs, values, traditions, institutions, and ways of living together of a group of people.

LEARNING EXPECTATION 1.1.2. Concepts such as: similarities, differences, beliefs, values, cohesion, and diversity.

LEARNING EXPECTATION 1.1.4. How culture may change in response to changing needs and concerns.

LEARNING EXPECTATION 1.1.6. How peoples from different cultures develop different values and ways of interpreting experience.

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 2.1.4. Key people, events, and places associated with the history of the community, nation, 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.
3.1. KNOWLEDGE - Learners will understand:

The theme of people, places, and environments involves the study of location, place, and the interactions of people with their surroundings.

3.2. PROCESSES - Learners will be able to:

Ask and find answers to geographic questions related to the school, community, state, region, and world.

3.3. PRODUCTS - Learners demonstrate understanding by:

Creating illustrations and composing answers to geographic questions about people, places, and environments.

5.1. KNOWLEDGE - Learners will understand:

Concepts such as: community, culture, role, competition, cooperation, rules, and norms.

5.2. PROCESSES - Learners will be able to:

Describe examples in which language, art, music, belief systems, and other cultural elements can facilitate global understanding or cause misunderstanding.

National Council for the Social Studies (NCSS)

Social Studies

Grade 3 - Adopted: 2010

1.1. KNOWLEDGE - Learners will understand:

‘Culture’ refers to the behaviors, beliefs, values, traditions, institutions, and ways of living together of a group of people.

Concepts such as: similarities, differences, beliefs, values, cohesion, and diversity.

How culture may change in response to changing needs and concerns.
| LEARNING EXPECTATION | THEME | DEFINITION | CATEGORY | LEARNING EXPECTATION | THEME | DEFINITION | CATEGORY | LEARNING EXPECTATION | THEME | DEFINITION | CATEGORY | LEARNING EXPECTATION | THEME | DEFINITION | CATEGORY | LEARNING EXPECTATION | THEME | DEFINITION | CATEGORY | LEARNING EXPECTATION | THEME | DEFINITION | CATEGORY | LEARNING EXPECTATION | THEME | DEFINITION | CATEGORY | LEARNING EXPECTATION | THEME | DEFINITION |
|----------------------|-------|------------|----------|----------------------|-------|------------|----------|----------------------|-------|------------|----------|----------------------|-------|------------|----------|----------------------|-------|------------|----------|----------------------|-------|------------|----------|----------------------|-------|------------|----------|----------------------|-------|------------|----------|----------------------|-------|------------|
LEARNING EXPECTATION 9.2.4. Describe examples in which language, art, music, belief systems, and other cultural elements can facilitate global understanding or cause misunderstanding.

National Council for the Social Studies (NCSS)

Social Studies

Grade 4 - Adopted: 2010

THEME NCSS.1. CULTURE

CATEGORY 1.1.

LEARNING EXPECTATION 1.1.1. 'Culture' refers to the behaviors, beliefs, values, traditions, institutions, and ways of living together of a group of people.

LEARNING EXPECTATION 1.1.2. Concepts such as: similarities, differences, beliefs, values, cohesion, and diversity.

LEARNING EXPECTATION 1.1.4. How culture may change in response to changing needs and concerns.

LEARNING EXPECTATION 1.1.6. How peoples from different cultures develop different values and ways of interpreting experience.

THEME NCSS.1. CULTURE

CATEGORY 1.2.

LEARNING EXPECTATION 1.2.2. Explore and describe similarities and differences in the ways various cultural groups meet similar needs and concerns.

THEME NCSS.2. TIME, CONTINUITY, AND CHANGE

CATEGORY 2.1.

LEARNING EXPECTATION 2.1.4. Key people, events, and places associated with the history of the community, nation, and world.

THEME NCSS.3. PEOPLE, PLACES, AND ENVIRONMENTS

CATEGORY 3.1.

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.

THEME NCSS.3. 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.

THEME NCSS.5. INDIVIDUALS, GROUPS, AND INSTITUTIONS

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

CATEGORY 5.1. KNOWLEDGE - Learners will understand:

LEARNING EXPECTATION 5.1.2. Concepts such as: community, culture, role, competition, cooperation, rules, and norms.

THEME NCSS.9. GLOBAL CONNECTIONS

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

CATEGORY 9.2. PROCESSES - Learners will be able to:

LEARNING EXPECTATION 9.2.4. Describe examples in which language, art, music, belief systems, and other cultural elements can facilitate global understanding or cause misunderstanding.

National Council for the Social Studies (NCSS)

Social Studies

Grade 5 - Adopted: 2010

THEME NCSS.1. CULTURE

DEFINITION SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.

CATEGORY 1.1. KNOWLEDGE - Learners will understand:

LEARNING EXPECTATION 1.1.1. 'Culture' refers to the socially transmitted behaviors, beliefs, values, traditions, institutions, and ways of living together of a group of people.

LEARNING EXPECTATION 1.1.3. How culture influences the ways in which human groups solve the problems of daily living.

LEARNING EXPECTATION 1.1.6. That culture may change in response to changing needs, concerns, social, political, and geographic conditions.

LEARNING EXPECTATION 1.1.7. How people from different cultures develop different values and ways of interpreting experience.

THEME NCSS.1. CULTURE

DEFINITION SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF CULTURE AND CULTURAL DIVERSITY.

CATEGORY 1.2. PROCESSES - Learners will be able to:

LEARNING 1.2.1. Ask and find answers to questions related to culture.
EXPECTATION
LEARNING EXPECTATION 1.2.7. Draw inferences from data about the ways in which given cultures respond to persistent human issues, and how culture influences those responses.

THEME NCSS.2. TIME, CONTINUITY, AND CHANGE
DEFINITION SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF THE PAST AND ITS LEGACY.
CATEGORY KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION 2.1.6. The origins and influences of social, cultural, political, and economic systems.

