Science Priority Performance Indicators and Transferable Skills Connections

# Purpose

Transferable skills are an essential set of skills and competencies that promote the integration and application of knowledge across contexts and are critically important to success in today’s world, particularly in post-secondary programs and career readiness.

Transferable skills identified by the Agency of Education include the following:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Transferable Skills**  |   | No data  | No data  | No data  | No data  |
| Clear and EffectiveCommunication | Self-Direction | Creative and PracticalProblem-Solving | Responsible and InvolvedCitizenship | Informed and IntegrativeThinking |

While it may be possible to demonstrate proficiency in transferable skills that are not connected to content, it is more effective and relevant to assess these skills in the context of disciplinary content areas. When transferable skills are emphasized in the context of academic content, academic classes become more applicable to students’ future careers and lives. As a result, students build cohesiveness and connection both within and across disciplines. Ultimately, this approach helps students become not only knowledgeable in specific subjects but also versatile, adaptable, and well-prepared for challenges of the future.

This document outlines connections between the transferable skills and the [Science Proficiency-Based Graduation Requirement (PBGR) Hierarchy](https://education.vermont.gov/document/science-proficiency-based-graduation-hierarchy), which includes the PBGR, Critical Proficiencies, and Priority Performance Indicators. It is intended to exemplify how transferable skills related to Priority Performance Indicators can be embedded into instruction and performance assessments in a unit of study.

In addition to the [transferable skills](https://education.vermont.gov/documents/proficiency-based-education-transferable-skills), each table that follows includes the [performance indicator scoring criteria](https://education.vermont.gov/student-learning/proficiency-based-learning/transferable-skills#scoring-criteria) and the criteria for “proficient.”This is not an exhaustive list, but rather a sampling of the most explicit connections. It is important to note that there may be an inequity of representation of the transferable skills in the following crosswalk document. For example, although *Responsible and Involved Citizenship* is important, it is not as prevalent as other transferable skills in the crosswalk. This is because the inclusion of certain transferable skills in a unit is based on decisions made at the instructional or curricular level and would therefore not be represented in a document highlighting inherent connections between PPIs and transferable skills.

This document has been intentionally posted as a Word document so educators can modify it to reflect the transferable skills connections that are addressed through their specific curriculum.

Proficiency-Based Graduation Requirement: Science

The scientifically literate individual knows how to ask questions derived from curiosity, investigate everyday phenomena, and construct explanations. They describe, explain, and make predictions related to phenomena. Scientifically literate individuals engage in social and civic discourse using valid scientific evidence to express positions about global, national, and local decisions. They evaluate the quality of scientific information based on its source and the methods used to generate it, and revise thinking based on new information.

## Critical Proficiency: Structure and Matter

Demonstrate that the way an object or organism is shaped or structured determines many of its properties and functions.

### Priority Performance Indicator: Matter and Interactions

Construct and revise an explanation for the outcome of reactions based on the structure of atoms and molecules and knowledge of chemical properties (e.g., trends in periodic table). (HS-PS1-2)

|  |  |  |
| --- | --- | --- |
| **Transferable Skill(s)** | **Performance Indicator for Transferable Skill Scoring Criteria** | **Proficient Criteria (from Transferable Skill Scoring Criteria)*****I can…*** |
| Clear and Effective Communication | B. Use evidence and logic appropriately in communication.  | * Analyze, integrate, and cite evidence from sources and incorporate the relevant pieces into the finished work;
* Use reasoning to synthesize evidence to support a claim.
 |
| Self-Direction | C. Apply knowledge in familiar and new contexts. | * Apply a concept to a new or familiar context or setting.
 |
| Creative and Practical Problem-Solving | D. Analyze, evaluate, and synthesize evidence, arguments, claims, and beliefs. | * Analyze, synthesize, and cite evidence to develop a claim or argument.
 |
| Informed and Integrative Thinking | C. Apply systems thinking to understand the interaction and influence of related parts on each other, and on outcomes. | * Explain how the interactions of parts of a system influence outcomes.
 |
| Informed and Integrative Thinking | D. Use evidence and reasoning to justify claims. | * Use valid and reliable evidence to support a claim and develop a well-reasoned argument.
 |

