

**Strand: Earth Science**

**Topic: 4.ESS.3 Weathering and Erosion**

**Level: 4<sup>th</sup> Grade**

Score		Description		Sample Tasks
<b>Score 4.0</b>		<b>In addition to Score 3.0, in-depth inferences, applications, and analysis indicate an extension of learning.</b>		<ul style="list-style-type: none"> <li>Given two or more examples (i.e. Grand Canyon, a prairie, Indiana Dunes, etc.) students analyze and explain the difference between the causes of the landforms.</li> <li>Explain the relationship between weathering, erosion, and deposition on a given landform (i.e. Grand Canyon, a prairie, Indiana Dunes, etc.).</li> </ul>
	<b>3.5</b>	In addition to score 3.0 performance, in-depth inferences and applications with partial success.		
<b>Score 3.0</b>		<p><b>The student:</b></p> <ul style="list-style-type: none"> <li>Describes how geological forces change the shape of the land suddenly and over time.</li> </ul> <p><b>The student exhibits no major errors or omissions.</b></p>		<ul style="list-style-type: none"> <li>Demonstrate and describe how smaller rocks come from the breakage and weathering of larger rocks in a process that occurs over a long period of time.</li> <li>Describe how wind, water, and glacial ice shape and reshape earth's land surface by eroding rock and soil in some areas and depositing them in other areas in a process that occurs over a long period of time.</li> <li>Describe how wind, water and glacial ice shape and reshape earth's land surface by eroding rock and soil in some areas and depositing them in other areas in a process that occurs over a long period of time.</li> </ul>
	<b>2.5</b>	No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content.		
<b>Score 2.0</b>		<p><b>There are no major errors or omissions regarding the simpler details and processes as the student:</b></p> <ul style="list-style-type: none"> <li>recognizes or recalls specific terminology, such as:                             <ul style="list-style-type: none"> <li>erosion, weathering, deposition, landforms, glacial ice</li> </ul> </li> <li>performs basic processes, such as:                             <ul style="list-style-type: none"> <li>recognizes and recalls how wind, water and glacial ice cause surface changes that shape and/or reshape Earth's surface.</li> <li>identifies a key list of landforms (mountain, valley, canyon, plateau, plain, cave, sand dune, peninsula, delta, island)</li> </ul> </li> </ul> <p><b>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</b></p>		<ul style="list-style-type: none"> <li>Describe or give an example of the key vocabulary</li> <li>Given a picture students can identify different landforms</li> </ul>
	<b>1.5</b>	Partial knowledge of the 2.0 content, but major errors or omissions regarding the 3.0 content.		
<b>Score 1.0</b>		<b>With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes.</b>		
	<b>0.5</b>	With help, a partial understanding of the 2.0 content, but not the 3.0 content.		
<b>Score 0.0</b>		<b>Even with help, no understanding or skill demonstrated.</b>		

**Strand: Physical Science**

**Topic: 4.PS.4 Forms of Energy**

**Level: 4<sup>th</sup> Grade**

Score 4.0	In addition to Score 3.0, in-depth inferences, applications, and analysis indicate an extension of learning.		Sample Tasks
	3.5	In addition to score 3.0 performance, in-depth inferences and applications with partial success.	
Score 3.0	<p><b>The student:</b></p> <ul style="list-style-type: none"> <li>● Describes and investigates the different ways in which energy can be generated and/or converted from one form of energy to another form of energy.</li> </ul> <p><b>The student exhibits no major errors or omissions.</b></p>		<ul style="list-style-type: none"> <li>● Construct a complete circuit through which an electrical current can pass as evidenced by the lighting of a bulb or ringing of a bell. (verbally or written).</li> <li>● Experiment with materials to identify conductors and insulators of heat and electricity.</li> <li>● Investigate the variety of ways in which heat can be generated and moved from one place to another. Explain the direction the heat moved.</li> </ul>
	2.5	No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content.	
Score 2.0	<p><b>There are no major errors or omissions regarding the simpler details and processes as the student:</b></p> <ul style="list-style-type: none"> <li>● recognizes or recalls specific terminology, such as:               <ul style="list-style-type: none"> <li>○ electrical energy, <b>conductor</b>, <b>insulator</b>, switch, sockets, <b>circuit</b>, resistor</li> </ul> </li> <li>● performs basic processes, such as:               <ul style="list-style-type: none"> <li>○ identifies heat, light and sound as forms of energy</li> <li>○ identifies each part of a circuit (conductor, insulator, sockets, switch)</li> </ul> </li> </ul> <p><b>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</b></p>		<ul style="list-style-type: none"> <li>● When a diagram is given (illustration of a circuit), the student can label the heat, light and sound source and flow of the energy, as well as each part of the circuit (conductor, insulator, sockets, and switch).</li> <li>● Give examples of heat, light, and sound energy.</li> </ul>
	1.5	Partial knowledge of the 2.0 content, but major errors or omissions regarding the 3.0 content.	
Score 1.0	With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes.		
	0.5	With help, a partial understanding of the 2.0 content, but not the 3.0 content.	
Score 0.0	Even with help, no understanding or skill demonstrated.		

