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Standards Correlation Chart

Each lesson in this book meets at least one of the following standards and benchmarks, which are used with permission from McREL. Copyright 2006 McREL. Mid-continent Research for Education and Learning. 2250 S. Parker Road, Suite 500. Aurora, CO 80014. Telephone: 303-337-0990. Website: www.mcrel.org/standards-benchmarks

Standards and Benchmarks	Pages
<p>Math</p> <p>Standard 2. Understands and applies basic and advanced properties of the concepts of numbers</p> <ul style="list-style-type: none"> • Benchmark 1. Understands the relationships among equivalent number representations and the advantages and disadvantages of each type of representation <p>Standard 3. Uses basic and advanced procedures while performing the processes of computation</p> <ul style="list-style-type: none"> • Benchmark 5. Uses proportional reasoning to solve mathematical and real-world problems (e.g., involving equivalent fractions, decimals, percents) <p>Standard 5. Understands and applies basic and advanced properties of the concepts of geometry</p> <ul style="list-style-type: none"> • Benchmark 2. Understands the defining properties of triangles 	<p>14–16</p> <p>11–13</p> <p>8–10</p>
<p>Science</p> <p>Standard 1. Understands atmospheric processes and the water cycle</p> <ul style="list-style-type: none"> • Benchmark 2. Knows the processes involved in the water cycle (e.g., evaporation, condensation, precipitation, surface run-off, percolation) and their effects on climatic patterns • Benchmark 3. Knows that the Sun is the principal energy source for phenomena on the Earth’s surface (e.g., winds, ocean currents, the water cycle, plant growth) • Benchmark 6. Knows ways in which clouds affect weather and climate (e.g., precipitation, reflection of light from the Sun, retention of heat energy emitted from the Earth’s surface) <p>Standard 4. Understands the principles of heredity and related concepts</p> <ul style="list-style-type: none"> • Benchmark 1. Knows that reproduction is a characteristic of all living things and is essential to the continuation of a species • Benchmark 3. Understands asexual and sexual reproduction (e.g., in asexual reproduction, all the genes come from a single parent; in sexual reproduction, an egg and sperm unite and half of the genes come from each parent, so the offspring is never identical to either of its parents; sexual reproduction allows for greater genetic diversity; asexual reproduction limits the spread of disadvantageous characteristics through a species) <p>Standard 8. Understands the structure and properties of matter</p> <ul style="list-style-type: none"> • Benchmark 1. Knows that matter is made up of tiny particles called atoms, and different arrangements of atoms into groups compose all substances <p>Standard 9. Understands the sources and properties of energy</p> <ul style="list-style-type: none"> • Benchmark 1. Knows that energy is a property of many substances (e.g., electrical energy is in the attraction or repulsion between charges) • Benchmark 5. Knows that electrical circuits provide a means of transferring electrical energy to produce heat, light, sound, and chemical changes <p>Standard 10. Understands forces and motion</p> <ul style="list-style-type: none"> • Benchmark 2. Knows that just as electric currents can produce magnetic forces, magnets can cause electrical currents 	<p>21–24</p> <p>17–24</p> <p>21–24</p> <p>25–29</p> <p>25–29</p> <p>30–33</p> <p>30–33</p> <p>30–33</p> <p>30–33</p>
<p>World History</p> <p>Standard 3. Understands the major characteristics of civilization and the development of civilizations in Mesopotamia, Egypt, and the Indus Valley</p> <ul style="list-style-type: none"> • Benchmark 1. Understands influences on the development of various civilizations in the 4th and 3rd millennia BCE (e.g., how the natural environment of the Tigris-Euphrates, Nile, and Indus Valleys shaped the early development of civilization; characteristics of urban development in Mesopotamia, Egypt, and the Indus Valley) • Benchmark 3. Understands how economic, political, and environmental factors influenced the civilizations of Mesopotamia, Egypt, and the Indus Valley (e.g., the importance of commercial, cultural, and political connections between Egypt and peoples of Nubia along the upper Nile; how geography and climate affected trade in the Nile Valley) <p>Standard 8. Understands how Aegean civilization emerged and how interrelations developed among peoples of the Eastern Mediterranean and Southwest Asia from 600 to 200 BCE</p> <ul style="list-style-type: none"> • Benchmark 2. Understands the major cultural elements of Greek society (e.g., how Greek gods and goddesses represent non-human entities, and how gods, goddesses, and humans interact in Greek myths) 	<p>34–38</p> <p>34–38</p> <p>65–68</p>