### Priority Performance Indicator: Waves and Their Applications

Support a claim regarding the relationships among the frequency, wavelength, and speed of waves travelling in various media. Understand how wave behavior is applied in the development of technological devices used to transmit and capture information and energy. (HS-PS4-1); (HS-PS4-5)

|  |  |  |
| --- | --- | --- |
| **Transferable Skill(s)** | **Performance Indicator for Transferable Skill Scoring Criteria** | **Proficient Criteria (from Transferable Skill Scoring Criteria)*****I can…*** |
| Self-Direction | C. Apply knowledge in familiar and new contexts. | * Apply a concept to a new or familiar context or setting.
 |
| Informed and Integrative Thinking | C. Apply systems thinking to understand the interaction and influence of related parts on each other, and on outcomes. | * Explain how the interactions of parts of a system influence outcomes.
 |

### Priority Performance Indicator: From Molecules to Organisms

Explain how an organism’s structure relates to its function and how components form interacting systems with specific roles in multicellular organisms. (HS-LS1-1); (HS-LS1-2)

|  |  |  |
| --- | --- | --- |
| **Transferable Skill(s)** | **Performance Indicator for Transferable Skill Scoring Criteria** | **Proficient Criteria (from Transferable Skill Scoring Criteria)*****I can…*** |
| Informed and Integrative Thinking | C. Apply systems thinking to understand the interaction and influence of related parts on each other, and on outcomes. | * Explain how the interactions of parts of a system influence outcomes.
 |
|  | E. Develop and use models to explain phenomena. | * Create and use an evidence-based model to explain a system or situation and analyze relationships within it.
 |

## Critical Proficiency: Cause and Effect

Use evidence to identify or predict cause and effect relationships for complex natural and human designed systems.

### Priority Performance Indicator: Earth’s Systems – Connections Between Physical Earth and Evolution

Construct an argument based on evidence about the simultaneous coevolution of Earth’s systems and life on Earth. (HS-ESS2-7)

|  |  |  |
| --- | --- | --- |
| **Transferable Skill(s)** | **Performance Indicator for Transferable Skill Scoring Criteria** | **Proficient Criteria (from Transferable Skill Scoring Criteria)*****I can…*** |
| Clear and Effective Communication  | B. Use evidence and logic appropriately in communication. | * Analyze, integrate, and cite evidence from sources and incorporate the relevant pieces into the finished work;
* Use reasoning to synthesize evidence to support a claim.
 |
|  Self-Direction | F. Analyze the accuracy, bias, and usefulness of information. | * Apply criteria to evaluate multiple sources for bias.
 |
| Creative and Practical Problem Solving | D. Analyze, evaluate, and synthesize evidence, arguments, claims, and beliefs.  | * Analyze, synthesize, and cite evidence to develop a claim or argument
 |
| Informed and Integrative Thinking | D. Use evidence and reasoning to justify claims. | * Use valid and reliable evidence to support a claim and develop a well-reasoned argument.
 |

### Priority Performance Indicator: Earth’s Systems – Interconnectedness of Earth’s Spheres

Make an evidence-based claim that one change to Earth’s surface or atmosphere can create feedback that causes changes to other Earth’s systems. (HS-ESS2-2); (HS-ESS3-5)

