Washington Office of Superintendent of
PUBLIC INSTRUCTION

Washington Access to Instruction and Measurement (WA-AIM): Grade 11 Science Performance Tasks

July 2023

WASHINGTON ACCESS TO INSTRUCTION AND MEASUREMENT (WA-AIM)

Grade 11 Science Performance Tasks

2023–2024

Toni Wheeler
Alternate Assessment Coordinator

Prepared by:

- **Alysia Hartsell**, Administrative Assistant
  alysia.hartsell@k12.wa.us | 360-725-6337

Washington Office of Superintendent of
PUBLIC INSTRUCTION

TABLE OF CONTENTS

HOW TO USE THIS DOCUMENT

This document outlines the required standards to be assessed at this grade level. Each standard contains 3 access points.

Educators should review the access points associated with each standard. For each student taking the WA-AIM, the educator will choose the access point that best reflects the student's knowledge, skills, and abilities in relationship to each individual standard.

Once one access point for each standard has been selected for administration, the educator will administer a Performance Task form associated with that access point level.

Each standard will require the use of 1 form (testlet). Forms (testlets) can be selected or created within the INSIGHT system. Each form must contain five items that meet all requirements found under the relevant access point. For each access point educators will select a pre-built form(testlet) containing five items that fully meet the requirements of the access points.

Each student in grade 11 will need to be administered 5 total forms (5 Science), each containing five items.

All form selection, creation, registration to student, and student performance data will occur in INSIGHT. While educators are no longer allowed to create item content, allowable adaptations/accommodations will be listed for each standard and/or access point within this document.

HS-ETS1-2 ENGINEERING & TECHNOLOGY-ENGINEERING DESIGN

Washington K–12 Learning Standard

HS.ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

SEP: Constructing Explanations and Designing Solutions Design a solution to a complex real- world problem based on scientific knowledge, student- generated sources of evidence, prioritized criteria, and tradeoff considerations.

DCI: ETS.C: Optimizing the Design Solution Criteria may need to be broken down into simpler ones that can be approached systemically, and decisions about the priority of certain criteria over others (tradeoffs) may be needed.

CCC: None

Essential Concept

EC.HS-ETS1-2: Design a solution to a real-world problem by breaking the problem down into smaller, more manageable problems.

SEP: Design a solution to real-world problem based on scientific knowledge, evidence, criteria, and tradeoffs.

DCI: ETS1.C: Optimizing a design solution requires breaking criteria down into simpler ones.

CCC: None

Figure 1: Access Points HS-ETS1-2 (M, I, L)

More	Intermediate	Less
Given a real-world problem, student will describe smaller, more manageable problems that the larger problem can be broken down into, describe potential solutions for each smaller problem, and describe how a solution meets criteria for solving the overall problem.	**Given a real-world problem, student will identify smaller, more manageable problems that the larger problem can be broken down into and describe whether given solutions to each smaller problem meet given criteria for solving the smaller problem.**	**Given a real-world problem, student will identify smaller, more manageable problems and identify potential design solutions that meet given criteria for a smaller problem.**
Requirements: • Every performance task must have at least five unique items/questions. • Problem must be in a real-world, engineering or technology context.	**Requirements:** • Every performance task must have at least five unique items/questions. • Problem must be in a real-world, engineering or technology context.	**Requirements:** • Every performance task must have at least five unique items/questions • Problem must be in a real-world, engineering or technology context.

More	Intermediate	Less
• Task requires the student to: o Describe at least two smaller, more manageable problems that the larger problem can be broken into, AND o Design a solution for each smaller problem and describe how the solution contributes to solving the overall problem; AND o Describe how the smaller solutions work together to solve the overall problem. • In a multiple-choice item, teacher must use the answer choices provided.	• Task requires the student to: o Identify at least two smaller, more manageable problems that a larger problem can be broken down into AND o Identify a solution for each smaller problem, AND o Describe whether the solution meets given criteria for each smaller problem. o Describe the evidence that could be used to determine whether the solution is an effective way to solve the problem. • In a multiple-choice item, teacher must use the answer choices provided.	• Task requires the student to: o Identify at least two smaller problems, AND o Identify potential solutions for each smaller problem, AND o Identify the solution that best meets criteria for solving at least one smaller problem. • In a multiple-choice item, teacher must use the answer choices provided.
Restrictions: None	**Restrictions:** None	**Restrictions:** None

