

Grade 5 Science GSE Learning Map

Prioritized Standard: S5E1.a Obtain, evaluate, and communicate information to identify surface features on the Earth caused by constructive and/or destructive processes. Construct an argument supported by scientific evidence to identify surface features (examples could include deltas, sand dunes, mountains, volcanoes) as being caused by constructive and/or destructive processes (examples could include deposition, weathering, erosion, and impact of organisms). Earth Science

	Proficiency Scale
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Plan and carry out an investigation that evaluates the role of constructive and/or destructive processes in a real-world unpredictable situation (such as weathering and erosion occurring on school property), and create a solution path that solves the problem and reports the results</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Construct an argument supported by scientific evidence to identify surface features (examples could include deltas, sand dunes, mountains, volcanoes) as being caused by constructive processes (examples could include deposition, weathering, erosion, and impact of organisms)</p> <p><u>Learning Target 2:</u> Construct an argument supported by scientific evidence to identify surface features (examples could include deltas, sand dunes, mountains, volcanoes) as being caused by destructive processes (examples could include deposition, weathering, erosion, and impact of organisms)</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> constructive, destructive, faults</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Identify surface features caused by constructive processes such as deltas, sand dunes, earthquakes, volcanoes, and faults</p> <p><u>Learning Target 3:</u> Identify surface features caused by destructive processes such as erosion, weathering, impact of organisms, earthquakes, and volcanoes</p> <p><u>Learning Target 4:</u> Identify arguments about surface features caused by constructive and/or destructive forces that are supported by evidence, such as deltas are caused by erosion</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 5 Science GSE Learning Map

Prioritized Standard: S5L1.a Obtain, evaluate, and communicate information to group organisms using scientific classification procedures. Develop a model that illustrates how animals are sorted into groups (vertebrate and invertebrate) and how vertebrates are sorted into groups (fish, amphibians, reptiles, bird, and mammal) using data from multiple sources. *Life Science*

Proficiency Scale	
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Create a simple dichotomous key to categorize student selected animals and justify their reasoning for the classification <u>Learning Target 2:</u> Ask questions and investigate why it is so difficult to classify dinosaurs</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Develop a model that illustrates how animals are sorted into groups (vertebrate and invertebrate) using data from multiple sources <u>Learning Target 2:</u> Develop a model that illustrates how vertebrates are sorted into groups (fish, amphibians, reptiles, birds, and mammals) using data from multiple sources</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> vertebrate, invertebrate</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Explain why scientists use classification systems <u>Learning Target 3:</u> Sort animals into groups (vertebrate and invertebrate) <u>Learning Target 4:</u> Sort vertebrates into groups (fish, amphibian, reptile, bird, and mammal)</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 5 Science GSE Learning Map

Prioritized Standard: S5L1.b Obtain, evaluate, and communicate information to group organisms using scientific classification procedures. Develop a model that illustrates how plants are sorted into groups (seed producers, non-seed producers) using data from multiple sources. *Life Science*

Proficiency Scale	
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Create a simple dichotomous key to categorize student-selected seed and non-seed bearing plants and justify their reasoning for the classification</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Develop a model that illustrates how plants are sorted into groups (seed producers, non-seed producers) using data from multiple sources</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> seed producer, non-seed producer, vascular, non-vascular</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Demonstrate how plants are sorted into groups such as whether or not they produce seeds or have a vascular system</p> <p><u>Learning Target 3:</u> Identify examples of seed producers</p> <p><u>Learning Target 4:</u> Identify examples of non-seed producers</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 5 Science GSE Learning Map

Prioritized Standard: S5L2.b Obtain, evaluate, and communicate information showing that some characteristics of organisms are inherited and other characteristics are acquired. Ask questions to compare and contrast inherited and acquired physical traits. (Clarification statement: Punnett squares and genetics are taught in future grades.) *Life Science*

Proficiency Scale	
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Use research-based evidence to construct an argument to compare and contrast inherited and acquired physical traits of a specific organism</p> <p><u>Learning Target 2:</u> Ask questions to investigate a specific trait in humans such as eye color, height, or a hereditary disorder such as Albinism. Include information about the causes (gene) and the effects of that trait. Be cautious about traits that might be sensitive to students</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Ask questions to compare and contrast inherited and acquired physical traits</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> instincts, learned behavior, inherited traits, acquired traits</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Identify examples of inherited and acquired physical traits</p> <p><u>Learning Target 3:</u> Ask questions to compare and contrast instincts and learned behaviors (S5L2a)</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 5 Science GSE Learning Map

Prioritized Standard: S5L3.c Obtain, evaluate, and communicate information to compare and contrast the parts of plant and animal cells. Construct an explanation that differentiates between the structure of plant and animal cells. *Life Science*

Proficiency Scale	
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Use an analogy to compare the structures and functions of the animal and/or plant cell organelles to real-world analogies (factory, school) and explain how the cells work together to form tissue</p> <p><u>Learning Target 2:</u> Ask questions and investigate how specific types of cells work together to form a specific type of tissue (bone, skin, muscle, nerve) and relate the structure of the cells to their function in the body</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Construct an explanation that differentiates between the structure of plant and animal cells</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> cell, membrane, cell wall, cytoplasm, nucleus, chloroplasts</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Gather evidence by utilizing technology tools to support a claim that plants and animals are comprised of cells too small to be seen without magnification (S5L3a)</p> <p><u>Learning Target 3:</u> Identify parts of a plant cell (for example, cell membrane, cell wall, cytoplasm, nucleus, chloroplasts)</p> <p><u>Learning Target 4:</u> Identify parts of an animal cell (for example, cell membrane, cytoplasm, and nucleus)</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 5 Science GSE Learning Map