Standards Correlation Chart *(cont.)*

Standards and Benchmarks	Pages
<p>World History <i>(cont.)</i></p> <p>Standard 9. Understands how major religious and large-scale empires arose in the Mediterranean Basin, China, and India from 500 BCE to 300 CE</p> <ul style="list-style-type: none"> • Benchmark 1. Understand the origins and social framework of Roman society (e.g., how legends about the founding of Rome describe ancient Rome and reflect the beliefs and values of its citizens) • Benchmark 7. Understands the origins of Buddhism and fundamental Buddhist beliefs (e.g., the life story of Buddha and his essential teachings; how the Buddhist teachings were a response to the Brahmanic system) <p>Standard 13. Understands the causes and consequences of the development of Islamic civilization between the 7th and 10th centuries</p> <ul style="list-style-type: none"> • Benchmark 1. Understands the spread of Islam in Southwest Asia and the Mediterranean region • Benchmark 2. Understands the influence of Islamic ideas and practices on other cultures and social behavior <p>Standard 23. Understands patterns of crisis and recovery in Afro-Eurasia between 1300 and 1450</p> <ul style="list-style-type: none"> • Benchmark 1. Understands the origins and impact of the plague (e.g., how the plague started and spread across Eurasia and North Africa; the impact of the plague on daily life in urban Southwest Asia and Europe; how the plague changed the lives of survivors) 	<p>39–42</p> <p>47–52</p> <p>61–64</p> <p>61–64</p> <p>43–46</p>
<p>Geography</p> <p>Standard 1. Understands the characteristics and uses of maps, globes, and other geographic tools and technologies</p> <ul style="list-style-type: none"> • Benchmark 3. Understands concepts such as axis, seasons, rotation, and revolution (Earth-Sun relations) <p>Standard 2. Knows the location of places, geographic features, and patterns of the environment</p> <ul style="list-style-type: none"> • Benchmark 1. Knows the location of physical and human features on maps and globes (e.g., major ocean currents; wind patterns; land forms; climate regions) <p>Standard 3. Understands the characteristics and uses of spatial organization of Earth’s surface</p> <ul style="list-style-type: none"> • Benchmark 4. Understands the patterns and processes of migration and diffusion (e.g., the spread of language, religion, and customs from one culture to another; spread of a contagious disease through a population) <p>Standard 4. Understands the physical and human characteristics of place</p> <ul style="list-style-type: none"> • Benchmark 1. Knows the human characteristics of places (e.g., cultural characteristics such as religion, language, politics, technology, family structure, gender; population characteristics; land uses; levels of development) <p>Standard 5. Understands the concept of regions</p> <ul style="list-style-type: none"> • Benchmark 1. Knows regions at various spatial scales (e.g., hemispheres, regions within continents, countries, cities) <p>Standard 6. Understands that culture and experience influence people’s perceptions of places and regions.</p> <ul style="list-style-type: none"> • Benchmark 1. Knows how places and regions serve as cultural symbols • Benchmark 3. Knows the ways in which culture influences the perception of places and regions (e.g., religion and other belief systems, language and tradition; perceptions of “beautiful” or “valuable”) <p>Standard 7. Knows the physical processes that shape patterns on Earth’s surface</p> <ul style="list-style-type: none"> • Benchmark 2. Knows the processes that produce renewable and nonrenewable resources (e.g., fossil fuels, hydroelectric power) <p>Standard 8. Understands the characteristics of ecosystems on Earth’s surface</p> <ul style="list-style-type: none"> • Benchmark 3. Understands ecosystems in terms of their characteristics and ability to withstand stress caused by physical events (e.g., regrowth of a forest after a forest fire) <p>Standard 18. Understands global development and environmental issues</p> <ul style="list-style-type: none"> • Benchmark 1. Understands how the interaction between physical and human systems affects current conditions on Earth (e.g., relationships involved in economic, political, social, and environmental changes; global warming impact of using petroleum, coal, nuclear power, and solar power as major energy sources) 	<p>53–56</p> <p>53–56</p> <p>43–46</p> <p>47–52, 61–64</p> <p>53–56</p> <p>53–56</p> <p>61–64</p> <p>30–33</p> <p>57–60</p> <p>57–60</p>

