

# INVESTIGATING EARTH SYSTEMS Correlation to Wyoming

## Grade 8 Earth Science Related Content Standards

**Correlation Key:**

"XX" In-depth Coverage = In-depth coverage of concept in student edition.

"X" Coverage = Coverage in Student Edition and/or Teacher Edition supports the development of the concept.

	Climate and Weather	Dynamic Planet	Energy Resources	Fossils	Materials and Minerals	Oceans	Rocks and Landforms	Soil	Water as a Resource
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**1. BASIC CONCEPTS AND KNOWLEDGE**

Students develop an understanding of scientific concepts using facts, theories, principles, and models.

**Ecology**

4. Students explain the interrelationships of populations and ecosystems, including:

· makeup and interdependence of populations and ecosystems	X								
· role of producers, consumers, and decomposers in a food web						X			
· human influences on ecosystems and the environment and role as stewards			X		X		X		X
· sunlight as the major source of energy	X		X						
· limiting factors of biotic and abiotic resources									
· carrying capacity, population growth, and decline.									

**Adaptation**

5. Students recognize the diversity of organisms and describe adaptations by examining similarities and differences among species, natural selection, species extinction, and fossil evidence.

6. Students describe homeostasis, stimulus/response, and adaptive behaviors to the environment.

**Earth and Space**

10. Students recognize the earth's place in the solar system and describe its motion , the effects of gravity on motion, the sun as the major source of energy, and the impact of space exploration.

11. Students explain the structure of the earth system, including layers of the earth and its atmosphere, plate tectonics, and landforms.

12. Students 's interpret earth's history by examining geological evidence and change.

**2. UNIFYING CONCEPTS AND PROCESSES**

Students recognize patterns and processes, making connections in terms of systems and subsystems that explain the interrelationships of the natural and designed world.

1. Students develop descriptions, explanations, predictions, and models using scientific evidence.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Students recognize and illustrate systems, order, and organization.	XX	XX	XX	XX	XX	XX	XX	XX	XX
3. Students recognize evolution as change over time in relation to astronomical, geological, technological and biological systems.		X		X			X		
4. Students recognize how cycles, balance, constancy, and change are interrelated.	X	X	X	X	X	X	X	X	X
5. Students recognize the function and importance of measurement.	X	X	X	X	X	X	X	X	X
6. Students recognize that the form or structure of an object or system is related to use or function.				XX					
7. Students recognize connections among science disciplines.	XX	XX	XX	XX	XX	XX	XX	XX	XX

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<b>3. SCIENCE AS INQUIRY</b>									
<b>Students demonstrate knowledge and skills necessary to perform scientific inquiry.</b>									
1. Students identify problems and form hypotheses.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Students design and conduct scientific experiments.	XX	XX	XX	XX	XX	XX	XX	XX	XX
3. Students demonstrate the relationship between evidence and explanation.	XX	XX	XX	XX	XX	XX	XX	XX	XX
4. Students make inferences and predictions and draw conclusions based on data, observation or experimental evidence.	XX	XX	XX	XX	XX	XX	XX	XX	XX
5. Students describe methods, report results, and pose follow-up questions.	XX	XX	XX	XX	XX	XX	XX	XX	XX
<b>4. HABITS OF MIND</b>									
<b>Students develop habits of mind including curiosity, open-mindedness and persistence.</b>									
Students develop habits of mind that include curiosity to pursue scientific questioning, acceptance of uncertainty and current limitations in science, persistence in learning, and appreciation for the world around them.	XX	XX	XX	XX	XX	XX	XX	XX	XX
<b>5. COMMUNICATION</b>									
<b>Students communicate and apply scientific concepts.</b>									
1. Students research scientific information using a variety of sources including technological, written, and human resources.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Students use scientific vocabulary, mathematics and technology to communicate information and results through oral, written and visual formats.	XX	XX	XX	XX	XX	XX	XX	XX	XX
<b>6. SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES</b>									
<b>Students apply scientific principles to personal and social issues.</b>									
1. Students consider a cause and effect with regard to personal and community health, population growth, natural resources, and environmental quality.	XX	X	XX		XX	X	X	XX	XX
2. Students exhibit ethical awareness to recognize the nature and characteristics of science and technology.	X	X	XX	X	XX	XX	X	X	XX
3. Students explore options for a career in scientific or technical fields.	X	X	X	X	X	X	X	X	X
4. Students apply the interdisciplinary relationships of science to social, economic, and political issues.	X	X	XX	X	XX	X	X	X	XX
<b>7. HISTORY AND NATURE OF SCIENCE</b>									
<b>Students develop an understanding of the nature of science, its history, and science as a human endeavor.</b>									
1. Students recognize science as a dynamic process.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Students describe scientific contributions made by men and women in varying cultures, times, and settings.	X	X	X	X	X	X	X	X	X
3. Students describe scientific contributions to society.	XX	XX	XX	XX	XX	XX	XX	XX	XX
4. Students recognize that new ideas have not always been readily accepted by the scientific community and society.	X	XX	X	X	X	X	X	X	X
5. Students explain how scientists go about their work and frequently question each other's findings.	XX	XX	XX	XX	XX	XX	XX	XX	XX
6. Students recognize that scientific knowledge changes and grows over time, building on earlier knowledge.	XX	XX	XX	XX	XX	XX	XX	XX	XX
<b>8. SCIENCE AND TECHNOLOGY</b>									
<b>Students develop skills in using technology and recognize the relationship between technology and science, including its potential and limits.</b>									

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1. Students examine and identify the interrelationship between science and technology, i.e., meeting human needs, solving human problems, and creating new products.	XX	XX	XX	X	XX	X	X	X	XX
2. Students demonstrate abilities of technological design.	XX	X	XX	X	XX	X	X	X	X
3. Students recognize the role of technology.	XX	X	XX	X	XX	XX	X	X	XX
4. Students use current tools of technology.	XX	XX	XX	XX	XX	XX	XX	XX	XX
<b>9. SAFETY</b>									
<b>Students exercise care in scientific inquiry and recognize the importance of safety.</b>									
1. Students incorporate and maintain safety in the design and execution of scientific investigation.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Students select and use appropriate safety equipment.	XX	XX	XX	XX	XX	XX	XX	XX	XX
3. Students recognize hazards and appropriate safety symbols.	XX	XX	XX	XX	XX	XX	XX	XX	XX
4. Students observe standard safety procedures.	XX	XX	XX	XX	XX	XX	XX	XX	XX
5. Students exhibit responsible, appropriate conduct.	XX	XX	XX	XX	XX	XX	XX	XX	XX
6. Students apply knowledge of safety techniques to life situations.	XX	XX	XX	XX	XX	XX	XX	XX	XX