Prioritized Standard: S5L4.a Obtain, evaluate, and communicate information about how microorganisms benefit or harm larger organisms.(Clarification statement: Possible microorganisms could include Tardigrades, Lactobacillus, Probiotics, Rotifers, Salmonella, Clostridium botulinum (Botox), E-coli, Algae, etc. Students are not expected to know these specific organisms. The list is provided to give teachers examples.) **Construct an argument using scientific evidence to support a claim that microorganisms are beneficial. *Life Science***

Proficiency Scale	
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Gather, analyze, and evaluate information to draw conclusions about the beneficial nature of vaccines</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Construct an argument using scientific evidence to support a claim that some microorganisms are beneficial</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> microorganism</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Identify beneficial microorganisms (for example, Tardigrades, Lactobacillus, Probiotics, Rotifers)</p> <p><u>Learning Target 3:</u> Explain the relationship between the beneficial microorganism and a larger organism (for example, Lactobacillus helps with lactose digestion in humans)</p> <p><u>Learning Target 4:</u> Identify harmful microorganisms (for example E. coli and Salmonella can cause food poisoning)</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 5 Science GSE Learning Map

Prioritized Standard: S5P1.a Obtain, evaluate, and communicate information to explain the differences between a physical change and a chemical change. Plan and carry out investigations by manipulating, separating, and mixing dry and liquid materials and communicate collected data to demonstrate examples of physical change. *Physical Science*

Proficiency Scale	
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Develop generalizations of previous investigations of physical changes and the strategies used, and then design a solution to a new problem, such as an oil spill in the environment and methods of clean-up</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Plan investigations of physical changes by manipulating, separating, and mixing dry and liquid materials <u>Learning Target 2:</u> Carry out investigations of physical changes by manipulating, separating, and mixing dry and liquid materials</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> physical change, mixture</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Identify the states of matter <u>Learning Target 3:</u> Understand that matter is comprised of particles that cannot be seen <u>Learning Target 4:</u> Identify examples of physical changes being carried out including a change of state</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 5 Science GSE Learning Map

Prioritized Standard: S5P1.c Obtain, evaluate, and communicate information to explain the differences between a physical change and a chemical change. Plan and carry out an investigation to determine if a chemical change occurred based on observable evidence (color, gas, temperature change, odor, new substance produced). *Physical Science*

Proficiency Scale	
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Evaluate and analyze chemical changes through observations. Use research-based evidence to support their generalizations</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Plan an investigation to determine if a chemical change occurred based on observable evidence (color, gas, temperature change, odor, new substance produced)</p> <p><u>Learning Target 2:</u> Carry out an investigation to determine if a chemical change occurred based on observable evidence (color, gas, temperature change, odor, new substance produced)</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> chemical change</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Identify evidence of chemical change including a change in color, production of a gas, an odor, a change in temperature, and a new substance being produced</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 5 Science GSE Learning Map

Prioritized Standard: S5P2.b Obtain, evaluate, and communicate information to investigate electricity. Design a complete, simple electric circuit, and explain all necessary components. *Physical Science*

Proficiency Scale	
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Devise and carry out a plan to create an invention utilizing multiple circuits <u>Learning Target 2:</u> Communicate and demonstrate how the invention works</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Design a complete simple electric circuit and explain all necessary components required to complete a simple electric circuit</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> conductor, insulator, electricity, electric circuit, simple circuit, load, power source</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Recognize a circuit that works and/or doesn't work <u>Learning Target 3:</u> Explain why a circuit works and/or doesn't work</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success

Grade 5 Science GSE Learning Map

Prioritized Standard: S5P3.a Obtain, evaluate, and communicate information about magnetism and its relationship to electricity. Construct an argument based on experimental evidence to communicate the differences in function and purpose of an electromagnet and magnet. (Clarification statement: Function is limited to understanding temporary and permanent magnetism.) *Physical Science*

Proficiency Scale	
4.0	<p>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught. For example, the student will:</p> <p><u>Learning Target 1:</u> Carry out a plan to create an invention utilizing electromagnets. Use the CER Framework to communicate and demonstrate how and why the invention works</p> <p><u>Learning Target 2:</u> Plan and carry out an investigation on factors that influence the strength of an electromagnet such as the number of coils of wire</p>
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
3.0	<p>The student will</p> <p><u>Learning Target 1:</u> Conduct an experiment to show the differences in function and purpose of an electromagnet and a magnet</p> <p><u>Learning Target 2:</u> Construct an argument based on experimental evidence to communicate the differences in function and purpose of an electromagnet and a magnet</p> <p>The student exhibits no major errors or omissions.</p>
2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0
2.0	<p>There are no major errors or omissions regarding the simpler details and processes.</p> <p>The student will recognize or recall specific vocabulary:</p> <p><u>Learning Target 1:</u> magnet, electromagnet</p> <p>The student will perform basic processes:</p> <p><u>Learning Target 2:</u> Recognize that temporary and permanent magnets have different functions and/or purposes</p> <p><u>Learning Target 3:</u> Compare and contrast temporary and permanent magnets</p> <p><u>Learning Target 4:</u> Plan and carry out an investigation to observe the interaction between a magnetic field and a magnetic object. (Clarification statement: The interaction should include placing materials of various types (wood, paper, glass, metal, and rocks) and thickness between the magnet and the magnetic object) S5P3b</p> <p>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</p>
1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content
1.0	With help, partial success at score 2.0 and score 3.0
0.5	With help, partial success at score 2.0 content but not at score 3.0 content
0.0	Even with help, no success