| **Transferable Skill(s)** | **Performance Indicator for Transferable Skill Scoring Criteria** | **Proficient Criteria (from Transferable Skill Scoring Criteria)*****I can…*** |
| --- | --- | --- |
| Clear and Effective Communication  | B. Use evidence and logic appropriately in communication. | * Analyze, integrate, and cite evidence from sources and incorporate the relevant pieces into the finished work;
* Use reasoning to synthesize evidence to support a claim.
 |
| Self-Direction | C. Apply knowledge in familiar and new contexts. | * Apply a concept to a new or familiar context or setting.
 |
| Self-Direction | F. Analyze the accuracy, bias, and usefulness of information. | * Apply criteria to evaluate multiple sources for bias.
 |
| Self-Direction | I. Use technology and digital media strategically and capably. | * Use a range of tools, including digital technology, to enhance my product.
 |
| Creative and Practical Problem Solving | A. Observe and evaluate situations in order to define problems. | * Articulate the problem and identify constraints, based on observations, and collect related information from multiple sources.
 |
| Creative and Practical Problem Solving | B. Frame questions, make predications, and design data collection analysis strategies. | * Identify tools and design procedures needed for collecting, managing, and analyzing information.
 |
| Creative and Practical Problem Solving | D. Analyze, evaluate, and synthesize evidence, arguments, claims, and beliefs. | * Analyze, synthesize, and cite evidence to develop a claim or argument.
 |
| Informed and Integrative Thinking  | B. Analyze, evaluate, and synthesize information from multiple sources to build on knowledge.  | * Evaluate the credibility of multiple and varied sources to analyze the interrelationships among concepts.
 |
| Informed and Integrative Thinking  | C. Apply systems thinking to understand the interaction and influence of related parts on each other, and on outcomes. | * Explain how the interactions of parts of a system influence outcomes.
 |
| Informed and Integrative Thinking  | D. Use evidence and reasoning to justify claims. | * Use valid and reliable evidence to support a claim and develop a well-reasoned argument.
 |
| Informed and Integrative Thinking  | F. Use technology to support and enhance the critical thinking process.  | * Use technology, including digital technology, to organize, analyze, and synthesize information.
 |

### Priority Performance Indicator: Ecosystems: Interactions, Energy, and Dynamics – Response to Changes in Environment

Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem. (HS-LS2-6); *(HS-LS2-7)*

| **Transferable Skill(s)** | **Performance Indicator for Transferable Skill Scoring Criteria** | **Proficient Criteria (from Transferable Skill Scoring Criteria)*****I can…*** |
| --- | --- | --- |
| Self-Direction | C. Apply knowledge in familiar and new contexts. | * Apply a concept to a new or familiar context or setting.
 |
| Self-Direction | F. Analyze the accuracy, bias, and usefulness of information. | * Apply criteria to evaluate multiple sources for bias.
 |
| Creative and Practical Problem Solving | B. Frame questions, make predictions, and design data collection and analysis strategies. | * Identify tools and design procedures needed for collecting, managing, and analyzing information.
 |
| Creative and Practical Problem Solving | D. Analyze, evaluate, and synthesize evidence, arguments, claims, and beliefs. | * Analyze, synthesize, and cite evidence to develop a claim or argument.
 |
| Informed and Integrative Thinking  | B. Analyze, evaluate, and synthesize information from multiple sources to build on knowledge.  | * Evaluate the credibility of multiple and varied sources to analyze the interrelationships among concepts.
 |
| Informed and Integrative Thinking  | C. Apply systems thinking to understand the interaction and influence of related parts on each other, and on outcomes. | * Explain how the interactions of parts of a system influence outcomes.
 |
| Informed and Integrative Thinking  | D. Use evidence and reasoning to justify claims. | * Use valid and reliable evidence to support a claim and develop a well-reasoned argument.
 |

### Priority Performance Indicator: Biological Evolution: Unity and Diversity – Response to Environmental Conditions

Construct an explanation based on evidence for how natural selection leads to adaptation of populations and evaluate the claims that changes in the environmental conditions may result in changes in the populations of species. (HS-LS4-4); (HS-LS4-5)