THEME NCSS.3. PEOPLE, PLACES, AND ENVIRONMENTS
DEFINITION SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF PEOPLE, PLACES, AND ENVIRONMENTS.
CATEGORY KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION 3.1.2. Concepts such as: location, region, place, and migration, as well as human and physical systems.
LEARNING EXPECTATION 3.1.5. The concept of regions identifies links between people in different locations according to specific criteria (e.g., physical, economic, social, cultural, or religious).
LEARNING EXPECTATION 3.1.6. Patterns of demographic and political change, and cultural diffusion in the past and present (e.g., changing national boundaries, migration, and settlement, and the diffusion of and changes in customs and ideas).
LEARNING EXPECTATION 3.1.7. Human modifications of the environment.

THEME NCSS.5. INDIVIDUALS, GROUPS, AND INSTITUTIONS
DEFINITION SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF INTERACTIONS AMONG INDIVIDUALS, GROUPS, AND INSTITUTIONS.
CATEGORY KNOWLEDGE - Learners will understand:
LEARNING EXPECTATION 5.1.2. Concepts such as: mores, norms, status, role, socialization, ethnocentrism, cultural diffusion, competition, cooperation, conflict, race, ethnicity, and gender.
LEARNING EXPECTATION 5.1.9. That groups and institutions influence culture in a variety of ways.

THEME NCSS.9. GLOBAL CONNECTIONS
DEFINITION SOCIAL STUDIES PROGRAMS SHOULD INCLUDE EXPERIENCES THAT PROVIDE FOR THE STUDY OF GLOBAL CONNECTIONS AND INTERDEPENDENCE.
Processes - Learners will be able to:

Investigate and explain the ways in which aspects of culture, such as language, beliefs, and traditions, may facilitate understanding, or lead to misunderstanding between cultures.

National Council for the Social Studies (NCSS)

Social Studies

Grade 6 - Adopted: 2010

Theme NCSS.1. Culture

Category 1.1.

Knowledge - Learners will understand:

LEARNING EXPECTATION 1.1.1.
'Culture' refers to the socially transmitted behaviors, beliefs, values, traditions, institutions, and ways of living together of a group of people.

LEARNING EXPECTATION 1.1.3.
How culture influences the ways in which human groups solve the problems of daily living.

LEARNING EXPECTATION 1.1.6.
That culture may change in response to changing needs, concerns, social, political, and geographic conditions.

LEARNING EXPECTATION 1.1.7.
How people from different cultures develop different values and ways of interpreting experience.

Theme NCSS.2. Time, Continuity, and Change

Category 2.1.

Knowledge - Learners will understand:

LEARNING EXPECTATION 2.1.6.
The origins and influences of social, cultural, political, and economic systems.

Theme NCSS.3. People, Places, and Environments

Category 3.1.

Knowledge - Learners will understand:

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

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

LEARNING EXPECTATION 3.1.6.
Patterns of demographic and political change, and cultural diffusion in the
EXPECTATION

past and present (e.g., changing national boundaries, migration, and settlement, and the diffusion of and changes in customs and ideas).

LEARNING EXPECTATION 3.1.7. Human modifications of the environment.

THEME NCSS.3. PEOPLE, PLACES, AND ENVIRONMENTS

DEFINITION

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

CATEGORY 3.2. PROCESSES - Learners will be able to:

LEARNING EXPECTATION 3.2.1. Ask and find answers to geographic questions related to regions, nations, and the world in the past and present.

LEARNING EXPECTATION 3.2.3. Acquire, organize, and analyze information and use geographic tools to draw conclusions about historic or current national and global environmental change.

THEME NCSS.5. INDIVIDUALS, GROUPS, AND INSTITUTIONS

DEFINITION

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

CATEGORY 5.1. KNOWLEDGE - Learners will understand:

LEARNING EXPECTATION 5.1.2. Concepts such as: mores, norms, status, role, socialization, ethnocentrism, cultural diffusion, competition, cooperation, conflict, race, ethnicity, and gender.

LEARNING EXPECTATION 5.1.9. That groups and institutions influence culture in a variety of ways.

THEME NCSS.9. GLOBAL CONNECTIONS

DEFINITION

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

CATEGORY 9.2. PROCESSES - Learners will be able to:

LEARNING EXPECTATION 9.2.3. Investigate and explain the ways in which aspects of culture, such as language, beliefs, and traditions, may facilitate understanding, or lead to misunderstanding between cultures.

National Geography Standards (NGS)

Science

Grade 2 - 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).

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.1 | Identify different cycles in Earth’s systems (e.g., water cycle, carbon cycle, wind or water erosion, weathering, deposition, mass wasting). |

