Grade Three
CA Science Content Standards*
FOSS CA 2007 Correlations

Physical Sciences

1. Energy and matter have multiple forms and can be changed from one form to another. As a basis for understanding this concept:

Modules	Matter and Energy (ME) Sun, Moon, and Stars (SMS)
a. Students know energy comes from the Sun to Earth in the form of light.	**Inv. 1 Energy (ME)** SR: *Energy Sources* (ME) SR: *Summary: Energy* (ME) **Inv. 1 The Sun (SMS)** SR: *Changing Shadows* (SMS) SR: *Summary: The Sun* (SMS)
b. Students know sources of stored energy take many forms, such as food, fuel, and batteries.	**Inv. 1 Energy (ME)** SR: *Energy Sources* (ME) SR: *Energy Conversion* (ME) SR: *Summary: Energy* (ME)
c. Students know machines and living things convert stored energy to motion and heat.	**Inv. 1 Energy (ME)** SR: *Energy Sources* (ME) SR: *Energy Conversion* (ME) SR: *Summary: Energy* (ME)
d. Students know energy can be carried from one place to another by waves, such as water waves and sound waves, by electric current, and by moving objects.	**Inv. 1 Energy (ME)** SR: *Energy on the Move* (ME) SR: *Summary: Energy* (ME)
e. Students know matter has three forms: solid, liquid, and gas.	**Inv. 3 Matter (ME)** SR: *States of Matter* (ME) SR: *Summary: Matter* (ME) **Inv. 4 Changing Matter (ME)**
f. Students know evaporation and melting are changes that occur when the objects are heated.	**Inv. 4 Changing Matter (ME)** SR: *Change of State* (ME) SR: *Summary: Changing Matter* (ME)
g. Students know that when two or more substances are combined, a new substance may be formed with properties that are different from those of the original materials.	**Inv. 4 Changing Matter (ME)** SR: *Reactions (ME)* SR: *Summary: Changing Matter* (ME)
h. Students know all matter is made of small particles called atoms, too small to see with the naked eye.	**Inv. 4 Changing Matter (ME)** SR: *Atoms* (ME) SR: *Reactions* (ME) SR: *Summary: Changing Matter* (ME)
i. Students know people once thought that earth, wind, fire, and water were the basic elements that made up all matter. Science experiments show that there are more than 100 different types of atoms, which are presented on the periodic table of the elements.	**Inv. 4 Changing Matter (ME)** SR: *Atoms* (ME) SR: *Summary: Changing Matter* (ME)

2. Light has a source and travels in a direction. As a basis for understanding this concept:

Modules	Matter and Energy (ME) Sun, Moon, and Stars (SMS)
a. Students know sunlight can be blocked to create shadows.	**Inv. 2 Light (ME)** **Inv. 1 The Sun (SMS)** SR: *Changing Shadows* (SMS) SR: *Summary: The Sun* (SMS)
b. Students know light is reflected from mirrors and other surfaces.	**Inv. 2 Light (ME)** SR: *Reflection* (ME) SR: *Summary: Light* (ME)
c. Students know the color of light striking an object affects the way the object is seen.	**Inv. 2 Light (ME)** SR: *Throw a Little Light on Sight* (ME) SR: *Summary: Light* (ME)
d. Students know an object is seen when light traveling from the object enters the eye.	**Inv. 2 Light (ME)** SR: *Reflection* (ME) SR: *Summary: Light* (ME)

* *Science Content Standards for California Public Schools: Kindergarten Through Grade Twelve* (Sacramento: California Department of Education, 2000).

Life Sciences

3. Adaptations in physical structure or behavior may improve an organism's chance for survival. As a basis for understanding this concept:

