**Grades 6-8**

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| **EALR 1: Systems**  |
| **Big Idea: Systems (SYS)** |
| **Core Content: Inputs, Outputs, Boundaries and Flows** |
| **Topic: Subsystems** |
| **Grade 6-8 (SYSA)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe subsystems and the larger encompassing system, given a system *(e.g., the heart is a system made up of tissues and cells, and is part of the larger circulatory system)*

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls the subsystems and the larger encompassing system, when given a system

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** | * Given a system, correctly choose from a list of subsystems in that system and the larger encompassing systems of which that system is part.
 |
|  | **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.** |

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| **EALR 1: Systems**  |
| **Big Idea: Systems (SYS)** |
| **Core Content: Inputs, Outputs, Boundaries and Flows** |
| **Topic: Boundaries** |
| **Grade 6-8 (SYSB)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** explain how the boundaries of a system can be drawn to fit the purpose of the study *(e.g., to study how insect populations change, a system might be a forest, a meadow in the forest, or a single tree)*

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls the boundaries of a system drawn to fit the purpose of a study

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 1: Systems**  |
| **Big Idea: Systems (SYS)** |
| **Core Content: Inputs, Outputs, Boundaries and Flows** |
| **Topic: Input/Output** |
| **Grade 6-8 (SYSC)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe how output of matter or energy from a system can become input for another system *(e.g., household waste goes to a landfill)*

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls examples of outputs of matter or energy from a system and how they become input for another system

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 1: Systems**  |
| **Big Idea: Systems (SYS)** |
| **Core Content: Inputs, Outputs, Boundaries and Flows** |
| **Topic: Open and Closed Systems** |
| **Grade 6-8 (SYSD)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** analyze and defend whether a described system is open or closed

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes if the system is open or closed when given a description of a system

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 1: Systems**  |
| **Big Idea: Systems (SYS)** |
| **Core Content: Inputs, Outputs, Boundaries and Flows** |
| **Topic: Matter and Energy in Systems** |
| **Grade 6-8 (SYSE)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** measure the flow of matter into and out of an open system and predict how the system is likely to change *(e.g., a bottle of water with a hole in the* bottom*, an ecosystem, an electric circuit)*

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about how a system is likely to change, given the flow of matter into and out of an open system

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 1: Systems**  |
| **Big Idea: Systems (SYS)** |
| **Core Content: Inputs, Outputs, Boundaries and Flows** |
| **Topic: Complex Systems** |
| **Grade 6-8 (SYSF)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe a complex societal issue with strong science and technology components from a systems point of view, highlighting how changes in one part of the system are likely to influence other parts of the system

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about a complex societal issue with strong science and technology components *(e.g., overfishing, global warming)*

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 2: Inquiry**  |
| **Big Idea: Inquiry (INQ)** |
| **Core Content: Questioning and Investigating** |
| **Topic: Question** |
| **Grade: 6-8 (INQA)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** generate a question that can be answered through scientific investigation *(e.g., creating a new question or refining or refocusing a broad and ill-defined question)*

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls examples of questions that can be answered through scientific investigation

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 2: Inquiry**  |
| **Big Idea: Inquiry (INQ)** |
| **Core Content: Questioning and Investigating** |
| **Topic: Investigate** |
| **Grade: 6-8 (INQB)(INQC) (IBQD)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** plan and conduct a scientific investigation *(e.g., field study, systematic observation, controlled experiment, model, or simulation)* that is appropriate for the question being asked
* plan and conduct a controlled experiment to test a hypothesis about a relationship between two variables. Determine which variables should be kept the same (controlled), which (independent) variable should be systematically manipulated, and which responding (dependent) variable is to be measured and recorded. Report any variables not controlled and explain how they might affect results

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** given a question, recognizes the appropriate scientific investigation type *(e.g., field study, systematic observation, controlled experiment, model, or simulation)* that is appropriate for the question being asked
* given a plan, conducts a controlled experiment to test a hypothesis about a relationship between two variables. Identify which variables are kept the same (controlled), which (independent) variable are systematically manipulated, and which responding (dependent) variable is measured and recorded.

