

**Elementary Power Standards K-4
(Preparation for ISAT Grade 4)**

ISAT Sub Groups	Standards	K	1	2	3	4-ISAT
Inquiry	<p>11A: Know and apply concepts, principles and properties of scientific inquiry.</p> <p>11B: Know and apply concepts, principles and processes of technological design</p>	Observe, collect and compare data using all the senses.	Collect and compare data from simple investigations.	<p>Arrange data into logical patterns and describe the patterns</p> <p>Given a sample design problem, formulate possible solutions.</p>	<p>Construct simple charts, graphs and visualizations of data.</p> <p>Build a prototype of the design using available tools and materials.</p>	<p>Construct charts, graphs and visualizations to display and interpret data.</p> <p>Test the design using given instruments, techniques and quantitative measurement methods.</p>
Life Science	<p>12A: Know and apply concepts that explain how living things function, adapt and change.</p> <p>12B: Know and apply concepts that describe how living things interact with each other and with their environment.</p>	<p>Compare and contrast living and non-living things.</p> <p>Identify animal needs.</p> <p>Identify things that plants need to grow.</p>	<p>Identify roots, stems and leaves and describe what they</p> <p>Compare and contrast animals by characteristics such as size, shape, body covering and movement</p> <p>Define habitat and tell what it provides.</p>	<p>Identify structure and function of plant parts.</p> <p>Describe the life cycle of animals (e.g. frog, butterfly)</p> <p>Classify animals as mammals, reptiles, amphibians, birds, insects, arachnids or fish.</p> <p>Explain what fossils are and how they are formed.</p>	<p>Describe the function of seeds, flowers and cones</p> <p>Identify basic divisions of animals and their common characteristics.</p> <p>Identify basic classifications of animals based on how they interact with their environment (e.g. diurnal, nocturnal, warm blooded, herbivores, carnivores and omnivores)</p> <p>Identify ways that food and other products come from plants and animals.</p>	<p>Identify structure and function of parts of a flower.</p> <p>Compare similarities and differences of young animals to their parents.</p> <p>Explain the concept of food chains and webs and the related classifications of plants and animals (e.g. consumers, decomposers, producers, herbivores, carnivores and omnivores).</p> <p>Know that the world contains many kinds of environments and that different animals and plants are suited to live in different environments.</p>

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Physical Science	<p>12C: Know and apply concepts that describe properties of matter and energy and the interactions between them.</p> <p>12D: Know and apply concepts that</p>	<p>Compare the relative weights and volumes of objects.</p> <p>Classify objects as Classify objects that float or sink.</p>	<p>Describe properties of solids, liquids and gases.</p> <p>Identify what is Describe what machines do and how to make a simple lever.</p>	<p>Compare and contrast solids, liquids and gases</p> <p>Identify sources and Identify properties of magnets, electricity, force and gravity and how they affect objects.</p>	<p>Identify physical and chemical changes in matter</p> <p>Describe how electricity Describe how sound is made and how to change pitch and volume</p> <p>Describe the effect of forces on an object (e.g. friction, gravity, magnetism).</p>	<p>Identify that an increase in temperature generally causes things to expand, and that a decrease in temperature causes things to contract and that particles move more slowly in a solid than they do in a liquid or a gas.</p> <p>Understand that current Describe how lighter colors reflect more light, darker colors reflect less light, and that the color of an object is determined by what kind of light is reflected as opposed to what light is absorbed.</p> <p>Define force and describe what occurs when balanced and unbalanced forces act on an object.</p>
Earth/Space Science	<p>12E: Know and apply concepts that describe the features and processes of the Earth and its resources</p> <p>12F: Know and apply concepts that explain the composition and structure of the universe and the Earth's place in it.</p>	<p>Identify that the earth is made of land, water and air</p> <p>Describe the four seasons.</p> <p>Identify recycling as a way to save resources.</p>	<p>Identify ways to use and conserve resources.</p> <p>Compare weather changes season to season.</p> <p>Compare and contrast day and night sky.</p>	<p>Identify natural resources and how to protect them. (Basic materials are land, water and air.)</p> <p>Describe the water cycle.</p> <p>Describe how the rotation of the Earth causes day and night.</p>	<p>Describe how volcanoes and earthquakes change the Earth.</p> <p>Describe materials (minerals, rocks and fossils) that come from the Earth.</p> <p>Describe the planets and positions of objects in the solar system.</p> <p>Identify what happens to water in clouds, types of precipitation and stages in the water cycle.</p>	<p>Explain how temperature, air pressure, wind speed and wind direction are measured.</p> <p>Recognize the differences between renewable and nonrenewable resources and the sources of fossil fuels.</p> <p>Identify positions of the earth, sun and moon in the various types of eclipses and phases of the moon.</p>

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<p>Human Body</p> <p>(Note: This is not directly on the Science ISAT other than the connections to standards 12 A and 12B on Life Science.)</p>	<p>23A: Describe and explain the structure and functions of the human body systems and how they interrelate.</p> <p>23B: Explain the effects of health-related actions on body systems.</p> <p>23C: Describe factors that affect growth and development.</p>	<p>Identify and describe objects using the senses.</p> <p>Describe how people are alike and different.</p> <p>Identify things that contribute to good health (e.g. food, exercise, rest and hygiene).</p>	<p>Makes observations using all the senses</p> <p>Identify ways people change as they grow.</p> <p>Identify food groups on the Food Guide Pyramid.</p>	<p>Describe the function of the brain, heart and lungs</p> <p>Classify foods in the Food Guide Pyramid, identify healthy food choices and describe the digestive process.</p> <p>Demonstrate how exercise, cleanliness and proper nutrition are good for health.</p>	<p>Identify basic body systems and their functions (e.g. skeletal, circulatory and nervous systems).</p> <p>Identify what germs are and how they are harmful</p>	<p>Describe how the digestive, circulatory and nervous systems work.</p> <p>Describe how to keep the digestive, circulatory and nervous systems healthy.</p>
<p>Connections</p>	<p>13A: Know and apply the accepted practices of science</p> <p>13B: Know and apply concepts that describe the interaction between science, technology and society</p>	<p>Follow teacher directions regarding safety when doing activities</p> <p>Listen to stories about the way science and technology affects people's lives.</p>	<p>Follow teacher directions regarding safety when doing activities.</p> <p>Identify ways that science and technology affect each person's life.</p>	<p>Use basic safety practices (e.g. not tasting materials without permission, "stop/drop/roll").</p> <p>Demonstrate ways to reduce, reuse and recycle materials.</p>	<p>Describe why investigation results may vary.</p> <p>Identify science and technology related careers.</p>	<p>Recognize that scientists share results so they can build upon what they learn from others.</p> <p>Identify basic science instruments and their function (e.g. ruler, balance, graduated cylinder, clock, stopwatch, thermometer, microscope and telescope).</p>