**Strand: Earth Science**

**Topic: 4.ESS.4 Natural Resources**

**Level: 4<sup>th</sup> Grade**

Score	In addition to Score 3.0, in-depth inferences, applications, and analysis indicate an extension of learning.	Sample Tasks
Score 4.0		<ul style="list-style-type: none"> <li>● Given a problem and solution students will analyze a proposed solution, evaluate, and determine if the solution has possible errors or is a viable option to solve the problem                             <ul style="list-style-type: none"> <li>○ The student is able to justify the options and is able to explain the reasoning behind their thinking</li> </ul> </li> </ul>
3.5	In addition to score 3.0 performance, in-depth inferences and applications with partial success.	
Score 3.0	<p><b>The student:</b></p> <ul style="list-style-type: none"> <li>● Develop solutions that could be implemented to reduce the impact of humans on the natural environment and the natural environment on humans.</li> </ul> <p><b>The student exhibits no major errors or omissions.</b></p>	<ul style="list-style-type: none"> <li>● Describe how humans can lessen their negative impact on the earth.</li> <li>● <a href="https://climatekids.nasa.gov/review/how-to-help/">https://climatekids.nasa.gov/review/how-to-help/</a></li> </ul>
2.5	No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content.	
Score 2.0	<p><b>There are no major errors or omissions regarding the simpler details and processes as the student:</b></p> <ul style="list-style-type: none"> <li>● recognizes or recalls specific terminology, such as:                             <ul style="list-style-type: none"> <li>○ <b>natural resources: fossil fuels</b> (coal, oil, natural gas), solar, soil, wood, water, wind</li> <li>○ <b>renewable energy, nonrenewable energy</b>, wind turbine, reduce, reuse, recycle, <b>conserve</b></li> </ul> </li> <li>● performs basic processes, such as:                             <ul style="list-style-type: none"> <li>○ identifies natural resources and label them as renewable or nonrenewable</li> <li>○ states examples of daily uses of natural resources</li> </ul> </li> </ul> <p><b>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</b></p>	<ul style="list-style-type: none"> <li>● Sort a list of natural resources as renewable and non-renewable</li> <li>● Have students explain why coal, oil, and natural gas are fossil fuels.</li> </ul>
1.5	Partial knowledge of the 2.0 content, but major errors or omissions regarding the 3.0 content.	
Score 1.0	<b>With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes.</b>	
0.5	With help, a partial understanding of the 2.0 content, but not the 3.0 content.	
Score 0.0	<b>Even with help, no understanding or skill demonstrated.</b>	