| **Transferable Skill(s)** | **Performance Indicator for Transferable Skill Scoring Criteria** | **Proficient Criteria (from Transferable Skill Scoring Criteria)*****I can…*** |
| --- | --- | --- |
| Clear and Effective Communication | B. Use evidence and logic appropriately in communication. | * Analyze, integrate, and cite evidence from sources and incorporate the relevant pieces into the finished work.
* Use reasoning to synthesize evidence to support a claim.
 |
| Self-Direction | C. Apply knowledge in familiar and new contexts. | * Apply a concept to a new or familiar context or setting.
 |
| Self-Direction | F. Analyze the accuracy, bias, and usefulness of information. | * Apply criteria to evaluate multiple sources for bias.
 |
| Creative and Practical Problem Solving | B. Frame questions, make predictions, and design data collection and analysis strategies. | * Identify tools and design procedures needed for collecting, managing, and analyzing information.
 |
| Creative and Practical Problem Solving | D. Analyze, evaluate, and synthesize evidence, arguments, claims, and beliefs. | * Analyze, synthesize, and cite evidence to develop a claim or argument.
 |
| Informed and Integrative Thinking  | B. Analyze, evaluate, and synthesize information from multiple sources to build on knowledge.  | * Evaluate the credibility of multiple and varied sources to analyze the interrelationships among concepts.
 |
| Informed and Integrative Thinking  | C. Apply systems thinking to understand the interaction and influence of related parts on each other, and on outcomes. | * Explain how the interactions of parts of a system influence outcomes.
 |
| Informed and Integrative Thinking  | D. Use evidence and reasoning to justify claims. | * Use valid and reliable evidence to support a claim and develop a well-reasoned argument.
 |
| Informed and Integrative Thinking  | E. Develop and use models to explain phenomena. | * Create and use an evidence-based model to explain a system or situation and analyze relationships within it.
 |

## Critical Proficiency: Energy and Matter

Analyze energy and matter flows within, between, and among systems to understand the systems’ behaviors.

### Priority Performance Indicator: Matter and Its Interactions – Law of Conservation of Matter

Investigate the claim that atoms, and therefore mass, are conserved during a chemical reaction. Compare and contrast the changes in atoms involved in a nuclear reaction to those involved in a chemical reaction. (HS-PS1-7); *(HS-PS1-8)*

| **Transferable Skill(s)** | **Performance Indicator for Transferable Skill Scoring Criteria** | **Proficient Criteria (from Transferable Skill Scoring Criteria)*****I can…*** |
| --- | --- | --- |
| Clear and Effective Communication | B. Use evidence and logic appropriately in communication.  | * Use reasoning to synthesize evidence to support a claim.
 |
| Self-Direction | C. Apply knowledge in familiar and new contexts. | * Apply a concept to a new or familiar context or setting.
 |
| Creative and Practical Problem Solving | B. Frame questions, make predictions, and design data collection and analysis strategies. | * Identify tools and design procedures needed for collecting, managing, and analyzing information.
 |
|  | C. Identify patterns, trends, and relationships that apply to solutions. | * Explain patterns and/or trends (including outliers) in the data and the relationship to the proposed solution.
 |
|  | D. Analyze, evaluate, and synthesize evidence, arguments, claims, and beliefs. | * Analyze, synthesize, and cite evidence to develop a claim or argument.
 |
| Informed and Integrative Thinking | C. Apply systems thinking to understand the interaction and influence of related parts on each other, and on outcomes. | * Explain how the interactions of parts of a system influence outcomes.
 |
| Informed and Integrative Thinking | D. Use evidence and reasoning to justify claims. | * Use valid and reliable evidence to support a claim and develop a well-reasoned argument.
 |
| Informed and Integrative Thinking | E. Develop and use models to explain phenomena. | * Create and use an evidence-based model to explain a system or situation and analyze relationships within it.
 |

### Priority Performance Indicator: Energy – First Law of Thermodynamics

Provide evidence through the process of investigation that the transfer of energy between components with different energy amounts in a system leads to a state of balance or equilibrium. (HS-PS3-4); (*HS-PS3-1)*