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 2: Inquiry**  |
| **Big Idea: Inquiry (INQ)** |
| **Core Content: Questioning and Investigating** |
| **Topic: Analyze and Communicate** |
| **Grade: 6-8 (INQB)(INQC) (IBQD)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative
* recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words
* use statistical procedures *(e.g., median, mean, or mode)* to analyze data and make inferences about relationships

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:** * completes a picture, table, chart, diagram, graphic display, or text to communicate results clearly, accurately, and informatively
* recognizes the patterns in data, diagrams, symbols, and words
* uses statistical procedures *(e.g., median, mean, or mode)* to analyze data

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 2: Inquiry**  |
| **Big Idea: Inquiry (INQ)** |
| **Core Content: Questioning and Investigating** |
| **Topic: Model** |
| **Grade: 6-8 (INQE)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** create a model or simulation to represent the behavior of objects, events, systems, or processes. Use the model to explore the relationship between two variables and point out how the model or simulation is similar to or different from the actual phenomenon.

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** describes the behavior of objects, events, systems or processes that are represented in a given model or simulation

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 2: Inquiry**  |
| **Big Idea: Inquiry (INQ)** |
| **Core Content: Questioning and Investigating** |
| **Topic: Explain** |
| **Grade: 6-8 (INQF)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** generate a scientific conclusion from an investigation using inferential logic, and clearly distinguish between results *(e.g., evidence)* and conclusions *(e.g., explanation)*
* describe the differences between an objective summary of the findings and an inference made from the findings

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** chooses an appropriate conclusion based on evidence from a list of possible scientific conclusions
* recognizes or recalls basic terminology such as : objective summary and inference

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 2: Inquiry**  |
| **Big Idea: Inquiry (INQ)** |
| **Core Content: Questioning and Investigating** |
| **Topic: Communicate Clearly** |
| **Grade: 6-8 (INQG)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** prepare a written report of an investigation by clearly describing the question being investigated, what was done, and an objective summary of results. The report should provide evidence to accept or reject the hypothesis, explain the relationship between two or more variables, and identify limitations of the investigation.

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** uses a teacher provided template to prepare a written report of an investigation

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 2: Inquiry**  |
| **Big Idea: Inquiry (INQ)** |
| **Core Content: Questioning and Investigating** |
| **Topic: Intellectual Honesty** |
| **Grade: 6-8 (INQH)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe flaws in scientific claims *(e.g., uncontrolled variables, overgeneralizations from limited data, and experimenter bias)*
* listen actively and respectfully to research reports by other students and critique their presentations respectfully, using logical argument and evidence
* engage in reflection and self-evaluation

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls examples of flaws in scientific claims
* recognizes or recalls basic terminology such as: reflection, self-evaluation, uncontrolled variables, overgeneralizations, experimenter bias

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 2: Inquiry**  |
| **Big Idea: Inquiry (INQ)** |
| **Core Content: Questioning and Investigating** |
| **Topic: Consider Ethics** |
| **Grade: 6-8 (INQI)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe ethical concerns and precautions in response to scenarios of scientific investigations involving animal experiments, research in natural ecosystems, and studies that involve human subjects

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls examples of ethical concerns involving animal experiments, research in natural ecosystems and studies that involve human subjects

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 3: Application** |
| **Big Idea: Application (APP)** |
| **Core Content: Science, Technology and Problem Solving** |
| **Topic: Technology** |
| **Grade: 6-8 (APPA)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe how a technology has changed over time in response to societal challenges

**The student exhibits no major errors or omissions.** | * Given the example of a light bulb a student can describe how light bulbs of today are more energy efficient and what societal issues made that happen.
 |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about how a technology has changed over time in response to societal challenges

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 3: Application** |
| **Big Idea: Application (APP)** |
| **Core Content: Science, Technology and Problem Solving** |
| **Topic: Careers** |
| **Grade: 6-8 (APPB)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** investigate professions in which an understanding of science and technology is required and explain why that understanding is necessary for success in each profession

**The student exhibits no major errors or omissions.** | * Research careers in a profession such as medicine and explain how science and technology is used in that profession.
 |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about or examples of professions in which an understanding of science and technology is required and how they are used