**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.HS.  Human Systems
<table>
<thead>
<tr>
<th>STANDARD</th>
<th>HS.13.</th>
<th>How the forces of cooperation and conflict among people influence the division and control of Earth's surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRAND</td>
<td>HS.13.3.</td>
<td>Conflict: Conflicts arise when there is disagreement over the division, control, and management of Earth's surface</td>
</tr>
<tr>
<td>BENCHMARK</td>
<td>HS.13.3.A.</td>
<td>Analyze examples of disagreements over land uses in their community, as exemplified by being able to identify local land-use issues in which there are disagreements and analyze the perspectives of the key stakeholders (e.g., protection of environmentally sensitive areas, land use for commercial purposes, locating waste disposal sites).</td>
</tr>
<tr>
<td>EXPECTATION</td>
<td>HS.13.3.A.2.</td>
<td>Identify and describe the changes in local habitats that resulted from human activities.</td>
</tr>
<tr>
<td>ESSENTIAL ELEMENT</td>
<td>NGS.ES.</td>
<td>Environment and Society</td>
</tr>
<tr>
<td>STANDARD</td>
<td>ES.14.</td>
<td>How human actions modify the physical environment</td>
</tr>
<tr>
<td>STRAND</td>
<td>ES.14.3.</td>
<td>Consequences for People and Environments: The consequences of human modifications of the physical environment</td>
</tr>
<tr>
<td>BENCHMARK</td>
<td>ES.14.3.A.</td>
<td>Identify and describe examples of how human activities impact the physical environment, as exemplified by being able to explain the meaning of the term &quot;resource&quot; and then illustrate the idea of renewable, nonrenewable, and flow resources by sorting example photographs into each of the three categories.</td>
</tr>
<tr>
<td>EXPECTATION</td>
<td>ES.14.3.A.1.</td>
<td>Identify and describe the changes in local habitats that resulted from human activities.</td>
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<tr>
<td>STANDARD</td>
<td>ES.16.</td>
<td>The changes that occur in the meaning, use, distribution, and importance of resources</td>
</tr>
<tr>
<td>STRAND</td>
<td>ES.16.1.</td>
<td>Types and Meanings of Resources: The characteristics of renewable, nonrenewable, and flow resources</td>
</tr>
<tr>
<td>BENCHMARK</td>
<td>ES.16.1.A.</td>
<td>Identify and explain the characteristics of renewable, nonrenewable, and flow resources, as exemplified by being able to explain the meaning of the term &quot;resource&quot; and then illustrate the idea of renewable, nonrenewable, and flow resources by sorting example photographs into each of the three categories.</td>
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<td>EXPECTATION</td>
<td>ES.16.1.A.1.</td>
<td>Identify the types of nonrenewable resources students and their families use in their everyday lives and identify renewable and flow resources that could be used instead of nonrenewable resources.</td>
</tr>
<tr>
<td>EXPECTATION</td>
<td>ES.16.1.A.3.</td>
<td>Identify the types of nonrenewable resources students and their families use in their everyday lives and identify renewable and flow resources that could be used instead of nonrenewable resources.</td>
</tr>
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<td>ESSENTIAL ELEMENT</td>
<td>NGS.UG.</td>
<td>The Uses of Geography</td>
</tr>
<tr>
<td>STANDARD</td>
<td>UG.17.</td>
<td>How to apply geography to interpret the past</td>
</tr>
<tr>
<td>STRAND</td>
<td>UG.17.2.</td>
<td>Changes in Geographic Contexts: Places, regions, and environments change over time</td>
</tr>
<tr>
<td>BENCHMARK</td>
<td>UG.17.2.A.</td>
<td>Analyze how places, regions, and environments change over time, as exemplified by being able to describe how the physical environment of a county or state was changed by processes of forest clearing, damming of rivers, cultivation of fields, or land leveling.</td>
</tr>
<tr>
<td>EXPECTATION</td>
<td>UG.17.2.A.3.</td>
<td>Describe how the physical environment of a county or state was changed by processes of forest clearing, damming of rivers, cultivation of fields, or land leveling.</td>
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<tr>
<td>STANDARD</td>
<td>UG.18.</td>
<td>How to apply geography to interpret the present and plan for the future</td>
</tr>
<tr>
<td>STRAND</td>
<td>UG.18.1.</td>
<td>Geographic contexts (the human and physical characteristics of places and environments) are the settings for current events</td>
</tr>
</tbody>
</table>
BENCHMARK UG.18.1.A. Analyze geographic contexts in which current events and issues occur, as exemplified by being able to
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.

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.

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
Describe how to plan for the environmental future of a place by

EXPECTATION UG.18.2.A.1. completing the following statements: “I will keep....” “I will change....” and “I will remove....”

National Geography Standards (NGS)
Science

Grade 3 - 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).

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.1. Identify different cycles in Earth’s systems (e.g., water cycle, carbon cycle, wind or water erosion, weathering, deposition, mass wasting).

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
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<td>Identify and describe the characteristics of an ecosystem (specific types of plants, climate, and soil) in which a favorite or interesting creature lives.</td>
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<td>Identify and draw pictures of different plants and animals in various local ecosystems (e.g., a pond, forest, city park).</td>
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<td>Compare the characteristics of different ecosystems (e.g., pond, deciduous forest, coral reef).</td>
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<td>PS.8.3.A.2</td>
<td>Describe the temperature, precipitation, and vegetation characteristics of various biomes, (e.g., deserts, grasslands, savannahs, temperate forests, tropical forests, arctic tundra).</td>
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<td>PS.8.3.A.3</td>
<td>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).</td>
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<td>BENCHMARK</td>
<td>HS.13.3.A.</td>
<td>Analyze examples of disagreements over land uses in their community, as exemplified by being able to</td>
</tr>
<tr>
<td>EXPECTATION</td>
<td>HS.13.3.A.2</td>
<td>Identify local land-use issues in which there are disagreements and analyze the perspectives of the key stakeholders (e.g., protection of environmentally sensitive areas, land use for commercial purposes, locating waste disposal sites).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ESSENTIAL ELEMENT</th>
<th>NGS.ES.</th>
<th>Environment and Society</th>
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<tbody>
<tr>
<td>STANDARD</td>
<td>ES.14.</td>
<td>How human actions modify the physical environment</td>
</tr>
<tr>
<td>STRAND</td>
<td>ES.14.3.</td>
<td>Consequences for People and Environments: The consequences of human modifications of the physical environment</td>
</tr>
<tr>
<td>BENCHMARK</td>
<td>ES.14.3.A.</td>
<td>Identify and describe examples of how human activities impact the</td>
</tr>
</tbody>
</table>
physical environment, as exemplified by being able to identify and describe the changes in local habitats that resulted from human activities.

**EXPECTATION ES.14.3.A.1.**

**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 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.

**EXPECTATION ES.16.1.A.1.** Identify the types of nonrenewable resources students and their families use in their everyday lives and identify renewable and flow resources that could be used instead of nonrenewable resources.

