

Grade 5 Science Proficiency Scale

I can design a submersible that meets specific criteria utilizing the Engineering Design Process.

Reporting Category: Sci 5.1.1

Exceeds Standard	4	I am able to transfer this learning to more complex content and thinking, including deeper conceptual understanding and applications that go beyond what is explicitly taught in class.
	3.5	I am beginning to transfer this learning to more complex content and thinking.
At Standard Proficient	3	<p><u>Designing Submersibles:</u></p> <p>A. I can compare the advantages and disadvantages of using sounding pole technology and sonar technology to gather data about the ocean floor.</p> <p>B. I can conduct controlled tests to collect data about the properties (mass, volume, density) and behavior (floating and sinking) of vials filled with different materials.</p> <p>C. I can compare the properties (mass, volume, density) and floating/sinking behavior of a variety of vials.</p> <p>D. I can analyze data from controlled tests and use it to explain why objects sink or float in water.</p> <p>E. I can analyze findings and remaining unknowns after collecting data using a sounding pole.</p>
	2.5	I am proficient with most of the Level 2 content/skills related to this standard.
Approaching Standard	2	<p>A-E. I can recognize or recall academic vocabulary including: <i>depth, density, ocean engineer, sonar, sounding, topography, engineering design process, mass, volume, submersible, criteria</i></p> <p>A-E. I can perform basic processes such as: -Identify each step of the Engineering Design Process. -Identify that solid objects will float or sink in water based on their density. -Identify that density describes how much mass there is in a given volume. -Observe the mass and volume of specific objects.</p>
	1.5	I am beginning to demonstrate success with foundational content/skills related to this standard.
Not at Standard	1	I demonstrate partial or no success with this standard and related content/skills.

Grade 5 Science Proficiency Scale

I can utilize thermal properties and knowledge of environmental impact of materials, the Engineering Design Process, and creativity to design a solar oven with minimal environmental impact.

Reporting Category: Sci 5.1.2

Exceeds Standard	4	I am able to transfer this learning to more complex content and thinking, including deeper conceptual understanding and applications that go beyond what is explicitly taught in class.
	3.5	I am beginning to transfer this learning to more complex content and thinking.
At Standard Proficient	3	<p><u>Solar Ovens:</u></p> <p>A. I can compare materials and their ability to transfer heat energy (thermal insulators and thermal conductors).</p> <p>B. I can utilize prior analyses of the thermal properties and environmental impact of materials to inform solar oven designs.</p> <p>C. I can test solar oven designs and record temperature comparing to temperatures of a non-insulated solar oven.</p> <p>D. I can evaluate solar oven designs using established criteria.</p> <p>E. I can improve solar oven designs, taking into account the evaluation of a prior design.</p>
	2.5	I am proficient with most of the Level 2 content/skills related to this standard.
Approaching Standard	2	<p>A-E. I can recognize or recall academic vocabulary including: <i>consumer, energy, environmental impact, green engineering, life cycle assessment, pollution, produce, recycle, reduce, resource, reuse, waste management, conductor, criteria, insulator, thermal, transfer, constraint</i></p> <p>A-E. I can perform basic processes such as: -Identify each step of the Engineering Design Process. -Identify that energy is a resource and is required to produce a product. -Identify that energy can be transferred from one object or material to another. -Recognize that heat energy always moves from warmer locations to cooler locations.</p>
	1.5	I am beginning to demonstrate success with foundational content/skills related to this standard.
Not at Standard	1	I demonstrate partial or no success with this standard and related content/skills.

Grade 5 Science Proficiency Scale

I can identify renewable and nonrenewable energy and material resources and describe how they are used.

Reporting Category: Sci 5.2.1

Exceeds Standard	4	I am able to transfer this learning to more complex content and thinking, including deeper conceptual understanding and applications that go beyond what is explicitly taught in class.
	3.5	I am beginning to transfer this learning to more complex content and thinking.
At Standard Proficient	3	<p>Natural Resources:</p> <p>A. I can obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.</p> <p>B. I can distinguish renewable resources from nonrenewable resources.</p> <p>C. I can explain ways that the use of energy and fuels affects the environment.</p>
	2.5	I am proficient with most of the Level 2 content/skills related to this standard.
Approaching Standard	2	<p>A-C. I can recognize or recall academic vocabulary including: <i>animal product, dam, energy, environment, fossil fuel, renewable energy (resource), nonrenewable energy (resources), alternative energy, habitat, oil, pollution, resource availability, water, wind, biomass, hydroelectricity, geothermal, solar panel, solar energy, wind energy, turbine</i></p> <p>A-C. I can perform basic processes such as: -Identify examples of energy sources or fuels that come from natural resources. -Identify the needs of plants, animals, and humans. -Describe resources available in places where plants, animal, and humans live.</p>
	1.5	I am beginning to demonstrate success with foundational content/skills related to this standard.
Not at Standard	1	I demonstrate partial or no success with this standard and related content/skills.

Grade 5 Science Proficiency Scale

I can research and communicate how the Earth is a complex and dynamic set of interconnected systems (geosphere, biosphere, hydrosphere, atmosphere) and how these spheres interact.