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** | * Consider the medical profession and recall the science and technology required in that profession.
 |
|  | **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.** |

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| **EALR 3: Application** |
| **Big Idea: Application (APP)** |
| **Core Content: Science, Technology and Problem Solving** |
| **Topic: Science and Technology** |
| **Grade: 6-8 (APPC)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe how scientists have helped solve technological problems *(e.g., how the science of biology has helped sustain fisheries)* and how engineers have aided science *(e.g., designing telescopes to discover distant planets)*

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls examples where scientists or engineers have worked together to help solve technological problems

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** | * From a list, ask students to identify examples where scientists and engineers have worked together to solve technological problems.
 |
|  | **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.** |

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| **EALR 3: Application** |
| **Big Idea: Application (APP)** |
| **Core Content: Science, Technology and Problem Solving** |
| **Topic: Problem Solving** |
| **Grade: 6-8 (APPD)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** define a problem that can be solved by technological design and determine the criteria for success
* research how others solved similar problems
* brainstorm different solutions

**The student exhibits no major errors or omissions.** | * Students take a problem such as recycling, define the problem and criteria for success, research how others solve the problem and brainstorm solutions that result in conserving natural resources.
 |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls basic terminology such as: technological design, criteria, solutions
* recognizes or recalls examples of problems that can be solved by technological design

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** | * Identify the definition of 1) technological design, 2) criteria, 3) solutions
* Identify a problem such as recycling that can be solved by technological design.
 |
|  | **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.** |

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| **EALR 3: Application** |
| **Big Idea: Application (APP)** |
| **Core Content: Science, Technology and Problem Solving** |
| **Topic: Team Work** |
| **Grade: 6-8 (APPE)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** collaborate with other students to generate creative solutions to a problem *(e.g., Communication following a disaster)*
* apply methods to choose the best solution (see APPF for methods)

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls examples of appropriate, creative solutions to a problem

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 3: Application** |
| **Big Idea: Application (APP)** |
| **Core Content: Science, Technology and Problem Solving** |
| **Topic: Testing Solutions** |
| **Grade: 6-8 (APPF)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** test a chosen solution by building a model or other representation and using it with the intended audience, and redesign and retest as necessary
* present the recommended design using models or drawings and an engaging presentation

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** tests a solution by building a model or other representation and uses it with an audience
* presents the design using models or drawings

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 3: Application** |
| **Big Idea: Application (APP)** |
| **Core Content: Science, Technology and Problem Solving** |
| **Topic: Benefits of Science and Technology** |
| **Grade: 6-8 (APPG)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** compare and contrast the benefits of science and technology enjoyed by people in industrialized and developing nations

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** describes a benefit of science and technology enjoyed by people in industrialized nations

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 3: Application** |
| **Big Idea: Application (APP)** |
| **Core Content: Science, Technology and Problem Solving** |
| **Topic: Cultural Contribution** |
| **Grade: 6-8 (APPH)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe scientific or technological contributions to society by people in various cultures

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls examples of scientific or technological contribution to society by people in various cultures

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth in Space (ES1)** |
| **Core Content: The Solar System** |
| **Topic: Moon Phases and Eclipses** |
| **Grade: 6-8 (ES1A)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** use a physical model or diagram to explain how the Moon’s changing position in its orbit results in the changing phases of the Moon as observed from Earth
* explain how the cause of an eclipse of the Moon is different from the cause of the Moon’s phases

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about the Moon’s changing position in its orbit and its phases
* recognizes or recalls accurate statements about an eclipse of the Moon

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth in Space (ES1)** |
| **Core Content: The Solar System** |
| **Topic: Objects in the Solar System** |
| **Grade: 6-8 (ES1B)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** compare the relative sizes, distances and compositions of the Sun, Moon, Earth, other major planets, moons, asteroids , and comets

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about the relative sizes, distances and compositions of the Sun, Moon, Earth, other major planets, moons, asteroids, and comets

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.\*9+6** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth in Space (ES1)** |
| **Core Content: The Solar System** |
| **Topic: Motion in the Solar System** |
| **Grade: 6-8 (ES1C)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** use a simple physical model or labeled drawing of the Earth-Sun-Moon system to explain day and night, phases of the Moon, and eclipses of the Moon and Sun

