

RANGE ACHIEVEMENT LEVEL DESCRIPTORS (ALDS)

Elementary ISAT Science Range ALDs



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ASSESSMENT | ISAT SCIENCE

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CREATED DECEMBER 2022

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INTRODUCTION

This document breaks down the Elementary Science Idaho Content Standards that are assessed in Grade 5 on the Idaho Standards Achievement Test (ISAT) into a range of Achievement Level Descriptors (ALDs). The range ALDs are organized into a hierarchy of Sections and Categories as defined below.

Within each section, the Science and Engineering Practice (SEP) is in bold to show the major differences between each level. The Disciplinary Core Ideas (DCI) and Crosscutting Concepts (CCC) largely stay the same between level descriptors of the same category.

Section: Each section organizes the range ALDs into the major science domains identified in the Idaho Science Standards; Earth Science, Life Science, and Physical Science. The color-coded **Section Title** appears as a header above the range ALD tables.

Earth Science
Earth's Place in the Solar System

Category: The categories in each table group are related to each major science domain, for example, Earth's Place in the Solar System is related to Earth Science. The descriptors next to this category describe what students should know and be able to do throughout the entire range of an achievement level.

Achievement Level Descriptor Definitions

- **Level 4 (Advanced):** The student has **exceeded** the elementary school expectations and **demonstrates advanced use** of science and engineering practices, and crosscutting concepts. The student has a **deep understanding** of the fundamental practices within the scientific disciplines that are used to explain the natural world and design solutions to address real-life situations.
- **Level 3 (Proficient):** The student has **met** the elementary school expectations and **has the ability to use** science and engineering practices, and crosscutting concepts. The student **understands** the fundamental practices within the scientific disciplines that are used to explain the natural world and design solutions to address real-life situations.

- **Level 2 (Basic):** The student has **nearly met** the elementary school expectations and **is developing the ability to use** science and engineering practices, and crosscutting concepts. The student has a **partial understanding** of the fundamental practices within the scientific disciplines that are used to explain the natural world and design solutions to address real-life situations.
- **Level 1 (Below Basic):** The student has **not met** the elementary school expectations and **has difficulty using** science and engineering practices, and crosscutting concepts. The student has an **incomplete understanding** of the fundamental practices within the scientific disciplines that are used to explain the natural world and design solutions to address real-life situations.

EARTH AND SPACE SCIENCE

Students that are a level ____ may be able to do things like...	1	2	3	4
Earth's Place in the Solar System	<p>Explain observable features of Earth's landscape, the appearance of stars in the night sky or the patterns created from the orbit and rotation of the Sun-Earth-Moon system by identifying data in graphical displays or in a model.</p>	<p>Explain the ordered, observable features of Earth's landscape, the appearance of stars in the night sky or the patterns created from the orbit and rotation of the Sun-Earth-Moon system by representing data in graphical displays or models.</p>	<p>Explain the ordered, observable features of Earth's landscape, the appearance of stars in the night sky or the patterns created from the orbit and rotation of the Sun-Earth-Moon system by analyzing and interpreting graphical displays of data or models as evidence.</p>	<p>Make a prediction regarding the ordered, observable features of Earth's landscape, the appearance of stars in the night sky or the patterns created from the orbit and rotation of the Sun-Earth-Moon system by evaluating and revising graphical displays of data or models.</p>
Earth's Systems	<p>Make observations from data and/or collect information to identify parts of a model and reveal patterns that would show how the interactions between Earth's four major systems might cause patterned features of the Earth, including climate, distribution of water, and physical and biological constructive and deconstructive forces.</p>	<p>Represent data sets or graphs, and/or carry out investigations using models or information that shows how the interactions between Earth's four major systems might cause patterned features of the Earth, including climate, distribution of water, and physical and biological constructive and deconstructive forces.</p>	<p>Develop and/or use simple models, carry out investigations or evaluate evidence using reasoning and information regarding how the interactions between Earth's four major systems might cause patterned features of the Earth, including climate, distribution of water, and physical and biological constructive and deconstructive forces.</p>	<p>Develop and/or revise a model, analyze the data sets from an investigation using research methods to better communicate or predict how the interactions between Earth's four major systems might cause patterned features of the Earth, including climate, distribution of water, and physical and biological constructive and deconstructive forces.</p>