Reporting Category: Sci 5.2.2

Exceeds Standard	4	I am able to transfer this learning to more complex content and thinking, including deeper conceptual understanding and applications that go beyond what is explicitly taught in class.
	3.5	2
At Standard Proficient	3	<p><u>Earth's Systems:</u></p> <p>A. I can construct a model supporting and analyzing the influence and complex interaction one sphere has upon another sphere (limited to the interactions of two systems at a time).</p> <p>Examples are:</p> <ul style="list-style-type: none"> - influence of the ocean on ecosystems, landform shape, and climate - influence of the atmosphere on landforms and ecosystems through weather and climate - influence of mountain ranges on winds and clouds in the atmosphere <p>B. I can describe the critical elements of the geosphere, biosphere, hydrosphere, and atmosphere.</p>
	2.5	I am proficient with most of the Level 2 content/skills related to this standard.
Approaching Standard	2	<p>A-B. I can recognize or recall academic vocabulary including: <i>atmosphere, atmospheric pressure, atmospheric composition, atmospheric layer, atmospheric pressure, biosphere, change in the Earth's surface, climate, cloud, Earth material, Earth system, Earth's temperature, ecosystem, gases of the atmosphere, geosphere, hydrosphere, influence, interact, landform, mountain range, ocean, weather, wind, wind pattern</i></p> <p>A-B. I can perform basic processes such as:</p> <ul style="list-style-type: none"> -State accurate information about the ways in which the geosphere, biosphere, hydrosphere, and/or atmosphere interact. -Identify the Earth's spheres: geosphere, biosphere, hydrosphere, atmosphere.
	1.5	I am beginning to demonstrate success with foundational content/skills related to this standard.
Not at Standard	1	I demonstrate partial or no success with this standard and related content/skills.

Grade 5 Science Proficiency Scale

I can discuss the benefits and challenges of hydroponic systems and evaluate their impact on environmental resources and their potential to solve current food system problems.

Reporting Category: Sci 5.2.3

Exceeds Standard	4	I am able to transfer this learning to more complex content and thinking, including deeper conceptual understanding and applications that go beyond what is explicitly taught in class.
	3.5	I am beginning to transfer this learning to more complex content and thinking.
At Standard Proficient	3	<p><u>Hydroponics:</u></p> <p>A. I can explain how hydroponics can help reduce human impact on the environment (water conservation, decrease in energy demand, etc).</p> <p>B. I can describe and graph amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.</p> <p>C. I can compare the amounts and percentages of freshwater and overall water on Earth.</p>
	2.5	I am proficient with most of the Level 2 content/skills related to this standard.
Approaching Standard	2	<p>A-C. I can recognize or recall academic vocabulary including: <i>area, atmosphere, distribution, forms of water, fraction, fresh water, glacier, groundwater, lake, ocean, percentage, polar ice caps, properties of water, reservoir, river, stream, underground, variety, volume, water capacity, wetland</i></p> <p>A-C. I can perform basic processes such as: -Identify the water sources found on Earth (oceans, seas, bays, icecaps, glaciers, snow, groundwater, freshwater, etc.). -Explain the water cycle. -Explain and describe characteristics and functions of a wetland.</p>
	1.5	I am beginning to demonstrate success with foundational content/skills related to this standard.
Not at Standard	1	I demonstrate partial or no success with this standard and related content/skills.

Grade 5 Science Proficiency Scale

I can use the Engineering Design Process to design, create, and improve a water filter that cleans contaminated water.

Reporting Category: Sci 5.2.4

Exceeds Standard	4	I am able to transfer this learning to more complex content and thinking, including deeper conceptual understanding and applications that go beyond what is explicitly taught in class.
	3.5	I am beginning to transfer this learning to more complex content and thinking.
At Standard Proficient	3	<p><u>Water, Water Everywhere:</u></p> <p>A. I can discuss some problems and engineering solutions associated with air, water, and soil contamination.</p> <p>B. I can recognize the role of environmental engineers in helping to address the problems of air, water, and soil contamination.</p> <p>C. I can predict efficacy of different filter materials based on their properties.</p> <p>D. I can conduct a controlled experiment.</p> <p>E. I can observe, analyze, and compare the performance of filter materials when used to filter contaminated water.</p> <p>F. I can decide which materials and/or combination of materials will be good choices for use in a water filter design.</p>
	2.5	I am proficient with most of the Level 2 content/skills related to this standard.
Approaching Standard	2	<p>A-F. I can recognize or recall academic vocabulary including: <i>criteria, data, filter, particle, artificial, contaminant, environment, pollution, constraint</i></p> <p>A-F. I can perform basic processes such as:</p> <ul style="list-style-type: none"> -Identify that some contaminants in the environment are natural and others are artificial (human-introduced). -Identify that water can contain various contaminants that affect its quality. -Recognize that water from different places can contain different contaminants. -Recognize that water flows more quickly and readily through some materials than it does through others.
	1.5	I am beginning to demonstrate success with foundational content/skills related to this standard.
Not at Standard	1	I demonstrate partial or no success with this standard and related content/skills.