**Strand: Science**

**Topic: 4.PS.1 & 4.PS.2 Force and Motion**

**Level: 4<sup>th</sup> Grade**

Score	Description	Sample Tasks
4.0	In addition to Score 3.0, in-depth inferences, applications, and analysis indicate an extension of learning.	<ul style="list-style-type: none"> <li>Students will explain how a NASCAR team could modify their car in order to increase its performance and why it would work.</li> <li>Conduct an experiment using an inclined plane to calculate the speed of an object when given the formula for speed. (Speed = Distance/Time)</li> </ul>
3.5	In addition to score 3.0 performance, in-depth inferences and applications with partial success.	
3.0	<p><b>The student:</b></p> <ul style="list-style-type: none"> <li><b>4.PS.1</b> Investigates transportation systems and devices that operate on or in land, water, air and space and recognize the forces (lift, drag, friction, thrust and gravity) that affect their motion.</li> <li><b>4.PS.2</b> Investigates the relationship of the speed of an object to the energy of that object.</li> </ul> <p><b>The student exhibits no major errors or omissions.</b></p>	<ul style="list-style-type: none"> <li><b>Speed:</b> Have the student use an inclined plane to demonstrate how the change in height (force of gravity) creates a change in speed and explain why.</li> <li><b>Direction:</b> Have the student use a ball to demonstrate a change in direction (kick, throw, hit) and explain why.</li> <li><b>Water:</b> Have the students explain how a ship stays afloat. Have the students explain how a submarine changes its buoyancy in the water.</li> <li><b>Air:</b> Have the students explain how thrust, drag, lift, and gravity affect an airplane.</li> <li>Calculate speed given distance and time (Speed = Distance/Time)</li> </ul>
2.5	No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content.	
2.0	<p><b>There are no major errors or omissions regarding the simpler details and processes as the student:</b></p> <ul style="list-style-type: none"> <li>recognizes or recalls specific terminology, such as:               <ul style="list-style-type: none"> <li><b>gravity, force, motion, kinetic energy, potential energy, velocity,</b> distance, inclined plane, <b>speed, friction,</b> thrust, lift, drag, buoyancy</li> </ul> </li> <li>performs basic processes, such as:               <ul style="list-style-type: none"> <li>Demonstrates changes in speed or direction are caused by forces: the greater the force exerted on an object, the greater the change</li> <li>Identifies how systems and devices operate on or in water and air.</li> </ul> </li> </ul> <p><b>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</b></p>	<ul style="list-style-type: none"> <li>Students can define terminology (listed on left) when given choices (multiple choice or matching).</li> <li><b>Speed:</b> Have the student use an inclined plane to demonstrate how the change in height (force of gravity) creates a change in speed.</li> <li><b>Direction:</b> Have the student use a ball to demonstrate a change in direction (kick, throw, hit).</li> <li>Label a diagram of an airplane to show the forces acting upon it.</li> </ul>
1.5	Partial knowledge of the 2.0 content, but major errors or omissions regarding the 3.0 content.	
1.0	With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes.	
0.5	With help, a partial understanding of the 2.0 content, but not the 3.0 content.	
0.0	Even with help, no understanding or skill demonstrated.	

**Strand: Life Science**

**Topic: 4.LS.3 – Animal Adaptations**

**Level: 4<sup>th</sup> Grade**

Score	In addition to Score 3.0, in-depth inferences, applications, and analysis indicate an extension of learning.		Sample Tasks
4.0			<ul style="list-style-type: none"> <li>● Research an invasive species (purple loosestrife, kudzu, pythons in the Everglades) and explain why that species has been able to thrive/take over an existing ecosystem.</li> <li>● Given current trends in climate change, predict what adaptations are likely to occur to a chosen animal or plant.</li> <li>● Explain how an animal would have to adapt to live in a new environment.</li> </ul>
	3.5	In addition to score 3.0 performance, in-depth inferences and applications with partial success.	
Score 3.0	<p><b>The student:</b></p> <ul style="list-style-type: none"> <li>● Constructs an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction in different ecosystems.</li> </ul> <p><b>The student exhibits no major errors or omissions.</b></p>		<ul style="list-style-type: none"> <li>● Explain the adaptation of a teacher selected animal or plant and how it helps the animal or plant survive in their environment.</li> <li>● Given one environment and two animals and/or plants, student will justify which animal/plant will thrive in that environment.</li> </ul>
	2.5	No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content.	
Score 2.0	<p><b>There are no major errors or omissions regarding the simpler details and processes as the student:</b></p> <ul style="list-style-type: none"> <li>● recognizes or recalls specific terminology, such as:                             <ul style="list-style-type: none"> <li>○ characteristics, adaptations, inherent, environment, competition, advantage, camouflage, stimulus</li> </ul> </li> <li>● performs basic processes, such as:                             <ul style="list-style-type: none"> <li>○ Observes, describes and records the physical characteristics of living plants or animals from widely different environments.</li> </ul> </li> </ul> <p><b>However, the student exhibits major errors or omissions regarding the more complex ideas and processes.</b></p>		<ul style="list-style-type: none"> <li>● Ask the students to describe the physical characteristics an animal (snow hare, poison dart frog, etc.) or a plant (cactus, Venus Fly Trap, climbing ivy, etc.).</li> </ul>
	1.5	Partial knowledge of the 2.0 content, but major errors or omissions regarding the 3.0 content.	
Score 1.0	<p><b>With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes.</b></p>		
	0.5	With help, a partial understanding of the 2.0 content, but not the 3.0 content.	
Score 0.0	<p><b>Even with help, no understanding or skill demonstrated.</b></p>		