



Alice's Wonderland

a most curious adventure

Curriculum Ideas and Content Standards



Children's Discovery Museum of San Jose
(408)298-5437 • www.cdm.org

Dear Teachers,

We are so appreciative of the work that you do! And, at Children's Discovery Museum, we hope that we can continue to be an important educational resource for you and for the children in your classes.

We have developed a set of math and science activities, correlated with State Math and Science Content Standards and based on Alice's Adventures in Wonderland, for you to use in your classroom, either before or following a visit to the Museum. The Standards that the activities address are listed below.

We developed these activities to correspond with our newest exhibition, Alice's Wonderland, which will be at Children's Discovery Museum from February –September 2002. However, the activities also work well to introduce general themes that our permanent exhibitions address, such as patterns, investigations, mapping, and math.

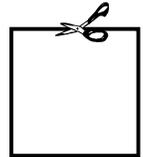
**We hope that you and your students enjoy these activities,
and we look forward to seeing you at Children's Discovery Museum!**

Mathematics and Science Content Standards for California Public Schools



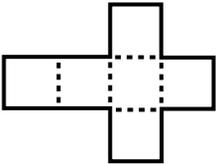
Cubic Conundrums

This activity features explorations with square patterns and puzzles to create cubes.



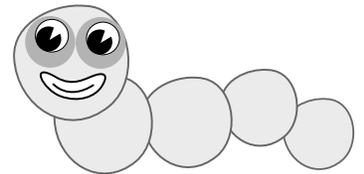
Standards addressed:

- Kindergarten:** *Measurement and Geometry.* "Students identify and describe common geometric objects (e.g., circle, triangle, square, rectangle, cube, sphere, cone)."
- Grade 1:** *Measurement and Geometry.* "Students identify common geometric figures, classify them by common attributes, and describe their relative position or their location in space."
- Grade 2:** *Measurement and Geometry.* "Students describe and classify plane and solid geometric shapes (e.g., circle, triangle, square, rectangle, sphere, pyramid, cube) according to the number and shape of faces, edges, and vertices."
- Grade 3:** *Measurement and Geometry.* "Students describe and compare the attributes of plane and solid geometric figures and use their understanding to show relationships and solve problems."



The Incredible Growing Caterpillar

Using a tiny model, students create a giant scale version of a caterpillar.



Standards addressed:

- Kindergarten:** *Measurement and Geometry.* "Students compare the length, weight, and capacity of objects by making direct comparisons with reference objects."
- Grade 1:** *Measurement and Geometry.* "Students use direct comparison and nonstandard units to describe the measurements of objects, comparing the length, weight, and volume of two or more objects."
- Grade 2:** *Measurement and Geometry.* "Students model and solve simple problems involving multiplication and division."
- Grade 3:** *Measurement and Geometry.* "Students choose and use appropriate units and measurement tools to quantify the properties of objects...and estimate and measure the length, liquid volume, and weight/mass of given objects."

Incognito Ink

Students use a saltwater solution and evaporation to create invisible messages.

Standards addressed:

- Kindergarten:** *Physical Sciences.* "Properties of materials can be observed, measured, and predicted. Students know water left in an open container evaporates but water in a closed container does not."
- Grade 1:** *Investigation and Experimentation.* "Students make new observations when discrepancies exist between two descriptions of the same object or phenomenon."
- Grade 2:** *Investigation and Experimentation.* "Scientific progress is made by asking meaningful questions and conducting careful investigations. Students will make predictions based on observed patterns and not random guessing."
- Grade 3:** *Investigation and Experimentation.* "Students 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."



Sippy, Slurpy Taste Sensations

Students experiment with containers of different volumes and create their own new drink recipes using three different liquids.

Standards addressed:

- Kindergarten:** *Physical Sciences.* "Properties of materials can be observed, measured, and predicted. Students know water left in an open container evaporates but water in a closed container does not."
- Grade 1:** *Investigation and Experimentation.* "Students make new observations when discrepancies exist between two descriptions of the same object or phenomenon."
- Grade 2:** *Investigation and Experimentation.* "Scientific progress is made by asking meaningful questions and conducting careful investigations. Students will make predictions based on observed patterns and not random guessing."
- Grade 3:** *Investigation and Experimentation.* "Students 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."



A Crazy Croquet Course

Students investigate balls, ramps, and motion using marbles, rulers, and other recycled materials to create their own croquet courses. They also draw a plan drawing of the course.

Standards addressed:

- Kindergarten:** *Physical Sciences.* "Students know objects can be described in terms of the materials they are made of (e.g. clay, cloth, paper) and their physical properties (e.g., color, size, shape, weight, texture, flexibility, attraction to magnets, floating, sinking)."
- Grade 1:** *Investigation and Experimentation.* "Scientific progress is made by asking meaningful questions and conducting careful investigations. Students will draw pictures that portray some features of the thing being described."
- Grade 2:** *Physical Sciences.* "The motion of objects can be observed and measured. Students know the position of an object can be described by locating it in relation to another object or background."
- Grade 3:** *Physical Sciences.* "Energy and matter have multiple forms and can be changed from one form to another. Students know energy can be carried from one place to another by...moving objects."