Module	Structures of Life
a. Students know plants and animals have structures that serve different functions in growth, survival, and reproduction.	**Inv. 1 Origin of Seeds** SR: *The Reason for Fruit* SR: *Summary: Origin of Seeds* **Inv. 2 Growing Further** SR: *Germination* SR: *Life Cycle* SR: *Summary: Growing Further* **Inv. 3 Meet the Crayfish** SR: *Crayfish* SR: *Adaptation* SR: *Summary: Meet the Crayfish* **Inv. 4 Meet the Land Snail** SR: *Inside a Snail's Shell* SR: *Summary: Meet the Land Snail*
b. Students know examples of diverse life forms in different environments, such as oceans, deserts, tundra, forests, grasslands, and wetlands.	**Inv. 3 Meet the Crayfish** SR: *Life on Earth* SR: *Summary: Meet the Crayfish*
c. Students know living things cause changes in the environment in which they live: some of these changes are detrimental to the organism or other organisms, and some are beneficial.	**Inv. 1 Origin of Seeds** SR: *The Most Important Seed* SR: *Summary: Origin of Seeds* **Inv. 4 Meet the Land Snail** SR: *A Change in the Environment* SR: *Frogs* SR: *Summary: Meet the Land Snail*
d. Students know when the environment changes, some plants and animals survive and reproduce; others die or move to new locations.	**Inv. 4 Meet the Land Snail** SR: *A Change in the Environment* SR: *Frogs* SR: *Life in Los Angeles* SR: *Summary: Meet the Land Snail*
e. Students know that some kinds of organisms that once lived on Earth have completely disappeared and that some of those resembled others that are alive today.	**Inv. 4 Meet the Land Snail** SR: *Life in Los Angeles* SR: *Summary: Meet the Land Snail*

Earth Sciences

4. Objects in the sky move in regular and predictable patterns. As a basis for understanding this concept:

Module	Sun, Moon, and Stars
a. Students know the patterns of stars stay the same, although they appear to move across the sky nightly, and different stars can be seen in different seasons.	**Inv. 3 The Stars** SR: *Stargazing* SR: *Summary: The Stars*
b. Students know the way in which the Moon's appearance changes during the four-week lunar cycle.	**Inv. 2 The Moon** SR: *Changing Moon* SR: *Summary: The Moon*
c. Students know telescopes magnify the appearance of some distant objects in the sky, including the Moon and the planets. The number of stars that can be seen through telescopes is dramatically greater than the number that can be seen by the unaided eye.	**Inv. 3 The Stars** SR: *Looking Through Telescopes* SR: *Summary: The Stars*
d. Students know that Earth is one of several planets that orbit the Sun and that the Moon orbits Earth.	**Inv. 2 The Moon** SR: *The Night Sky* SR: *Changing Moon* SR: *Summary: The Moon*
e. Students know the position of the Sun in the sky changes during the course of the day and from season to season.	**Inv. 1 The Sun** SR: *Sunrise and Sunset* SR: *Changing Shadows* SR: *Summary: The Sun*

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Investigation and Experimentation

5. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:

Modules	Matter and Energy (ME) Structures of Life (SL) Sun, Moon, and Stars (SMS)
a. Repeat observations to improve accuracy and know that the results of similar scientific investigations seldom turn out exactly the same because of differences in the things being investigated, methods being used, or uncertainty in the observation.	**Inv. 3 Matter (ME)** **Inv. 4 Changing Matter (ME)** **Inv. 1 Origin of Seeds (SL)**
b. Differentiate evidence from opinion and know that scientists do not rely on claims or conclusions unless they are backed by observations that can be confirmed.	**Inv. 3 Matter (ME)**
c. Use numerical data in describing and comparing objects, events, and measurements.	**Inv. 3 Matter (ME)** **Inv. 4 Changing Matter (ME)** **Inv. 1 Origin of Seeds (SL)** **Inv. 2 Growing Further (SL)** **Inv. 4 Meet the Land Snail (SL)**
d. Predict the outcome of a simple investigation and compare the result with the prediction.	**Inv. 2 Light (ME)** **Inv. 3 Matter (ME)** **Inv. 4 Changing Matter (ME)** **Inv. 1 Origin of Seeds (SL)** **Inv. 3 Meet the Crayfish (SL)** **Inv. 1 The Sun (SMS)**
e. Collect data in an investigation and analyze those data to develop a logical conclusion.	**Inv. 3 Matter (ME)** **Inv. 1 Origin of Seeds (SL)** **Inv. 2 Growing Further (SL)** **Inv. 3 Meet the Crayfish (SL)** **Inv. 4 Meet the Land Snail (SL)** **Inv. 1 The Sun (SMS)** **Inv. 2 The Moon (SMS)**

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