| **Transferable Skill(s)** | **Performance Indicator for Transferable Skill Scoring Criteria** | **Proficient Criteria (from Transferable Skill Scoring Criteria)*****I can…*** |
| --- | --- | --- |
| Clear and Effective Communication | B. Use evidence and logic appropriately in communication.  | * Use reasoning to synthesize evidence to support a claim.
 |
| Self-Direction | C. Apply knowledge in familiar and new contexts. | * Apply a concept to a new or familiar context or setting.
 |
| Self-Direction | F. Analyze the accuracy, bias, and usefulness of information. | * Apply criteria to evaluate multiple sources for bias.
 |
| Creative and Practical Problem Solving | A. Observe and evaluate situations in order to define problems. | * Articulate the problem and identify constraints, based on observations and collect related information from multiple sources.
 |
| Creative and Practical Problem Solving | B. Frame questions, make predictions, and design data collection and analysis strategies. | * Identify tools and design procedures needed for collecting, managing, and analyzing information.
 |
| Creative and Practical Problem Solving | C. Identify patterns, trends, and relationships that apply to solutions. | * Explain patterns and/or trends (including outliers) in the data and the relationship to the proposed solution.
 |
| Creative and Practical Problem Solving | D. Analyze, evaluate, and synthesize evidence, arguments, claims, and beliefs. | * Analyze, synthesize, and cite evidence to develop a claim or argument.
 |
| Informed and Integrative Thinking | C. Apply systems thinking to understand the interaction and influence of related parts on each other, and on outcomes. | * Explain how the interactions of parts of a system influence outcomes.
 |
| Informed and Integrative Thinking | D. Use evidence and reasoning to justify claims. | * Use valid and reliable evidence to support a claim and develop a well-reasoned argument.
 |

### Priority Performance Indicator: Ecosystems: Interactions, Energy, and Dynamics – Cycling of Matter and Energy in an Environment

Support claims for the cycling of matter and flow of energy among organisms and/or environments in an ecosystem, a biome, or spheres of the Earth. (HS-LS2-4); (HS-LS2-5)

| **Transferable Skill(s)** | **Performance Indicator for Transferable Skill Scoring Criteria** | **Proficient Criteria (from Transferable Skill Scoring Criteria)*****I can…*** |
| --- | --- | --- |
| Creative and Practical Problem Solving | D. Analyze, evaluate, and synthesize evidence, arguments, claims, and beliefs. | * Analyze, synthesize, and cite evidence to develop a claim or argument.
 |
| Informed and Integrative Thinking | C. Apply systems thinking to understand the interaction and influence of related parts on each other, and on outcomes. | * Explain how the interactions of parts of a system influence outcomes.
 |
| Informed and Integrative Thinking | D. Use evidence and reasoning to justify claims. | * Use valid and reliable evidence to support a claim and develop a well-reasoned argument.
 |
| Informed and Integrative Thinking | E. Develop and use models to explain phenomena. | * Create and use an evidence-based model to explain a system or situation and analyze relationships within it.
 |

### Priority Performance Indicator: Earth’s Systems – Energy and Climate Change

Demonstrate understanding of how variations in the flow of energy into and out of Earth's systems result in changes in climate. (HS-ESS2-4)

| **Transferable Skill(s)** | **Performance Indicator for Transferable Skill Scoring Criteria** | **Proficient Criteria (from Transferable Skill Scoring Criteria)*****I can…*** |
| --- | --- | --- |
| Self-Direction | C. Apply knowledge in familiar and new contexts. | * Apply a concept to a new or familiar context or setting.
 |
| Self-Direction | F. Analyze the accuracy, bias, and usefulness of information. | * Apply criteria to evaluate multiple sources for bias.
 |
| Creative and Practical Problem Solving | B. Frame questions, make predictions, and design data collection and analysis strategies. | * Identify tools and design procedures needed for collecting, managing, and analyzing information.
 |
| Informed and Integrative Thinking | C. Apply systems thinking to understand the interaction and influence of related parts on each other, and on outcomes. | * Explain how the interactions of parts of a system influence outcomes.
 |
| Informed and Integrative Thinking | E. Develop and use models to explain phenomena. | * Create and use an evidence-based model to explain a system or situation and analyze relationships within it.
 |

## Critical Proficiency: Systems and System Models

Define the boundaries and initial conditions of the system, analyze inputs and outputs, and describe and predict behavior using models.