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about the causes of day and night, phases of the Moon and eclipses of the Moon and Sun

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth in Space (ES1)** |
| **Core Content: The Solar System** |
| **Topic: Gravity in the Solar System** |
| **Grade: 6-8 (ES1D)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** predict and explain what would happen to an orbiting object if gravity were increased, decreased, or taken away

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls basic terminology such as: gravity
* recognizes or recalls accurate statements about the effect of gravity on orbiting objects

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth in Space (ES1)** |
| **Core Content: The Solar System** |
| **Topic: Solar System in the Universe** |
| **Grade: 6-8 (ES1E)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe the position of objects in space relative to other objects *(e.g., Earth’s position in the solar system, the solar system’s position in the Milky Way, and the Milky Way among other galaxies)*

**The student exhibits no major errors or omissions.** | * Construct a physical model or create a diagram of the Earth’s position in the solar system.
 |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls the position of objects in space

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** | * Labels a teacher provided diagram of the solar system.
 |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth Systems, Structures and Processes (ES2)** |
| **Core Content: Cycles in Earth Systems** |
| **Topic: Earth’s Atmosphere** |
| **Grade: 6-8 (ES2A)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe the composition and properties of the troposphere and stratosphere

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls basic terminology such as: troposphere and stratosphere
* recognizes or recalls accurate statements about the composition and properties of troposphere and stratosphere

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth Systems, Structures and Processes (ES2)** |
| **Core Content: Cycles in Earth Systems** |
| **Topic: The Sun’s Influence on Wind, Waves and Water** |
| **Grade: 6-8 (ES2B)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe how the uneven heating of Earth’s surface by the Sun connects to global wind and ocean currents
* describe the role of the Sun in the water cycle

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about the uneven heating of the Earth’s surface
* recognizes or recalls accurate statements about the role of the Sun in the water cycle

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth Systems, Structures and Processes (ES2)** |
| **Core Content: Cycles in Earth Systems** |
| **Topic: Water Cycle** |
| **Grade: 6-8 (ES2C)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe the water cycle and give local examples of where parts of the water cycle can be seen

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls how water changes as it progresses through the water cycle

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** | * Labels a diagram of the water cycle.
 |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth Systems, Structures and Processes (ES2)** |
| **Core Content: Cycles in Earth Systems** |
| **Topic: Water as a Solvent** |
| **Grade: 6-8 (ES2D)**  |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe the process of water dissolving minerals from rocks and soil as it progresses through the water cycle
* explain how salt water becomes salty

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls basic terminology about water as a solvent *(e.g., dissolves, solubility)*
* recognizes or recalls accurate statements about how salt water becomes salty

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth Systems, Structures and Processes (ES2)** |
| **Core Content: Cycles in Earth Systems** |
| **Topic: Layers of the Earth** |
| **Grade: 6-8(ES2E)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** sketch and label the major layers of Earth, showing the approximate relative thicknesses and consistency of the crust, core, and mantle

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** lists the major layers of the Earth

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth Systems, Structures and Processes (ES2)** |
| **Core Content: Cycles in Earth Systems** |
| **Topic: Plate Tectonics** |
| **Grade: 6-8 (ES2F)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** show how convection in the upper mantle drives movement of crustal plates
* describe what may happen when plate boundaries meet (*e.g., Earthquakes, tsunami, faults, mountain building)*, with examples from the Pacific Northwest

**The student exhibits no major errors or omissions.** | * Draw a labeled diagram of the Earth’s crust at a subduction zone.
 |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about plate tectonics
* recognizes or recalls terminology about plate tectonic movement *(e.g., Earthquake, crust, convection, mantle)*

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **(Strand): Big Idea: Earth Systems, Structures and Processes (ES2)** |
| **Core Content: Cycles in Earth Systems** |
| **Topic: Origin of Landforms** |
| **Grade: 6-8 (ES2G)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** explain how a given landform *(e.g., mountain)* has been shaped by processes that build up structures *(e.g., uplift)* and by processes that break down and carry away material *(e.g., weathering and erosion)*

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** describes processes that build up (movement of plates) and breakdown structures (erosion)