**EXPECTATION ES.16.1.A.3.** Describe how the physical environment of a county or state was changed by processes of forest clearing, damming of rivers, cultivation of fields, or land leveling.

**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: Places, regions, and environments change over time

**BENCHMARK UG.17.2.A.** Analyze how places, regions, and environments change over time, as exemplified by being able to describe how the physical environment of a county or state was changed by processes of forest clearing, damming of rivers, cultivation of fields, or land leveling.

**EXPECTATION UG.17.2.A.3.** Describe how to plan for the environmental future of a place by analyzing geographic contexts in which current events and issues occur, as exemplified by being able to 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.

**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 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 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)

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).

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.1. Identify different cycles in Earth’s systems (e.g., water cycle, carbon cycle, wind or water erosion, weathering, deposition, mass wasting).

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).

**Physical Systems**

**Characteristics and Spatial Distribution of Ecosystems and Biomes on Earth's Surface**

**Characteristics and Geographic Distribution of Biomes: The characteristics of biomes**

**Describe the characteristics of biomes, as exemplified by being able to**

**Describe the defining characteristics of a biome as a large region of ecosystems with similar climate and vegetation characteristics.**

**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).**

**Human Systems**

**How the forces of cooperation and conflict among people influence the division and control of Earth's surface**

**Conflict: Conflicts arise when there is disagreement over the division, control, and management of Earth's surface**

**Identify local land-use issues in which there are disagreements and analyze the perspectives of the key stakeholders (e.g., protection of environmentally sensitive areas, land use for commercial purposes, locating waste disposal sites).**

**Environment and Society**

**How human actions modify the physical environment**

**Consequences for People and Environments: The consequences of human modifications of the physical environment**

**Identify and describe examples of how human activities impact the physical environment, as exemplified by being able to**

**Identify and describe the changes in local habitats that resulted from human activities.**

**The changes that occur in the meaning, use, distribution, and importance of resources**

**Types and Meanings of Resources: The characteristics of renewable, nonrenewable, and flow resources**

**Identify and explain the characteristics of renewable, nonrenewable, and flow resources, as exemplified by being able to**

**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.**
Identify the types of nonrenewable resources students and their families use in their everyday lives and identify renewable and flow resources that could be used instead of nonrenewable resources.

**ESSENTIAL ELEMENT**  
**ES.16.1.A.3.** The Uses of Geography

**STANDARD**  
**UG.17.** How to apply geography to interpret the past

**STRAND**  
**UG.17.2.** Changes in Geographic Contexts: Places, regions, and environments change over time

**BENCHMARK**  
**UG.17.2.A.** Analyze how places, regions, and environments change over time, as exemplified by being able to describe how the physical environment of a county or state was changed by processes of forest clearing, damming of rivers, cultivation of fields, or land leveling.

**EXPECTATION**  
**UG.17.2.A.3.**

**ESSENTIAL ELEMENT**  
**UG.18.** 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 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.

**EXPECTATION**  
**UG.18.1.A.3.**

**ESSENTIAL ELEMENT**  
**UG.18.** 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 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....”

**EXPECTATION**  
**UG.18.2.A.1.**

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**National Geography Standards (NGS)**

**Science**

**Grade 5** - Adopted: 2012

**ESSENTIAL ELEMENT**  
**NGS.PS.** Physical Systems

**STANDARD**  
**PS.7.** The physical processes that shape the patterns of Earth’s surface

**STRAND**  
**PS.7.1.** Components of Earth’s Physical Systems: The four components of Earth’s physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere) are interdependent

**BENCHMARK**  
**PS.7.1.A.** Identify and describe patterns in the environment that result from the
interaction of Earth’s physical processes, as exemplified by being able to Identify and describe the patterns that result from the connections between climate and vegetation (e.g., examples of patterns of ecosystems and biomes).

**EXPECTATION** PS.7.1.A.2.

**ESSENTIAL ELEMENT** NGS.PS. Physical Systems

**STANDARD** PS.8. The characteristics and spatial distribution of ecosystems and biomes on Earth’s surface

**STRAND** PS.8.1. Components of Ecosystems: Components of ecosystems are interdependent

**BENCHMARK** PS.8.1.A. Describe how the components of ecosystems are connected and contribute to the energy of their own cycles, as exemplified by being able to

**EXPECTATION** PS.8.1.A.1. Describe the flow of energy and the cycling of matter through an ecosystem (e.g., the food chain, photosynthesis).

**ESSENTIAL ELEMENT** NGS.PS. Physical Systems

**STANDARD** PS.8. The characteristics and spatial distribution of ecosystems and biomes on Earth’s surface

**STRAND** PS.8.1. Components of Ecosystems: Components of ecosystems are interdependent

**BENCHMARK** PS.8.1.B. Construct a model to explain how an ecosystem works, as exemplified by being able to

**EXPECTATION** PS.8.1.B.3. Construct a flow chart to explain the interactions of components within an ecosystem (e.g., water cycle, oxygen and carbon dioxide exchange, producers, consumers, and decomposers).

**ESSENTIAL ELEMENT** NGS.PS. Physical Systems

**STANDARD** PS.8. The characteristics and spatial distribution of ecosystems and biomes on Earth’s surface

**STRAND** PS.8.2. Characteristics and Geographic Distribution of Ecosystems: Physical processes determine the characteristics of ecosystems

**BENCHMARK** PS.8.2.A. Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to

**EXPECTATION** PS.8.2.A.2. Explain how different locations can have similar ecosystems as a function of temperature, precipitation, elevation, and latitude by using climographs and vegetation maps.