### Priority Performance Indicator: Earth and Human Activity – Impact on Earth’s Systems

Use a representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.
(HS-ESS3-6)

| **Transferable Skill(s)** | **Performance Indicator for Transferable Skill Scoring Criteria** | **Proficient Criteria (from Transferable Skill Scoring Criteria)*****I can…*** |
| --- | --- | --- |
| Clear and Effective Communication | A. Demonstrate organized and purposeful communication. | * Present my ideas coherently, with a logical sequence;
* Use academic language and/or images to enhance my message and present my subject in a precise manner.
 |
| Clear and Effective Communication | B. Use evidence and logic appropriately in communication. | * Analyze, integrate, and cite evidence from sources and incorporate the relevant pieces into the finished work;
* Use reasoning to synthesize evidence to support a claim.
 |
| Self-Direction | C. Apply knowledge in familiar and new contexts. | * Apply a concept to a new or familiar context or settings.
 |
| Self-Direction | E. Demonstrate flexibility, including the ability to learn, unlearn, and relearn. | * Ask questions about new ideas to challenge myself to investigate new skills.
 |
| Self-Direction | F. Analyze the accuracy, bias, and usefulness of information. | * Apply criteria to evaluate multiple sources for bias.
 |
| Creative and Practical Problem Solving | A. Observe and evaluate situations in order to define problems. | * Articulate the problem and identify constraints, based on observations, and collect related information from multiple sources.
 |
| Creative and Practical Problem Solving | C. Identify patterns, trends, and relationships that apply to solutions. | * Explain patterns and/or trends (including outliers) in the data and the relationship to the proposed solution.
 |
| Creative and Practical Problem Solving | D. Analyze, evaluate, and synthesize evidence, arguments, claims, and beliefs. | * Analyze, synthesize, and cite evidence to develop a claim or argument.
 |
| Informed and Integrative Thinking | A. Apply knowledge from various disciplines and contexts to real life situations.  | * Analyze real-life situations, data, patterns, texts, artifacts, or other products using knowledge from other disciplines and situations.
 |
| Informed and Integrative Thinking | B. Analyze, evaluate, and synthesize information from multiple sources to build on knowledge.  | * Evaluate the credibility of multiple and varied sources to analyze the interrelationships among concepts.
 |
| Informed and Integrative Thinking | C. Apply systems thinking to understand the interaction and influence of related parts on each other, and on outcomes. | * Explain how the parts of a system influence outcomes.
 |
| Informed and Integrative Thinking | D. Use evidence and reasoning to justify claims. | * Use valid and reliable evidence to support a claim and develop a well-reasoned argument.
 |

###

### Priority Performance Indicator: Engineering Design – Devising Solutions to Complex Real-World Problems

Model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints, and how those solutions affect interactions within and between systems. (HS-ETS1-4)

| **Transferable Skill(s)** | **Performance Indicator for Transferable Skill Scoring Criteria** | **Proficient Criteria (from Transferable Skill Scoring Criteria)*****I can…*** |
| --- | --- | --- |
| Clear and Effective Communication | A. Demonstrate organized and purposeful communication. | * Present my ideas coherently, with a logical sequence;
* Use academic language and/or images to enhance my message and present my subject in a precise manner.
 |
| Clear and Effective Communication | B. Use evidence and logic appropriately in communication.  | * Analyze, integrate, and cite evidence from sources and incorporate the relevant pieces into the finished work;
* Use reasoning to synthesize evidence to support a claim.
 |
| Self-Direction | C. Apply knowledge in familiar and new contexts.  | * Apply a concept to a new or familiar context or settings.
 |
| Self-Direction | E. Demonstrate flexibility, including the ability to learn, unlearn, and relearn. | * Solicit and utilize feedback on multiple trials/drafts to improve my performance or revise my thinking;
* Ask questions about new ideas to challenge myself to investigate new skills.
 |
| Self-Direction | F. Analyze the accuracy, bias, and usefulness of information.  | * Apply criteria to evaluate multiple sources for bias.
 |
| Creative and Practical Problem Solving | A. Observe and evaluate situations to define problems. | * Articulate the problem and identify constraints, based on observations and collect related information from multiple sources.
 |
| Creative and Practical Problem Solving | B. Frame questions, make predictions, and design data collection and analysis strategies. | * Identify tools and design procedures needed for collecting, managing, and analyzing information
 |
| Creative and Practical Problem Solving | C. Identify patterns, trends, and relationships that apply to solutions. | * Explain patterns and/or trends (including outliers) in the data and the relationship to the proposed solution.
 |
| Creative and Practical Problem Solving | D. Generate a variety of solutions, use evidence to build a case for best responses, critically evaluate the effectiveness of responses, and repeat the process to generate alternate solutions. | * Generate and consider a range of solutions and compare the strengths and weaknesses of each, using evidence to justify the choice of solution.
 |
| Responsible and Involved Citizenship | A. Participate in and contribute to the enhancement of community life. | * Build a proposal, which includes community connections, for an improvement in the community.
 |
| Informed and Integrative Thinking | A. Apply knowledge from various disciplines and contexts to real life situations.  | * Analyze real-life situations, data, patterns, texts, artifacts, or other products using knowledge from other disciplines and situations.
 |
| Informed and Integrative Thinking | B. Analyze, evaluate, and synthesize information from multiple sources to build on knowledge.  | * Evaluate the credibility of multiple and varied sources to analyze the interrelationships among concepts.
 |
| Informed and Integrative Thinking | C. Apply systems thinking to understand the interaction and influence of related parts on each other, and on outcomes. | * Explain how the interactions of parts of a system influence outcomes.
 |
| Informed and Integrative Thinking | D. Use evidence and reasoning to justify claims. | * Use valid and reliable evidence to support a claim and develop a well-reasoned argument.
 |
| Informed and Integrative Thinking | E. Develop and use models to explain phenomena. | * Create and use an evidence-based model to explain a system or situation and analyze relationships within it.
 |