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth Systems, Structures and Processes (ES2)** |
| **Core Content: Cycles in Earth Systems** |
| **Topic: Rock Cycle** |
| **Grade: 6-8 (ES2H)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** identify samples of igneous, sedimentary, and metamorphic rock from their properties and describe how their properties provide evidence of how they were formed
* explain how one kind of rock could eventually become a different kind of rock

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls basic terminology such as: igneous, sedimentary and metamorphic rocks

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth History (ES3)** |
| **Core Content: Evidence of Change** |
| **Topic: Uniformitarianism** |
| **Grade: 6-8 (ES3A)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe Earth processes that we can observe and measure today *(e.g., rate of sedimentation, movement of crustal plates, and changes in composition of the atmosphere)* that provide clues to Earth’s past

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** gives examples of observable Earth processes

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth History (ES3)** |
| **Core Content: Evidence of Change** |
| **Topic: Age of Landforms** |
| **Grade: 6-8 (ES3B)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** explain how the age of landforms can be estimated by studying the number and thickness of rock layers, as well as fossils found within rock layers

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about how the age of landforms is estimated

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth History (ES3)** |
| **Core Content: Evidence of Change** |
| **Topic: Superposition** |
| **Grade: 6-8 (ES3C)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** explain why younger layers of sedimentary rocks are usually on top of older layers
* hypothesize what geologic events could have caused huge blocks of horizontal sedimentary layers to be tipped or older rock layers to be on top of younger rock layers

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls basic terminology such as: superposition

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth History (ES3)** |
| **Core Content: Evidence of Change** |
| **Topic: Catastrophic Events** |
| **Grade: 6-8 (ES3D)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe current landforms of the Pacific Northwest that provide evidence of past geologic events *(e.g., Mount St. Helens and Crater Lake provide evidence of volcanism, the Channeled Scablands provides evidence of floods that resulted from melting of glaciers)*

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about current landforms of the Pacific Northwest and their relationship with past geological events

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Earth and Space Science** |
| **Big Idea: Earth History (ES3)** |
| **Core Content: Evidence of Change** |
| **Topic: Life Shapes the Earth** |
| **Grade: 6-8 (ES3E)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** list several ways that living organisms have shaped landforms *(e.g., coral islands, limestone deposits, oil and coal deposits)*

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes examples of living organisms that shape landforms

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Structure and Function of Organisms (LS1)** |
| **Core Content: From Cells to Organisms** |
| **Topic: Cell Functions** |
| **Grade: 6-8 (LS1A)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** draw and describe observations made with a microscope showing that plants and animals are made of cells, and explain that cells are the fundamental unit of life
* describe the functions performed by cells to sustain a living organism *(e.g., division to produce more cells, taking in nutrients, releasing waste, using energy to do work, and producing materials the organism needs)*

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about the functions and importance of cells

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Structure and Function of Organisms (LS1)** |
| **Core Content: From Cells to Organisms** |
| **Topic: Cell Parts** |
| **Grade: 6-8 (LS1B)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** draw and describe observations made with a microscope showing that a single-celled organism *(e.g., paramecium)* contains parts used for all life functions

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about single-celled organisms

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Structure and Function of Organisms (LS1)** |
| **Core Content: From Cells to Organisms** |
| **Topic: Multi-Cellular Organisms** |
| **Grade: 6-8 (LS1C)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** relate the structure of a specialized cell *(e.g., nerve and muscle cells)* to the function that the cell performs
* explain the relationship between tissues that make up individual organs and the functions the organ performs *(e.g., valves in the heart control blood flow, air sacs in the lungs maximize surface area for transfer of gases)*
* describe the components and functions of the digestive, circulatory, and respiratory systems in humans and how these systems interact

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about the components and functions of the digestive, circulatory and respiratory systems and the interactions between systems
* recognizes or recalls accurate statements about the relationship between tissues and the function the organ performs

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Structure and Function of Organisms (LS1)** |
| **Core Content: From Cells to Organisms** |
| **Topic: Plant and Animal Cell Parts** |
| **Grade: 6-8 (LS1D)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** illustrate similarities and differences between plant and animal cell structures and describe their functions *(e.g., both have nuclei, cytoplasm, cell membranes, and mitochondria, while only plants have chloroplasts and cell walls)*