**ESSENTIAL ELEMENT** NGS.PS. Physical Systems

**STANDARD** PS.8. The characteristics and spatial distribution of ecosystems and biomes on Earth’s surface

**STRAND** PS.8.3. Characteristics and Geographic Distribution of Biomes: Climate primarily determines the characteristics and geographic distribution of biomes

**BENCHMARK** PS.8.3.A. Describe and explain how climate (temperature and rainfall) primarily determines the characteristics and geographic distribution of biomes, as exemplified by being able to

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

**ESSENTIAL ELEMENT** NGS.HS. Human Systems
The patterns and networks of economic interdependence on Earth's surface

Economic Activities: The functions of different types of economic activities
Describe and analyze the functions of economic activities in the primary, secondary, tertiary, and quaternary sectors, as exemplified by being able to
Describe the sequence of activities that occur in the manufacture of products (e.g., in the production of a computerized sewing machine, the iron-ore mining is primary, smelting iron and steel are secondary, selling of the steel sewing machines is tertiary, and advertising is quaternary).

Describe and analyze the spatial patterns of land use in cities, as exemplified by being able to
Identify and describe a controversial land-use issue in the community and analyze the advantages and disadvantages of making the change in use (e.g., widening a street for more lanes of traffic, tearing down an old building for a new park, converting green space into a new building complex).

Describe and explain how human-induced changes in one place often lead to changes in other places
Describe how human changes to land cover can have negative impacts on other areas (e.g., deforestation and downstream flooding, siltation, soil erosion).

Analyze the positive and negative consequences of humans changing the physical environment, as exemplified by being able to
Analyze the ways humans can have positive effects on the physical environment (e.g., open green space protection, wetland restoration, sustainable forestry).

The changes that occur in the meaning, use, distribution, and importance of resources
Types and Meanings of Resources: People can have different viewpoints regarding the meaning and use of resources
Describe examples of how cultures differ in their definition and use of resources, as exemplified by being able to 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).

**Environment and Society**

**The changes that occur in the meaning, use, distribution, and importance of resources**

**Sustainable Resource Use and Management: Humans can manage resources to sustain or prolong their use**

**Explain how renewable resources can be continuously replenished through sustainable use, as exemplified by being able to describe and explain how sustainable management techniques can be applied in farming, forestry, and fishing (e.g., soil banks and contour plowing, sustainable timber harvesting practices, aquaculture).**

**National Geography Standards (NGS)**

**Science**

**Grade 6 - Adopted: 2012**

**Physical Systems**

**The physical processes that shape the patterns of Earth’s surface**

**Components of Earth’s Physical Systems: The four components of Earth’s physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere) are interdependent**

**Identify and describe patterns in the environment that result from the interaction of Earth’s physical processes, as exemplified by being able to identify and describe the patterns that result from the connections between climate and vegetation (e.g., examples of patterns of ecosystems and biomes).**

**Components of Ecosystems: Components of ecosystems are interdependent**

**Describe how the components of ecosystems are connected and contribute to the energy of their own cycles, as exemplified by being able to describe the flow of energy and the cycling of matter through an ecosystem (e.g., the food chain, photosynthesis).**

**Construct a model to explain how an ecosystem works, as exemplified by being able to**
EXPECTATION PS.8.1.B.3. Construct a flow chart to explain the interactions of components within an ecosystem (e.g., water cycle, oxygen and carbon dioxide exchange, producers, consumers, and decomposers).

ESSENTIAL ELEMENT NGS.PS. Physical Systems

STANDARD PS.8. The characteristics and spatial distribution of ecosystems and biomes on Earth's surface

STRAND PS.8.2. Characteristics and Geographic Distribution of Ecosystems: Physical processes determine the characteristics of ecosystems

BENCHMARK PS.8.2.A. Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to 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.2.

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 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.2.

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


ESSENTIAL ELEMENT NGS.HS. Human Systems

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

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

BENCHMARK HS.12.4.A. Describe and analyze the spatial patterns of land use in cities, as exemplified by being able to identify and describe a controversial land-use issue in the community and analyze the advantages and disadvantages of making the change in use (e.g., widening a street for more lanes of traffic, tearing down an old
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<th>STRAND</th>
<th>BENCHMARK</th>
<th>EXPECTATION</th>
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<tr>
<td>NGS.ES. Environment and Society</td>
<td>ES.14.</td>
<td>How human actions modify the physical environment</td>
<td>ES.14.1. Modification of the Physical Environment: Human modifications of the physical environment in one place often lead to changes in other places</td>
<td>Describe and explain how human-induced changes in one place can affect the physical environment in other places, as exemplified by being able to Describe how human changes to land cover can have negative impacts on other areas (e.g., deforestation and downstream flooding, siltation, soil erosion).</td>
</tr>
<tr>
<td>NGS.ES. Environment and Society</td>
<td>ES.14.</td>
<td>How human actions modify the physical environment</td>
<td>ES.14.3. Consequences for People and Environments: The physical environment can both accommodate and be endangered by human activities</td>
<td>Analyze the positive and negative consequences of humans changing the physical environment, as exemplified by being able to Analyze the ways humans can have positive effects on the physical environment (e.g., open green space protection, wetland restoration, sustainable forestry).</td>
</tr>
<tr>
<td>NGS.ES. Environment and Society</td>
<td>ES.16.</td>
<td>The changes that occur in the meaning, use, distribution, and importance of resources</td>
<td>ES.16.1. Types and Meanings of Resources: People can have different viewpoints regarding the meaning and use of resources</td>
<td>Describe examples of how cultures differ in their definition and use of resources, as exemplified by being able to 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).</td>
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<td>The changes that occur in the meaning, use, distribution, and importance of resources</td>
<td>ES.16.3. Sustainable Resource Use and Management: Humans can manage resources to sustain or prolong their use</td>
<td>Explain how renewable resources can be continuously replenished through sustainable use, as exemplified by being able to Describe and explain how sustainable management techniques can be applied in farming, forestry, and fishing (e.g., soil banks and contour plowing, sustainable timber harvesting practices, aquaculture).</td>
</tr>
</tbody>
</table>

**National Geography Standards (NGS)**

**Social Studies**
Grade 2 - 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.3.1.

Spatial Concepts: The meaning and use of fundamental spatial concepts such as location, distance, direction, scale, movement, region, and volume

**BENCHMARK** WST.3.1.A.

Describe and explain the spatial organization of people, places, and environments (where things are in relation to other things) using spatial concepts, as exemplified by being able to

**EXPECTATION** WST.3.1.A.2

Describe the meaning of the spatial concepts of distance, direction, and location used in selected literature (e.g., read an account of Paul Revere’s ride and describe it in terms of locations [start to end], movement, region of action, distance, direction).

