



CHOWCHILLA REFRIGERATOR CURRICULUM FOR EIGHTH GRADE



ENGLISH LANGUAGE ARTS *

Aligned to Common Core State Standards

- Identify what a reading selection explicitly says and draw inferences based on evidence from the text
- Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot
- Evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient
- Connect information and ideas efficiently and effectively in writing
- Analyze the purpose of information presented in diverse media formats, such as video clips or interactive maps
- Evaluate the advantages and disadvantages of using different mediums (such as print, or digital text, video, or multimedia) to present a particular topic or idea
- Participate in discussions on various topics, texts, and issues by expressing ideas and building on the ideas of others
- Introduce a topic clearly, previewing what is to follow, and develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and provide a concluding statement or section that supports the information or explanation when writing informative texts
- Organize ideas, concepts, and information into broader categories
- Develop a large vocabulary of multi-use academic words and phrases; use precise language and subject-specific vocabulary

MATHEMATICS *

Aligned to Common Core State Standards

- Know that there are numbers that are not rational, and approximate them by rational numbers
- Work with radical and integer exponents
- Understand the connections between proportional relationships, lines, and linear equations
- Analyze and solve linear equations and pairs of simultaneous linear equations
- Define, evaluate, and compare functions
- Use functions to model relationships between quantities
- Understand congruence and similarity using physical models, transparencies, or geometry software
- Understand and apply the Pythagorean Theorem
- Solve real-world and mathematical problems involving volume of cylinders, cones and spheres
- Investigate patterns of association in bivariate data

SCIENCE *

Aligned to Common Core State Standards

LIFE SCIENCE

- Genes are located in the chromosomes of cells, with each chromosome pair containing two variants of each of many distinct genes. Changes (mutations) to genes can result in changes to proteins, which can affect the structures and functions of the organism and thereby change traits. Genetic information can also be altered because of mutations. Some changes are beneficial, others harmful, and some neutral to the organism.

- The fossil record documents the existence, diversity, extinction, and change of many life forms throughout the history of life on Earth.
- Natural selection leads to the predominance of certain traits in a population, and the suppression of others. Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environment become more common; those that do not become less common.

EARTH & PLANETARY SCIENCE

- Earth and its solar system are part of the Milky Way galaxy, which is one of many galaxies in the universe. Patterns of the apparent motion of the sun, the moon, and stars in the sky can be observed, described, predicted, and explained with models. This model of the solar system can explain eclipses of the sun and the moon. Earth's spin axis is fixed in direction over the short-

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SCIENCE CONTNUED *

EARTH & PLANETARY SCIENCE

-term but tilted relative to its orbit around the sun. The seasons are a result of that tilt and are caused by the differential intensity of sunlight on different areas of Earth across the year.

- The geologic time scale interpreted from rock strata provides a way to organize Earth's history. Analyses of rock strata and the fossil record provide only relative dates, not an absolute scale.

PHYSICAL SCIENCE

- The motion of an object is determined by the sum of the forces acting on it; if the total force on the object is not zero, its motion will change. The greater the mass of the object, the greater the force needed to achieve the same change in motion. For any given object, a larger force causes a larger change in motion. For any pair of interacting objects, the force exerted by the first object on (the second object is equal in strength to the force that the second object exerts on the first, but in the opposite direction (Newton's third law).
- Electric and magnetic (electromagnetic) forces can be attractive or repulsive, and their sizes depend on the magnitudes of the charges, currents, or magnetic strengths involved and on the distances between the interacting objects. Gravitational forces are always attractive. There is a gravitational force between any two masses, but it is very small except when one or both of the objects have large mass - e.g., Earth and the sun.

- Motion energy is properly called kinetic energy; it is proportional to the mass of the moving object and grows with the square of its speed. A system of objects may also contain stored (potential) energy, depending on their relative positions. When two objects interact, each one exerts a force on the other that can cause energy to be transferred to or from the object.
- When light shines on an object, it is reflected, absorbed, or transmitted through the object. The path that light travels can be traced as straight lines, except at surfaces between different transparent materials (e.g., air and water, air and glass) where the light path bends. A wave model of light is useful for explaining brightness, color, and the frequency-dependent bending of light at a surface between media.

SOCIAL STUDIES *

Aligned to Common Core State Standards

- Students understand the major events preceding the founding of the nation and relate their significance to the development of American constitutional democracy.
- Students analyze the political principles underlying the U.S. Constitution and compare the enumerated and implied powers of the federal government.
- Students understand the foundation of the American political system and the ways in which citizens participate in it.

- Students analyze the aspirations and ideals of the people of the new nation.
- Students analyze U.S. foreign policy in the early Republic.
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- Students analyze U.S. foreign policy in the early Republic.
- Students analyze the divergent paths of the American people:
 - from 1800 to the mid-1800s and the challenges they faced, with emphasis on the Northeast.
 - in the South from 1800 to the mid-1800s and the challenges they faced.
 - in the West from 1800 to the mid-1800s and the challenges they faced.
- Students analyze the multiple causes, key events, and complex consequences of the Civil War.
- Students analyze the character and lasting consequences of Reconstruction.
- Students analyze the transformation of the American economy and the changing social and political conditions in the United States in response to the Industrial Revolution.

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* Adapted from the Council of the Great City Schools Parent Roadmaps to Common Core Standards: <http://www.cgcs.org/domain/36>
Additional resource: National PTA <http://www.pta.org/4446.htm>