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** lists plant and animal structures

**However, the student exhibits major errors** **or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Structure and Function of Organisms (LS1)** |
| **Core Content: From Cells to Organisms** |
| **Topic: Classifying Organisms** |
| **Grade: 6-8 (LS1E)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** use a classification key to identify organisms, noting use of both internal and external structures as well as behaviors

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls classification characteristics

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Structure and Function of Organisms (LS1)** |
| **Core Content: From Cells to Organisms** |
| **Topic: Lifestyle Choices and Environments** |
| **Grade: 6-8 (LS1F)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** evaluate how lifestyle choices and environments *(e.g., tobacco, drug, and alcohol use, amount of exercise, quality of air, and kinds of food)* affect parts of the human body and the organism as a whole

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** describes good and poor lifestyle choices

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Ecosystems (LS2)** |
| **Core Content: Flow of Energy Through Ecosystems** |
| **Topic: Populations and Ecosystems** |
| **Grade: 6-8 (LS2A)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe an ecosystem and the components that make up the ecosystem *(e.g., a defined area that contains populations of organisms and nonliving factors)*
* give examples of ecosystems *(e.g., Olympic National Forest, Puget Sound, one square foot of lawn)* and describe their boundaries and contents

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls basic terminology such as: ecosystem

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Ecosystems (LS2)** |
| **Core Content: Flow of Energy Through Ecosystems** |
| **Topic: Energy Flow in Ecosystems** |
| **Grade: 6-8 (LS2B)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** analyze the flow of energy in a local ecosystem, and draw a labeled food web showing the relationships among all of the ecosystem’s plant and animal populations

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** describes the flow of energy in a given ecosystem

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Ecosystems (LS2)** |
| **Core Content: Flow of Energy Through Ecosystems** |
| **Topic: Sun Energy and Ecosystems** |
| **Grade: 6-8 (LS2C)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** explain how energy from the Sun is transformed through photosynthesis to produce chemical energy in food
* explain that plants are the only organisms that make their own food, and that animals cannot survive without plants because animals get food by eating plants or other animals that eat plants

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls basic terminology such as: photosynthesis
* recognizes or recalls accurate statements about how plants and animals get their food

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Ecosystems (LS2)** |
| **Core Content: Flow of Energy Through Ecosystems** |
| **Topic: Changing Ecosystems** |
| **Grade: 6-8 (LS2D)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** predict what may happen to an ecosystem if nonliving factors change *(e.g., the amount of light, range of temperatures, or availability of water or habitat),* or if one or more populations are removed from or added to the ecosystem

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls changes in a given ecosystem

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
|  **Big Idea: Ecosystems (LS2)** |
| **Core Content: Flow of Energy Through Ecosystems** |
| **Topic: Investigating Environmental Issues** |
| **Grade: 6-8 (LS3E)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** investigate a local environmental issue by defining the problem, researching possible causative factors, understanding the underlying science, and evaluating the benefits and risks of alternative solutions
* describe resource uses that reduce the capacity of ecosystems to support various populations *(e.g., use of pesticides, construction)*

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about a local environmental issue
* recognizes or recalls accurate statements about resource uses that reduce the capacity of ecosystems

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Biological Evolution (LS3)** |
| **Core Content: Inheritance, Variation and Adaptation** |
| **Topic: Diversity of Life** |
| **Grade: 6-8 (LS3A)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** explain and provide evidence of how biological evolution accounts for the diversity of species on Earth today

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls basic terminology such as: biological evolution
* recognizes or recalls accurate statements about biological evolution

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Biological Evolution (LS3)** |
| **Core Content: Inheritance, Variation and Adaptation** |
| **Topic: Genetic Information** |
| **Grade: 6-8 (LS3B)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** explain that information on how cells are to grow and function is contained in genes in the chromosomes of each cell nucleus and that during the process of reproduction the genes are passed from the parent cells to offspring

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about how genetic information is passed on

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Biological Evolution (LS3)** |
| **Core Content: Inheritance, Variation and Adaptation** |
| **Topic: Reproduction and Diversity** |
| **Grade: 6-8 (LS3C)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** explain why offspring that result from sexual reproduction are likely to have more diverse characteristics than offspring that result from asexual reproduction