**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.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.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
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<tr>
<th>Benchmark</th>
<th>Standard</th>
<th>Strand</th>
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<th>Description</th>
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<tbody>
<tr>
<td>PS.7.1.A</td>
<td>PS.7.1.A.1</td>
<td>PS.7.1.A.3</td>
<td>NGS.PS. Physical Systems</td>
<td>PS.7.1.A.1</td>
<td>Identify different attributes of physical systems in photographs (e.g., sky, clouds, plants, soil, oceans, lakes, mountains).</td>
</tr>
<tr>
<td>PS.7.1.A</td>
<td>PS.7.1.A.1</td>
<td>PS.7.1.A.3</td>
<td>NGS.PS. Physical Systems</td>
<td>PS.7.1.A.3</td>
<td>Identify examples of landforms on Earth's surface (e.g., mountains, volcanoes, valleys, plains).</td>
</tr>
<tr>
<td>PS.8.1.A</td>
<td>PS.8.1.A.1</td>
<td>PS.8.1.A.2</td>
<td>NGS.PS. Physical Systems</td>
<td>PS.8.1.A.1</td>
<td>Identify the three major components of an ecosystem (i.e., biomass, climate, and soil).</td>
</tr>
<tr>
<td>PS.8.1.A</td>
<td>PS.8.1.A.1</td>
<td>PS.8.1.A.2</td>
<td>NGS.PS. Physical Systems</td>
<td>PS.8.1.A.2</td>
<td>Identify examples of each ecosystem component (e.g., pine trees versus grasslands, low versus high rainfall, clay versus sandy soils).</td>
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<tr>
<td>PS.8.2.A</td>
<td>PS.8.2.A.1</td>
<td>PS.8.2.A.3</td>
<td>NGS.PS. Physical Systems</td>
<td>PS.8.2.A.1</td>
<td>Identify and describe the characteristics of an ecosystem (specific types of plants, climate, and soil) in which a favorite or interesting creature lives.</td>
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<td>NGS.PS. Physical Systems</td>
<td>PS.8.2.A.3</td>
<td>Compare the characteristics of different ecosystems (e.g., pond, deciduous forest, coral reef).</td>
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<tr>
<td>PS.8.3.A</td>
<td>PS.8.3.A.1</td>
<td>PS.8.3.A.2</td>
<td>NGS.PS. Physical Systems</td>
<td>PS.8.3.A.1</td>
<td>Describe the defining characteristics of a biome as a large region of ecosystems with similar climate and vegetation characteristics.</td>
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<tr>
<td>PS.8.3.A</td>
<td>PS.8.3.A.1</td>
<td>PS.8.3.A.2</td>
<td>NGS.PS. Physical Systems</td>
<td>PS.8.3.A.2</td>
<td>Describe the temperature, precipitation, and vegetation characteristics of various biomes, (e.g., deserts, grasslands, savannahs, temperate forests, tropical forests, arctic tundra).</td>
</tr>
<tr>
<td>ES.15.1.A</td>
<td>ES.15.1.A</td>
<td>ES.15.1.A</td>
<td>NGS.ES. Environment and Society</td>
<td>PS.8.3.A.2</td>
<td>Compare the characteristics of different ecosystems (e.g., pond, deciduous forest, coral reef).</td>
</tr>
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</table>
opportunities for human activities, as exemplified by being able to
Identify and describe examples of places that offer vacation activities for
people because of the physical environment (e.g., snow skiing, ocean
beaches, boating, river rafting).

**National Geography Standards (NGS)**

**Social Studies**

**Grade 3 - Adopted: 2012**

<table>
<thead>
<tr>
<th>ESSENTIAL ELEMENT</th>
<th>NGS.WST.</th>
<th>The World in Spatial Terms</th>
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<td>STANDARD</td>
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<td>How to analyze the spatial organization of people, places, and environments on Earth's surface</td>
</tr>
<tr>
<td>STRAND</td>
<td>WST.3.1.</td>
<td>Spatial Concepts: The meaning and use of fundamental spatial concepts such as location, distance, direction, scale, movement, region, and volume</td>
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<td>EXPECTATION</td>
<td>WST.3.1.A.2.</td>
<td>Describe the meaning of the spatial concepts of distance, direction, and location used in selected literature (e.g., read an account of Paul Revere’s ride and describe it in terms of locations [start to end], movement, region of action, distance, direction).</td>
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<td>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).</td>
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<td>BENCHMARK</td>
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<td>Describe and compare the physical characteristics of places at a variety of scales, local to global, as exemplified by being able to</td>
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<tr>
<td>EXPECTATION</td>
<td>PR.4.2.A.3.</td>
<td>Describe and compare the physical environments and landforms of different places in the world (e.g., mountains, islands, valleys or canyons, mesas).</td>
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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.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. 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.2.
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.A.  Describe examples in which the physical environment provides opportunities for human activities, as exemplified by being able to
EXPECTATION  ES.15.1.A.2.  Identify and describe examples of places that offer vacation activities for people because of the physical environment (e.g., snow skiing, ocean beaches, boating, river rafting).

