

	NGSS	California Science Standards
PHYSICAL SCIENCE	<p>Forces and Interactions</p> <ul style="list-style-type: none"> Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion. Ask questions to determine the cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other Define a simple design problem that can be solved by applying ideas about magnets. 	<p>1. Energy and matter have multiple forms and can be changed from one form to another. As a basis for understanding this concept, students know:</p> <ol style="list-style-type: none"> energy comes from the Sun to Earth in the form of light. sources of stored energy take many forms, such as food, fuel, and batteries. machines and living things convert stored energy to motion and heat. 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. matter has three forms: solid, liquid, and gas. evaporation and melting are changes that occur when the objects are heated. 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. all matter is made of small particles called atoms, too small to see with the naked eye. 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. <p>2. Light has a source and travels in a direction. As a basis for understanding this concept:</p> <ol style="list-style-type: none"> sunlight can be blocked to create shadows. light is reflected from mirrors and other surfaces. the color of light striking an object affects the way the object is seen. an object is seen when light traveling from the object enters the eye.

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EARTH SCIENCE	<p>Weather and Climate</p> <ul style="list-style-type: none"> Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season Make a claim about the merit of a design solution that reduces the impacts of weather-related hazards Obtain and combine information to describe climates in different regions of the world. 	<p>4. Objects in the sky move in regular and predictable patterns. As a basis for understanding this concept, students know:</p> <ol style="list-style-type: none"> 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. the way in which the Moon's appearance changes during the four-week lunar cycle. 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. that Earth is one of several planets that orbit the Sun and that the Moon orbits Earth. the position of the Sun in the sky changes during the course of the day and from season to season.

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LIFE SCIENCE	<p>Interdependent Relationships in Ecosystems</p> <ul style="list-style-type: none"> Construct an argument that some animals form groups that help members survive. Analyze and interpret data from fossils to provide evidence of the organisms and the environment in which they lived long ago. Construct an argument with evidence that in a particular habitat some organisms can survive well, some less well, and some cannot survive at all. Make a claim about the merit of a solution to a problem caused when the environment changes and the plants and animals that live there may change. <p>Inheritance and Variation of Traits</p> <ul style="list-style-type: none"> Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents, and that variation of these traits exists in a group of similar organisms. Use evidence to support the explanation that traits can be influenced by the environment. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. 	<p>3. Adaptations in physical structure or behavior may improve an organism's chance for survival.</p> <p>As a basis for understanding this concept, students know:</p> <ol style="list-style-type: none"> plants and animals have structures that serve different functions in growth, survival, and reproduction. examples of diverse life forms in different environments, such as oceans, deserts, tundra, forests, grasslands, and wetlands. 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. when the environment changes, some plants and animals survive and reproduce; others die or move to new locations. that some kinds of organisms that once lived on Earth have completely disappeared and that some of those resembled others that are alive today).

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SCIENCE PROCESSES	<ul style="list-style-type: none"> The crosscutting concepts of patterns; cause and effect; scale, proportion, and quantity; systems and system models; interdependence of science, engineering, and technology; and influence of engineering, technology, and science on society and the natural world are called out as organizing concepts for these disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in asking questions and defining problems; developing and using models, planning and carrying out investigations, analyzing and interpreting data, constructing explanations and designing solutions, engaging in argument from evidence, and obtaining, evaluating, and communicating information. 	<p>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.</p> <p>Students will:</p> <ol style="list-style-type: none"> 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. 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. Use numerical data in describing and comparing objects, events, and measurements. Predict the outcome of a simple investigation and compare the result with the prediction. Collect data in an investigation and analyze those data to develop a logical conclusion. <p>Adopted</p>

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ENGINEERING DESIGN GRADES 3-5	<p>Students who demonstrate understanding can:</p> <p>Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.</p> <p>Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</p> <p>Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.</p>	