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls examples of sexually and asexually reproducing plants and animals

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Biological Evolution (LS3)** |
| **Core Content: Inheritance, Variation and Adaptation** |
| **Topic: Sexual and Asexual Reproduction** |
| **Grade: 6-8 (LS3D)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe that in sexual reproduction, the offspring receive genetic information from both parents, and therefore differ from the parents
* predict the outcome of specific genetic crosses involving one characteristic (using principles of Mendelian genetics)
* explain the survival value of genetic variation

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate predictions of the outcomes of genetic crosses
* recognizes or recalls accurate statements about the survival value of genetic variation
* recognizes or recalls accurate statements about sexual reproduction and the transfer of genetic information

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Biological Evolution (LS3)** |
| **Core Content: Inheritance, Variation and Adaptation** |
| **Topic: Adaptations** |
| **Grade: 6-8 (LS3E)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe a plant or animal adaptation that would confer a survival and reproductive advantage during a given environmental change

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about plant and animal adaptations

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Biological Evolution (LS3)** |
| **Core Content: Inheritance, Variation and Adaptation** |
| **Topic: Extinction** |
| **Grade: 6-8 (LS3F)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** predict which organisms are most likely to disappear from a given ecosystem when the environment changes in specific ways

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** describes extinction

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Life Science** |
| **Big Idea: Biological Evolution (LS3)** |
| **Core Content: Inheritance, Variation and Adaptation** |
| **Topic: Evidence for Evolution** |
| **Grade: 6-8 (LS3G)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** infer the degree of relatedness of two species, given diagrams of anatomical features of the two species *(e.g., chicken wing, whale flipper, human hand, bee leg)*

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** describes how two species are alike or unlike based on diagrams of anatomical features

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Force and Motion (PS1)** |
| **Core Content: Balanced and Unbalanced Forces** |
| **Topic: Average Speed** |
| **Grade: 6-8 (PS1A)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** measure the distance an object travels in a given interval of time and calculate the object’s average speed, using S = d/t*(e.g., a battery-powered toy car travels 20 meters in 5 seconds, so its average speed is 4 meters per second)*
* illustrate the motion of an object using a graph, or infer the motion of an object from a graph of the object’s position vs. time or speed vs. time

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls the formula for average speed
* completes a teacher provided graph showing the motion over time of an object

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Force and Motion (PS1)** |
| **Core Content: Balanced and Unbalanced Forces** |
| **Topic: Friction** |
| **Grade: 6-8 (PS1B)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** demonstrate and explain the frictional force acting on an object with the use of a physical model

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about frictional force acting on an object

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Force and Motion (PS1)** |
| **Core Content: Balanced and Unbalanced Forces** |
| **Topic: Unbalanced Forces** |
| **Grade: 6-8 (PS1C)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** determine whether forces on an object are balanced or unbalanced and justify with observational evidence
* given a description of forces on an object, predict the object’s motion

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** describes balanced and unbalanced forces

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Force and Motion (PS1)** |
| **Core Content: Balanced and Unbalanced Forces** |
| **Topic: Force, Mass and Motion** |
| **Grade: 6-8 (PS1D)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** given two different masses that receive the same unbalanced force, predict and explain which will move more quickly

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** describes the relationship between mass, force and acceleration

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Matter: Properties and Change (PS2)** |
| **Core Content: Atoms and Molecules** |
| **Topic: Characteristic Properties** |
| **Grade: 6-8 (PS2A)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls characteristic intrinsic properties of various substances

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Matter: Properties and Change (PS2)** |
| **Core Content: Atoms and Molecules** |
| **Topic: Mixtures and Compounds** |
| **Grade: 6-8 (PS2B)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** separate a mixture using differences in properties *(e.g., solubility, size, magnetic attraction)* of the substances used to make the mixture
* demonstrate that the properties of a compound are different from the properties of the reactants from which it was formed

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls that mixtures are formed by combining substance and can be separated by physical means
* recognizes or recalls that compounds are formed by chemical reaction and cannot be separated by physical means