National Geography Standards (NGS)
Social Studies

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.3.1.  Spatial Concepts: The meaning and use of fundamental spatial concepts such as location, distance, direction, scale, movement, region, and volume
BENCHMARK  WST.3.1.A.  Describe and explain the spatial organization of people, places, and environments (where things are in relation to other things) using spatial concepts, as exemplified by being able to
EXPECTATION  WST.3.1.A.2.  Describe the meaning of the spatial concepts of distance, direction, and location used in selected literature (e.g., read an account of Paul Revere's ride and describe it in terms of locations [start to end], movement, region of action, distance, direction).

ESSENTIAL ELEMENT  NGS.PR.  Places and Regions
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| ESSENTIAL ELEMENT | NGS.PS. | Physical Systems |
The characteristics and spatial distribution of ecosystems and biomes on Earth’s surface

Characteristics and Geographic Distribution of Biomes: The characteristics of biomes

Describe the characteristics of biomes, as exemplified by being able to describe the defining characteristics of a biome as a large region of ecosystems with similar climate and vegetation characteristics.

Describe the temperature, precipitation, and vegetation characteristics of various biomes, (e.g., deserts, grasslands, savannas, temperate forests, tropical forests, arctic tundra).

Describe the defining characteristics of a biome as a large region of ecosystems with similar climate and vegetation characteristics.

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Describe the characteristics of biomes, as exemplified by being able to describe the defining characteristics of a biome as a large region of ecosystems with similar climate and vegetation characteristics.
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 Identify and describe the patterns that result from the connections between climate and vegetation (e.g., examples of patterns of ecosystems and biomes).

**EXPECTATION** PS.7.1.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.8.2. Characteristics and Geographic Distribution of Ecosystems: Physical processes determine the characteristics of ecosystems

**BENCHMARK** PS.8.2.A. Identify and describe patterns in the environment that result from the interaction of Earth’s physical processes, as exemplified by being able to 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.2. Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to Describe and explain the spatial patterns of different cultural characteristics across regions or countries (e.g., the pattern of languages and dialects within a country, the architectural styles predominant in rural areas of European countries, the worldwide distribution of different religions).

**ESSENTIAL ELEMENT** NGS.HS. Human Systems

**STANDARD** HS.10. The characteristics, distribution, and complexity of Earth's cultural mosaics

**STRAND** HS.10.1. Characteristics of Culture: There are many different cultures, each with its own distinctive characteristics

**BENCHMARK** HS.10.1.A. Compare the cultural characteristics of different cultures, as exemplified by being able to Describe and explain the spatial patterns of different cultural characteristics across regions or countries (e.g., the pattern of languages and dialects within a country, the architectural styles predominant in rural areas of European countries, the worldwide distribution of different religions).

**EXPECTATION** HS.10.1.A.3. 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.HS. Human Systems

**STANDARD** HS.10. The characteristics, distribution, and complexity of Earth's cultural mosaics

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**EXPECTATION** HS.10.1.A.3. 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.UG. The Uses of Geography

**STANDARD** UG.17. How to apply geography to interpret the past

**STRAND** UG.17.1. Using Geography to Interpret the Past: A historical event is influenced by the geographic context (the human and physical characteristics of places and environments) in which it occurred

**BENCHMARK** UG.17.1.A. Analyze and explain the influence of the geographic context on historical events as exemplified by being able to Describe and explain the spatial patterns of different cultural characteristics across regions or countries (e.g., the pattern of languages and dialects within a country, the architectural styles predominant in rural areas of European countries, the worldwide distribution of different religions).

**EXPECTATION** UG.17.1.A.1. Analyze the significance of physical features that have influenced historical events (e.g., the role of hydrologic features such as the fall line,
Cumberland Gap, the Ohio River, the Ogallala Aquifer, or artesian wells of the Great Plains in the settlement of the United States, the role of ocean currents and prevailing winds in exploration by Columbus, the forced transport of Africans to North and South America).

National Geography Standards (NGS)

Social Studies

Grade 6 - Adopted: 2012

ESSENTIAL ELEMENT  NGS.WST. The World in Spatial Terms

STANDARD  WST.3. How to analyze the spatial organization of people, places, and environments on Earth's surface

STRAND  WST.3.3. Spatial Models: Models are used to represent spatial processes that shape human and physical systems

BENCHMARK  WST.3.3.A. Describe the processes that shape human and physical systems (e.g., diffusion, migration, and plate tectonics) using models, as exemplified by being able to

EXPECTATION  WST.3.3.A.1. Describe a model that illustrates the diffusion of cultural characteristics (e.g., music styles, clothing styles, fast-food preferences).

ESSENTIAL ELEMENT  NGS.PR. Places and Regions

STANDARD  PR.5. That people create regions to interpret Earth's complexity

STRAND  PR.5.1. The Concept of Region: Different types of regions are used to organize and interpret areas of Earth’s surface

BENCHMARK  PR.5.1.A. Identify and explain the criteria used to define formal, functional, and perceptual regions, as exemplified by being able to

EXPECTATION  PR.5.1.A.1. Identify and explain the bases for the formal region(s), functional region(s), and perceptual region(s) for the community or state where the students live (e.g., for Michigan, the Kalamazoo-Battle Creek Metropolitan Statistical Area is a formal region, the fruit belt in Southwest Michigan is a functional region, Kalamazoo as the snow belt capital of Lake Michigan is a perceptual region).

EXPECTATION  PR.5.1.A.3. Analyze collected maps with regional labels as examples of formal, functional, or perceptual regions (e.g., maps of physical regions as formal, weather maps as functional, tourist maps as perceptual).

ESSENTIAL ELEMENT  NGS.PS. Physical Systems

STANDARD  PS.7. The physical processes that shape the patterns of Earth's surface

STRAND  PS.7.1. Components of Earth’s Physical Systems: The four components of Earth’s physical systems (the atmosphere, biosphere, hydrosphere, and lithosphere) are interdependent

BENCHMARK  PS.7.1.A. Identify and describe patterns in the environment that result from the interaction of Earth’s physical processes, as exemplified by being able to

EXPECTATION  PS.7.1.A.2. Identify and describe the patterns that result from the connections between climate and vegetation (e.g., examples of patterns of ecosystems and biomes).