Students that are a level ____ may be able to do things like...	1	2	3	4
Earth and Human Activity	Identify either weather-related hazards on humans or human activity on the Earth's resources and environments by using information and observations from sources.	Explain the cause and effect relationship of either weather-related hazards on humans or human activity on the Earth's resources and environments by using obtained information from a reliable source to compare multiple solutions.	Generate and evaluate the merits or accuracy of a solution that could explain and reduce the cause and effect relationship of either weather-related hazards on humans or human activity on the Earth's resources and environments by obtaining and using evidence from reliable sources.	Predict changes that can occur in the cause and effect relationships of either weather-related hazards on humans or human activity on the Earth's resources and environments by evaluating, comparing and revising a solution to a problem using evidence obtained from reliable sources.

LIFE SCIENCE

Students that are a level ____ may be able to do things like...	1	2	3	4
From Molecules to Organisms: Structure and Processes	Identify components of a model that represent parts of a life cycle or behavioral system of organisms; and make observations about organisms that need food for the energy and materials to grow and repair their internal and external structures.	Support an argument by using a model that describes or represents the life cycles or behavioral systems of organisms; and support that organisms need food for the energy and materials to grow and repair their internal and external structures by identifying data as evidence.	Describe patterns in the life cycles or behavioral systems of organisms by developing and/or using a model; and construct an argument by using evidence that organisms need food for the energy and materials to grow and repair their internal and external structures.	Evaluate and revise a model that describes patterns in the life cycles or behavioral systems of organisms when a variable changes; and compare and refine arguments that organisms need food for the energy and materials to grow and repair their internal and external structures.

Students that are a level ____ may be able to do things like...	1	2	3	4
Ecosystems: Interactions, Energy, and Dynamics	Identify the parts of a model that represents interactions of organisms within an ecosystem and the cycling of matter through those interactions; and identifying data that can show how an ecosystem changed.	Describe the interactions of organisms within an ecosystem and the cycling of matter through those interactions by using a model; and collecting evidence that shows how an ecosystem can change.	Describe the interactions of organisms within an ecosystem and the cycling of matter through those interactions by developing and/or using a model; and using evidence to show the effect that occurs when one part of the ecosystem is changed.	Describes the interactions of organisms within an ecosystem and the cycling of matter through those interactions when more information is given by evaluating and revising a model; and predicting the effects of an ecosystem when one part of the ecosystem is changed.
Heredity: Inheritance and Variation of Traits	Explain that organisms inherit the information that dictates how they look and function by collecting and recording data from pictures, drawings, and/or text; and making an observation about an organism when its environment changes.	Support an explanation that organisms inherit the information that dictates how they look and function by using data collected from tables and various graphical displays; and identifying information that would help explain what happens to an organism if the environment changes.	Construct an explanation that organisms inherit the information that dictates how they look and function by analyzing and interpreting various forms of data to; and construct an explanation using evidence that supports that an organism has changed in response to environmental changes.	Construct and revise an explanation that organisms inherit the information that dictates how they look and function by constructing, analyzing and interpreting tables and graphical displays of data; and predicting what would happen to an organism if its environment continues to change.