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Matter: Properties and Change (PS2)** |
| **Core Content: Atoms and Molecules** |
| **Topic: Atomic Nature of Matter** |
| **Grade: 6-8 (PS2C)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** explain that all matter is made of (atoms), and give examples of common elements—substances composed of just one kind of atom

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about composition of matter and elements

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Matter: Properties and Change (PS2)** |
| **Core Content: Atoms and Molecules** |
| **Topic: Molecules** |
| **Grade: 6-8 (PS2D)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** demonstrate with a labeled diagram and explain the relationship among atoms, molecules, elements, and compounds

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about the relationship among atoms, molecules, elements and compounds

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Matter: Properties and Change (PS2)** |
| **Core Content: Atoms and Molecules** |
| **Topic: Particle Motion and Phase of Matter** |
| **Grade: 6-8 (PS2E)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe how solids, liquids, and gases behave when put into a container *(e.g., a gas fills the entire volume of the container)* and relate these properties to the relative movement of the particles in the three states of matter

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about the movement of particles in solids, liquids and gases

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Matter: Properties and Change (PS2)** |
| **Core Content: Atoms and Molecules** |
| **Topic: Conservation of Mass** |
| **Grade: 6-8 (PS2F)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** apply the concept of conservation of mass to correctly predict changes in mass before and after chemical reactions, including reactions that occur in closed containers, and reactions that occur in open containers where a gas is given off

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** explains that mass is conserved in a chemical reaction

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Energy: Transfer, Transformation and Conservation (PS3)** |
| **Core Content: Interactions of Energy and Matter** |
| **Topic: Energy, Transfer and Transformations** |
| **Grade: 6-8 (PS3A)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe ways in which energy is transformed from one form to another and is transferred from one place to another *(e.g., chemical to electrical energy in a battery, electrical to light energy in a bulb)*

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** lists different forms of energy *(e.g., thermal, light, chemical, electrical, kinetic, and sound energy)*

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Energy: Transfer, Transformation and Conservation (PS3)** |
| **Core Content: Interactions of Energy and Matter** |
| **Topic: Heat Transfer** |
| **Grade: 6-8 (PS3B)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** use everyday examples of conduction, radiation, and convection, or mechanical mixing, to illustrate the transfer of heat energy from warmer objects to cooler ones until the objects reach the same temperature

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** describes the processes of conduction, radiation, convection and mechanical mixing

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Energy: Transfer, Transformation and Conservation (PS3)** |
| **Core Content: Interactions of Energy and Matter** |
| **Topic: Thermal Insulators** |
| **Grade: 6-8 (PS3C)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** explain how various types of insulation slows transfer of heat energy based on the atomic-molecular model of heat (thermal energy)

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** gives examples of different types of insulation
* describes how insulation works

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Energy: Transfer, Transformation and Conservation (PS3)** |
| **Core Content: Interactions of Energy and Matter** |
| **Topic: Visible Light** |
| **Grade: 6-8 (PS3D)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** describe how to demonstrate that visible light from the Sun is made up of different colors
* draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about visible light and the process required for an object to seen

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Energy: Transfer, Transformation and Conservation (PS3)** |
| **Core Content: Interactions of Energy and Matter** |
| **Topic: Electrical Energy** |
| **Grade: 6-8 (PS3E)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** illustrate the transformations of energy in an electric circuit when heat, light, and sound are produced
* describe the transformation of energy in a battery within an electric circuit

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about the transformation of energy in an electrical circuit

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |

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| **EALR 4: Physical Science** |
| **Big Idea: Energy: Transfer, Transformation and Conservation (PS3)** |
| **Core Content: Interactions of Energy and Matter** |
| **Topic: Waves** |
| **Grade: 6-8 (PS3F)** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** | **Sample Tasks** |
|  |
|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |  |
| **Score 3.0** | **The student will:*** contrast a light wave with a sound wave by identifying that both have characteristic wavelengths, but light waves can travel through a vacuum while sound waves cannot
* explain that sound is caused by a vibrating object

**The student exhibits no major errors or omissions.** |  |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |  |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** recognizes or recalls accurate statements about light waves and sound waves

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |  |
|  | **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.** |