### Priority Performance Indicator: Earth and Human Activity – Climate Change

Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems. (HS-ESS3-5)

| **Transferable Skill(s)** | **Performance Indicator for Transferable Skill Scoring Criteria** | **Proficient Criteria (from Transferable Skill Scoring Criteria)*****I can…*** |
| --- | --- | --- |
| Clear and Effective Communication | A. Demonstrate organized and purposeful communication. | * Present my ideas coherently, with a logical sequence;
* Use academic language and/or images to enhance my message and present my subject in a precise manner.
 |
| Clear and Effective Communication | B. Use evidence and logic appropriately in communication.  | * Analyze, integrate, and cite evidence from sources and incorporate the relevant pieces into the finished work;
* Use reasoning to synthesize evidence to support a claim.
 |
| Self-Direction | F. Analyze the accuracy, bias, and usefulness of information.  | * Apply criteria to evaluate multiple sources for bias.
 |
| Creative and Practical Problem Solving | A. Observe and evaluate situations to define problems. | * Articulate the problem and identify constraints, based on observations and collect related information from multiple sources.
 |
| Creative and Practical Problem Solving | B. Frame questions, make predictions, and design data collection and analysis strategies. | * Identify tools and design procedures needed for collecting, managing, and analyzing information.
 |
| Creative and Practical Problem Solving | C. Identify patterns, trends, and relationships that apply to solutions. | * Explain patterns and/or trends (including outliers) in the data and the relationship to the proposed solution.
 |
| Creative and Practical Problem Solving | D. Analyze, evaluate, and synthesize evidence, arguments, claims, and beliefs. | * Analyze, synthesize, and cite evidence to develop a claim or argument.
 |

|  |  |  |
| --- | --- | --- |
| **Transferable Skill(s)** | **Performance Indicator for Transferable Skill Scoring Criteria** | **Proficient Criteria (from Transferable Skill Scoring Criteria)*****I can…*** |
| Informed and Integrative Thinking | A. Apply knowledge from various disciplines and contexts to real life situations.  | * Analyze real-life situations, data, patterns, texts, artifacts, or other products using knowledge from other disciplines and situations.
 |
| Informed and Integrative Thinking | B. Analyze, evaluate, and synthesize information from multiple sources to build on knowledge.  | * Evaluate the credibility of multiple and varied sources to analyze the interrelationships among concepts.
 |
| Informed and Integrative Thinking | C. Apply systems thinking to understand the interaction and influence of related parts on each other, and on outcomes. | * Explain how the interactions of parts of a system influence outcomes.
 |
| Informed and Integrative Thinking | D. Use evidence and reasoning to justify claims. | * Use valid and reliable evidence to support a claim and develop a well-reasoned argument.
 |