Standards Correlation Chart *(cont.)*

Standards and Benchmarks	Pages
<p>Language Arts Reading</p> <p>Standard 6. Uses reading skills and strategies to understand and interpret a variety of literary texts</p> <ul style="list-style-type: none"> • Benchmark 1. Uses reading skills and strategies to understand a variety of literary passages and texts • Benchmark 2. Knows the defining characteristics of a variety of literary forms and genres • Benchmark 6. Understands the use of language in literary works to convey mood, images, and meaning (e.g., voice; alliteration; onomatopoeia; figurative language such as similes, metaphors, personification, hyperbole, allusion) <p>Standard 7. Uses reading skills and strategies to understand and interpret a variety of informational texts</p> <ul style="list-style-type: none"> • Benchmark 1. Uses reading skills and strategies to understand a variety of informational texts (e.g., electronic texts; textbooks; biographical sketches; directions; essays; primary source historical documents, including letters and diaries; print media, including editorials, news stories, periodicals, and magazines) • Benchmark 2. Knows the defining characteristics of a variety of informational texts (e.g., electronic texts; textbooks; biographical sketches; letters; diaries; directions; procedures; magazines; essays; primary source historical documents; editorials; news stories; periodicals) • Benchmark 7. Differentiates between fact and opinion in informational texts 	<p>65–68, 73-76</p> <p>65–68, 73-76</p> <p>69–72</p> <p>77–92</p> <p>77–84</p> <p>77–84</p>
<p>Language Arts Writing</p> <p>Standard 1. Uses the general skills and strategies of the writing process</p> <ul style="list-style-type: none"> • Benchmark 5. Uses content, style, and structure (e.g., formal or informal language, genre, organization) appropriate for specific audiences and purposes (e.g., to entertain, to influence, to inform) • Benchmark 10. Writes persuasive compositions (e.g., engages the reader by establishing a context, creating a persona, and otherwise developing reader interest; develops a controlling idea that conveys a judgment; creates and organizes a structure appropriate to the needs and interests of a specific audience; arranges details, reasons, examples, and/or anecdotes persuasively; excludes information and arguments that are irrelevant; anticipates and addresses reader concerns and counter arguments; supports arguments with detailed evidence) • Benchmark 11. Writes compositions that address problems/solutions (e.g., identifies and defines a problem in a way appropriate to the intended audience, describes at least one solution, presents logical and well-supported reasons) <p>Standard 2. Uses the stylistic and rhetorical aspects of writing</p> <ul style="list-style-type: none"> • Benchmark 3. Uses a variety of sentence structures to expand and embed ideas • Benchmark 4. Uses explicit transitional devices <p>Standard 3. Uses grammatical and mechanical conventions in written compositions</p> <ul style="list-style-type: none"> • Benchmark 6. Uses adjectives in written compositions • Benchmark 10 Uses conventions of spelling in written compositions (e.g., uses compounds, roots, suffixes, prefixes, and syllable constructions to spell words) <p>Standard 4. Gathers and uses information for research purposes</p> <ul style="list-style-type: none"> • Benchmark 4. Uses a variety of resource materials to gather information for research topics (e.g., magazines, newspapers, dictionaries, journals, phone directories, globes, atlases, almanacs, technological sources) • Benchmark 5. Determines the appropriateness of an information source for a research topic • Benchmark 7. Writes research papers • Benchmark 8. Uses appropriate methods to cite and document reference sources 	<p>81–84</p> <p>81–84</p> <p>81–84</p> <p>85–88</p> <p>85–88</p> <p>93–96</p> <p>93–96</p> <p>81–84</p> <p>89–92</p> <p>81–84, 89-92</p> <p>89–92</p> <p>89–92</p>

1. Display a world map.
2. Make student copies of the poem “The Months” on page 54. Introduce any unfamiliar vocabulary:
 - ✧ **desolate**—barren, lonely
 - ✧ **ranges**—passes through
 - ✧ **scorched**—dried out and withered by intense heat
 - ✧ **disrobe**—undress
 - ✧ **keen**—sharp, biting
3. Distribute the student copies and read the poem chorally.
4. Use these questions for discussion:
 - Does this poem accurately portray the weather that occurs in your area during each month? Why or why not?
 - What are Earth’s four hemispheres? (*Eastern, Western, Northern, and Southern*) How are they divided? (*The Eastern and Western are split at the prime meridian (0° longitude); the Northern and Southern are split at the equator (0° latitude).*) Have students point out these answers on the world map.
 - In what areas on Earth would this poem be applicable? (*It would be applicable for much of the temperate zone in the Northern Hemisphere.*)
 - In what areas on Earth would this poem not be applicable? (*This poem would not be applicable to places in the Southern Hemisphere, since their seasons are the exact opposite of the ones in the Northern Hemisphere due to the Earth’s tilt. Also, the poem wouldn’t apply to the tropics where the seasons are almost indistinguishable since the amount of sunlight and temperatures vary little throughout the year.*)
 - Would this poem apply to people living in the Eastern and Western Hemispheres? (*Yes, if they are also in the Northern Hemisphere; no, if they are also in the Southern Hemisphere.*) Have student volunteers give examples of each.
 - Why do different regions of the Northern Hemisphere have such different climates? (*Each has seasons based on how close it lies to the equator, Tropic of Cancer (23°27’N), and Arctic Circle (66°33’N).*) Have your students come up and point out these three lines of latitude on the world map.
 - Why do different regions of the Southern Hemisphere have such different climates? (*Climate is based on how close the area lies to the equator, Tropic of Capricorn (23°27’S), and Antarctic Circle (66°33’S).*) Have your students come up and point out these three lines of latitude on the world map.
 - What is the region between the Tropic of Cancer and the Tropic of Capricorn called? What is it like? (*It’s called the tropics. The climate in the tropics does not have clearly defined seasons like those in the “temperate zones,” which lie between the tropics and the Arctic Circle or Antarctic Circle. The temperature and weather vary little throughout the year.*)
5. Make an overhead transparency and two copies for each student of the “Mayan Step Pyramid” organizer on page 56. Display the transparency and distribute one of the student copies.
6. Keep the world map visible. As a class, fill in the graphic organizer for the tropics.
7. Pair the students. Distribute the second copy of the graphic organizer and have the students complete it for hemispheres.



