IES Correlations to Kansas

Grades 5 - 8 Earth Science 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
STANDARD 1: SCIENCE AS INQUIRY: As a result of activities in grades 5-8, all students will develop the abilities to do scientific inquiry, be able to demonstrate how scientific inquiry is applied, and develop understandings about scientific inquiry.									
Benchmark 1: The students will demonstrate abilities necessary to do the processes of scientific inquiry.									
1. Identify questions that can be answered through scientific investigations.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Design and conduct a scientific investigation.	XX	XX	XX	XX	XX	XX	XX	XX	XX
3. Use appropriate tools, mathematics, technology, and techniques to gather, analyze and interpret data.	XX	XX	XX	XX	XX	XX	XX	XX	XX
4. Think critically to identify the relationship between evidence and logical conclusions.	XX	XX	XX	XX	XX	XX	XX	XX	XX
5. Apply mathematical reasoning to scientific inquiry.	XX	XX	XX	XX	XX	XX	XX	XX	XX
6. Communicate scientific procedures and explanations.	XX	XX	XX	XX	XX	XX	XX	XX	XX
Benchmark 2: The students will apply different kinds of investigations to different kinds of questions.									
1. Differentiate between a qualitative and a quantitative investigation.	XX	XX	XX	X	XX	XX	X	XX	XX
2. Develop questions and adapt the inquiry process to guide an investigation.	XX	XX	XX	XX	XX	XX	XX	XX	XX
Benchmark 3: The students will analyze how science advances through new ideas, scientific investigations, skepticism, and examining evidence of varied explanations.									
1. After doing an investigation, generate alternative methods of investigation and/or further questions for inquiry.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Determine evidence which supports or contradicts a scientific breakthrough.	X	XX	X	X	X	XX	X	X	X
3. Identify faulty reasoning or conclusions that go beyond evidence and/or are not supported by data.	XX	XX	XX	XX	XX	XX	XX	XX	XX
STANDARD 4: EARTH and SPACE SCIENCE: As a result of activities in grades 5-8, all students will apply process skills to explore and develop an understanding of the structure of the earth system, earth's history, and earth in the solar system.									

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Benchmark 1: The students will understand that the structure of the earth system is constantly changing due to the earth's physical and chemical processes.									
1. Predict patterns from data collected.	XX	XX	XX	X	XX	XX	XX	XX	XX
2. Identify properties of the solid earth, the oceans and fresh water, and the atmosphere.	XX	XX	XX	XX	XX	XX	XX	XX	XX
3. Model earth's cycles.	XX	XX	XX	X		XX	XX	X	XX
4. Model earth's plate movements that result in major geologic events and landform development.		XX				XX	X		
5. Understand water's major role in changing the solid surface of the earth, such as the effect of oceans on climates and water as an erosion force.	X	X		XX		X	XX	XX	XX
Benchmark 2: The students will understand that past and present earth processes are similar.									
1. Understand the dynamics of earth's constructive and destructive forces over time.	X	XX		X		X	XX	X	
2. Model geologic time to scale.		X		XX			X		
3. Relate geologic evidence to a record of earth's history.	XX	XX	X	XX		XX	X		
4. Compare the current arrangement of the continents with the arrangement of continents throughout the earth's history.		XX							
Benchmark 3: The students will identify and classify planets and other solar system components.									
1. Compare and contrast the characteristics of the planets.									
2. Develop understanding of spatial relationships via models of the earth/moon/planets/sun system to scale.									
3. Research smaller components of the solar system such as asteroids and comets.									
4. Identify the sun as a star and compare its characteristics to those of other stars.									
5. Trace cultural as well as scientific influences on the study of astronomy.									
Benchmark 4: The students will model motions and identify forces that explain earth phenomena.									
1. Demonstrate object/space/time relationships that explain phenomena such as the day, the month, the year, and the seasons.									
2. Model earth/moon positions that create phases of the moon and eclipses.									
3. Apply principles of force and motion to understand the solar system.									

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4. Understand the effect of the angle of incidence of solar energy striking the earth's surface on the amount of heat energy absorbed at the earth's surface.			X						
STANDARD 5: SCIENCE AND TECHNOLOGY: As a result of activities in grades 5-8, all students will demonstrate abilities of technological design and understandings about science and technology.									
Benchmark 1: The students will demonstrate abilities of technological design.									
1. Identify appropriate problems for technological design.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Design a solution or product, implement the proposed design, evaluate the product.	XX	X	X		XX	XX	XX	XX	XX
3. Communicate the process of technological design.	XX	X	X		XX	XX	XX	XX	XX
Benchmark 2: The students will develop understandings of the similarities, differences, and relationships in science and technology.									
1. Compare the work of scientists with that of applied scientists and technologists.	X	X	X	X	X	X	X	X	X
2. Evaluate limitations and trade-offs of technological solutions.	X	X	X		X	X	X	X	X
3. Identify contributions to science and technology by many people and many cultures.	X	X	X	X	X	X	X	X	X
STANDARD 6: SCIENCE IN PERSONAL AND ENVIRONMENTAL PERSPECTIVES: As a result of activities in grades 5-8, all students will apply process skills to explore and develop an understanding of issues of personal health, population, resources and environment, and natural hazards.									
Benchmark 1: The students will make decisions based on scientific understanding of personal health.									
1. Identify individual nutrition, exercise, and rest needs based on science.									
2. Use a systemic approach to thinking critically about personal health risks and benefits.									
Benchmark 2: The students will understand the impact of human activity on resources and environment.									
1. Investigate the effects of human activities on the environment.			XX		XX	X	XX	X	XX
2. Base decisions on perceptions of benefits and risks.	X	X	X	X	X	X	XX	X	X
Benchmark 3: The students will understand that natural hazards are dynamic examples of earth processes which cause us to evaluate risks.									
1. Evaluate risks and define appropriate actions associated with natural hazards.	X	XX				X	X		X
2. Recognize patterns of internal and external earth processes that may result in natural hazards.	X	XX				XX	XX		X

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3. Communicate human activities that can cause/contribute to natural hazards.	X	XX				X	X		X
STANDARD 7: HISTORY AND NATURE OF SCIENCE: As a result of activities in grades 5-8, all students will examine and develop an understanding of science as a historical human endeavor.									
Benchmark 1: The students will develop scientific habits of mind.									
1. Practice intellectual honesty.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Demonstrate skepticism appropriately.	XX	XX	XX	XX	XX	XX	XX	XX	XX
3. Display open-mindedness to new ideas.	XX	XX	XX	XX	XX	XX	XX	XX	XX
4. Base decisions on evidence.	XX	XX	XX	XX	XX	XX	XX	XX	XX
Benchmark 2: The students will research contributions to science throughout history.									
1. Recognize that new knowledge leads to new questions and new discoveries.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Replicate historic experiments to understand principles of science.	X	X				X			X
3. Relates contributions of men and women to the fields of science.	X	X	X	X	X	X	X	X	X