Students that are a level ____ may be able to do things like...	1	2	3	4
Biological Evolution: Unity and Diversity	<p>Explain that when there is a change in the environment, certain individual organisms could have variations in traits that lead to advantages in survival and reproduction by identifying patterns in past or present organism characteristics that can be used as evidence; and explain that current, living organisms can only survive in particular environments or resemble organisms that once lived on Earth by using observations from pictures, drawings, and/or writings.</p>	<p>Support an explanation that when there is a change in the environment, certain individual organisms could have variations in traits that lead to advantages in survival and reproduction, or that living organisms resemble organisms that once lived on earth by identifying and/or recording past and present observations; and identify data that can be used to compare the merits of a solution that can affect a population of organisms.</p>	<p>Provide evidence that the when there is a change in the environment, certain individual organisms could have variations in traits that lead to advantages in survival and reproduction, or that living organisms resemble organisms that once lived on earth by analyzing and interpreting past and present organism characteristics; and analyze and compare the merits of a solution that can affect a population of organisms.</p>	<p>Evaluate and revise a constructed explanation that states that with a change in the environment, certain individual organisms could have variations in traits that lead to advantages in survival and reproduction, or that living organisms resemble organisms that once lived on earth by analyzing and interpreting past and present organism characteristics; and argue the merits of a solution that could affect a population of organisms by comparing sets of data.</p>

PHYSICAL SCIENCE

Students that are a level ____ may be able to do things like...	1	2	3	4
Matter and Its Interactions	Determine if a chemical reaction occurs and a new substance is created, measuring and graphing quantities to show matter is always conserved regardless of the change that occurs by making observations about variables that are controlled; and show matter exists made of particles too small to be seen by developing a model.	Determine if a chemical reaction occurs and a new substance is created, measuring and graphing quantities to show matter is always conserved regardless of the change that occurs by using models to test variables that are controlled; and to show matter exists made of particles too small to be seen by developing a model.	Determine if a chemical reaction occurs and a new substance is created, measuring and graphing quantities to show matter is always conserved regardless of the change that occurs by conducting an investigation in which variables are controlled; and to show matter exists made of particles too small to be seen by developing a model.	Determine if a chemical reaction occurs and a new substance is created, measuring and graphing quantities to show matter is always conserved regardless of the change that occurs by evaluating and revising a model using quantitative data in which variables are controlled; and to show matter exists made of particles too small to be seen by developing a model.
Motion and Stability: Forces and Interactions	Identify questions from an investigation about cause and effect relationships between balanced and unbalanced forces (magnetism and/or gravity) and an object's motion.	Provide evidence supporting an argument about cause and effect relationships between balanced and unbalanced forces (magnetism and/or gravity) and an object's motion by using observations from an investigation.	Provide evidence to construct an argument about cause and effect relationships between balanced and unbalanced forces (magnetism and/or gravity) and an object's motion by asking questions, planning and conducting an investigation and/or using produced data.	Provide evidence to predict cause and effect relationships between balanced and unbalanced forces (magnetism and/or gravity) and an object's motion by asking questions, conducting and comparing two different investigations and/or using produced data.

Students that are a level ____ may be able to do things like...	1	2	3	4
Energy	<p>Make observations using produced data to ask questions on how energy can be used as a fuel or food; or be transferred from stored and/or motion energy to different forms like sound, light, and electrical currents.</p>	<p>Make observations using produced data to provide evidence on how energy can be used as a fuel or food; or be transferred from stored and/or motion energy to different forms like sound, light, and electrical currents.</p>	<p>Make predictions by using models or asking questions and provide evidence by using produced data on how energy can be used as a fuel or food, be transferred from stored and/or motion energy to different forms like sound, light, and electrical currents.</p>	<p>Make predictions by evaluating and developing and/or revising models or asking questions and/or provide evidence by using produced data on how energy can be used as a fuel or food; or be transferred from stored and/or motion energy to different forms like sound, light, and electrical currents.</p>
Waves and their Applications in Technologies for Information Transfer	<p>Make observations about patterns of light or mechanical waves using models; and explain using evidence how reflected light from objects causes objects to be seen.</p>	<p>Describe the patterns of light or mechanical waves by using a given model; and explain using evidence how reflected light from objects causes objects to be seen. Compare multiple solutions to transfer information.</p>	<p>Describe the patterns of light or mechanical waves by creating a solution or developing and/or using a model; and explain using evidence how reflected light from objects causes objects to be seen. Construct and compare multiple solutions to transfer information.</p>	<p>Make predictions and describe the patterns of light or mechanical wave by developing and/or revising a model; and explain using evidence how reflected light from objects causes objects to be seen. Construct and compare multiple solutions to transfer information.</p>