

Grade 1: Physical Sciences, Earth Sciences, Investigation and Experimentation

California State Science Content Standards

Covered in:

**Hands-on science labs, demonstrations, & activities.
Investigation and Experimentation. Lesson Plans.**

Presented by Climate Change Education .org during

Mobile Climate Science Labs

- Professional development for teachers
 - In school presentations
 - Climate science and hands-on education *specialists* presenting alongside teachers and teaching assistants
 - Presentations at CSTA, NSTA, AAAS conferences
- For school field trips, as presented at local science museums

As aligned with existing science content standards, adopted 1997

Referencing: *Science Framework for California Public Schools*

<http://www.cde.ca.gov/ci/sc/cf/documents/scienceframework.pdf>

Adopted by the California State Board of Education

Published by the California Department of Education

Enabling teachers and schools to provide outstanding education called for in the standards under *Investigation and Experimentation* sections. Requirements for a minimum of 20-25% hands-on education in science.

Index of Standards Alignment—other grades, courses and standards:

http://climatechangeeducation.org/labs/k12_standards/index.html

Themes: <http://climatechangeeducation.org/labs/themes/index.html>

In the following, sections of standards noted are part of one or more lab theme.

Sections highlighted in **green** are a *primary focus* of one or more hands-on science lab.

Updated April 27, 2011

1st Grade

Standard Set 1 Physical Sciences

1. Materials come in different forms (states), including solids, liquids, and gases. As a basis for understanding this concept: a. *Students know* solids, liquids, and gases have different properties.

1. b. *Students know* the properties of substances can change when the substances are mixed, cooled, or heated

Standard Set 2 Life Sciences

2. Plants and animals meet their needs in different ways. As a basis for understanding this concept:

2. b. *Students know* both plants and animals need water, animals need food, and plants need light.
2. e. *Students know* roots are associated with the intake of water and soil nutrients and green leaves are associated with making food from sunlight.

Standard Set 3 Earth Sciences

3. Weather can be observed, measured, and described. As a basis for understanding this concept:

3. a. *Students know* how to use simple tools (e.g., thermometer, wind vane) to measure weather conditions and record changes from day to day and across the seasons.
3. b. *Students know* that the weather changes from day to day but that trends in temperature or rain (or snow) tend to be predictable during a season.
3. c. *Students know* the sun warms the land, air, and water.

Standard Set 4 Investigation and Experimentation

4. 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:

4. a. Draw pictures that portray some features of the thing being described.

4. b. **Record observations** and data with pictures, numbers, or written statements.
4. c. Record observations on a **bar graph**.
4. d. **Describe the relative position of objects** by using two references (e.g., above and next to, below and left of).
4. e. **Make new observations when discrepancies exist between two descriptions of the same object or phenomenon.**