ESSENTIAL ELEMENT  NGS.PS. Physical Systems
The characteristics and spatial distribution of ecosystems and biomes on Earth's surface

Characteristics and Geographic Distribution of Ecosystems: Physical processes determine the characteristics of ecosystems

Describe and explain how physical processes determine the characteristics of ecosystems, as exemplified by being able to explain how different locations can have similar ecosystems as a function of temperature, precipitation, elevation, and latitude by using climographs and vegetation maps.

The characteristics, distribution, and complexity of Earth's cultural mosaics

Characteristics of Culture: There are many different cultures, each with its own distinctive characteristics

Compare the cultural characteristics of different cultures, as exemplified by being able to describe and explain the spatial patterns of different cultural characteristics across regions or countries (e.g., the pattern of languages and dialects within a country, the architectural styles predominant in rural areas of European countries, the worldwide distribution of different religions).

The uses of geography

How to apply geography to interpret the past

Using Geography to Interpret the Past: A historical event is influenced by the geographic context (the human and physical characteristics of places and environments) in which it occurred

Analyze and explain the influence of the geographic context on historical events, as exemplified by being able to analyze the significance of physical features that have influenced historical events (e.g., the role of hydrologic features such as the fall line, Cumberland Gap, the Ohio River, the Ogallala Aquifer, or artesian wells of the Great Plains in the settlement of the United States, the role of ocean currents and prevailing winds in exploration by Columbus, the forced transport of Africans to North and South America).

Next Generation Science Standards (NGSS)

Science

Grade 2 - Adopted: 2013

Biological Evolution: Unity and Diversity

Students who demonstrate understanding can:

Make observations of plants and animals to compare the diversity of life in different habitats.
### Grade 3 - Adopted: 2013

**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.

- 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.

- 3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

### Next Generation Science Standards (NGSS)

**Science**

### Grade 4 - Adopted: 2013

**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.

### Next Generation Science Standards (NGSS)

**Science**

### Grade 5 - Adopted: 2013

**STRAND**: NGSS.5-LS. **LIFE SCIENCE**

**TITLE**: 5-LS2. Ecosystems: Interactions, Energy, and Dynamics

Students who demonstrate understanding can:

**PERFORMANCE EXPECTATION**

- 5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

**STRAND**: NGSS.5-ESS. **EARTH AND SPACE SCIENCE**

**TITLE**: 5-ESS2. Earth’s Systems

Students who demonstrate understanding can:

**PERFORMANCE EXPECTATION**

- 5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

**STRAND**: NGSS.5-ESS. **EARTH AND SPACE SCIENCE**

**TITLE**: 5-ESS3. Earth and Human Activity

Students who demonstrate understanding can:
PERFORMANCE EXPECTATION 5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.

Next Generation Science Standards (NGSS)

Science

Grade 6 - Adopted: 2013

<table>
<thead>
<tr>
<th>STRAND</th>
<th>NGSS.MS-PS.</th>
<th>STRAND</th>
<th>NGSS.MS-LS.</th>
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<tr>
<td>TITLE</td>
<td>MS-PS1.</td>
<td>TITLE</td>
<td>MS-LS2.</td>
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<td>PERFORMANCE EXPECTATION</td>
<td>MS-PS1-3.</td>
<td>PERFORMANCE EXPECTATION</td>
<td>MS-LS2-2.</td>
<td>PERFORMANCE EXPECTATION</td>
<td>MS-LS2-3.</td>
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<td>PERFORMANCE EXPECTATION</td>
<td>MS-LS2-4.</td>
<td>PERFORMANCE EXPECTATION</td>
<td>MS-LS2-5.</td>
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<td>PERFORMANCE EXPECTATION</td>
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PHYSICAL SCIENCE

Matter and Its Interactions

Students who demonstrate understanding can:

<table>
<thead>
<tr>
<th>PERFORMANCE EXPECTATION</th>
<th>MS-PS1-3.</th>
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</thead>
<tbody>
<tr>
<td>Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.</td>
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</table>

LIFE SCIENCE

Ecosystems: Interactions, Energy, and Dynamics

Students who demonstrate understanding can:

<table>
<thead>
<tr>
<th>PERFORMANCE EXPECTATION</th>
<th>MS-LS2-2.</th>
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<tbody>
<tr>
<td>Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.</td>
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<tr>
<th>PERFORMANCE EXPECTATION</th>
<th>MS-LS2-3.</th>
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</thead>
<tbody>
<tr>
<td>Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.</td>
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<table>
<thead>
<tr>
<th>PERFORMANCE EXPECTATION</th>
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<tbody>
<tr>
<td>Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.</td>
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<tr>
<th>PERFORMANCE EXPECTATION</th>
<th>MS-LS2-5.</th>
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<tbody>
<tr>
<td>Evaluate competing design solutions for maintaining biodiversity and ecosystem services.</td>
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</table>

EARTH AND SPACE SCIENCE

Earth’s Systems

Students who demonstrate understanding can:

<table>
<thead>
<tr>
<th>PERFORMANCE EXPECTATION</th>
<th>MS-ESS2-1.</th>
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</thead>
<tbody>
<tr>
<td>Develop a model to describe the cycling of Earth’s materials and the flow of energy that drives this process.</td>
<td></td>
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</tbody>
</table>

EARTH AND SPACE SCIENCE

Earth and Human Activity

Students who demonstrate understanding can:

<table>
<thead>
<tr>
<th>PERFORMANCE EXPECTATION</th>
<th>MS-ESS2-3.</th>
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<tr>
<td>Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth’s systems.</td>
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