Final Form Options

1) Use pre-built form

Allowable Adaptations/Accommodations

- Use graphics and/or physical models
- Enlarge text/graphics/answer options;
- Re-enactment or Computer simulations
- Simplify text/directions
- Simplified models
- Data displays may be simplified, modified, adjusted for student understanding
- 2-Dimensional or 3-dimensional models
- Use tactile graphics; replace provided graphics with graphics commonly used by the student
- Text and vocabulary can be tailored to the student's vocabulary in cases where the vocabulary is not a key element of the concept;
- Place answer choices on word cards, choice board, AAC device

- Braille
- Re-read text and/or answer options
- Read aloud and/or Text to Speech
- Speech recognition internet searches
- Responses may be cut out and/or laminated to present to student
- Scribe and/or Speech to Text
- Sign text

Additional Tools, Supports, and Accommodations for Multilingual Learners

- Written or oral translation of test directions
- Side-by-side dual language versions of the test
- Translated versions of entire tests
- Written or oral response in native language
- Customized dual language glossary
- Customized dual language pop-up electronic glossary
- Commercial word-to-word dual language dictionary
- Sight translation is the oral, on-the-fly rendering of test directions, items, or both from English into a student's native language
- Clarify, explain test directions in student's native language
- Provide images or graphics for unknown vocabulary or words where the vocabulary where the support vocabulary or word is not what the item is intended to measure

Additional Materials for Test Administration

See specific forms in INSIGHT Item and Form Management for materials needed

HS.LS2-5 LIFE SCIENCES-ECOSYSTEMS: INTERACTIONS, ENERGY AND DYNAMICS

Washington K–12 Learning Standard

HS.LS2-5 Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.

SEP: Developing and Using Models Develop a model based on evidence to illustrate the relationships between systems or components of a system.

DCI: LS2.B: Cycles of Matter and Energy Transfer in Ecosystems Photosynthesis and cellular respiration are important components of the carbon cycle, in which carbon is exchanged among the biosphere, atmosphere, oceans, and geosphere through chemical, physical, geological, and biological processes.

PS3.D: Energy in Chemical Processes The main way that solar energy is captured and stored on Earth is through the chemical process known as photosynthesis. (secondary)

CCC: Systems and System Models Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions-including energy, matter and information flows- within and between systems at different scales.

Essential Concept

EC.HS-LS2-5: Develop a model to illustrate the carbon cycle in a natural environment (life, air, water, and/or land).

SEP: Develop a model based on evidence to illustrate relationships in a system.

DCI: LS2.B: Photosynthesis and cellular respiration are important components of the carbon cycle.

PS3.D: Solar energy is captured and stored through photosynthesis.

CCC: Models can show systems and the interactions within and between systems. Models can show systems and the flows of energy and matter within and between systems.

Figure 2: Access Points HS-LS2-5 (M, I, L)

More	Intermediate	Less
Student will develop and use a model to illustrate the cycling of carbon in terms of the inputs and outputs of photosynthesis and cellular respiration.	**Given the components of a model, students will describe the relationships between the components in terms of inputs and outputs of photosynthesis and cellular respiration.**	**Student will identify the components of a model of carbon cycling in terms of the inputs and outputs of photosynthesis and cellular respiration.**
Requirements: • Every performance task must have at least five unique items/questions. • Student must develop at least one model.	**Requirements:** • Every performance task must have at least five unique items/questions. • Given at least one model, student must:	**Requirements:** • Every performance task must have at least five unique items/questions. • Given at least one model, student must: o Identify at least five

More	Intermediate	Less
• Each student-developed model must include o At least one carbon input and one carbon output of photosynthesis (e.g., Plant: input is CO2; outputs are glucose/sugar/carbs/food); AND o At least one carbon input and one carbon output of cellular respiration (e.g., Plant or animal: inputs are glucose/sugar/carbs/food; output is CO2); AND o At least one component from the biosphere and at least one component from another Earth system (i.e., atmosphere, hydrosphere, geosphere) o At least one item must identify a place where carbon is stored. • Models may be physical, mathematical, simulations, or computer-based. • In a multiple-choice item, teacher must use the answer choices provided.	o Identify at least one relationship between the inputs and outputs of photosynthesis and cellular respiration; AND o Identify at least one relationship between photosynthesis and/or cellular respiration and the biosphere; AND o Identify at least one relationship between photosynthesis and/or cellular respiration with an Earth system other than the biosphere. o At least one item must identify a place where carbon is stored. • In a multiple-choice item, teacher must use the answer choices provided.	components. o Identify at least one input or output of photosynthesis; AND o Identify at least one input or output of cellular respiration; AND o Identify a place where carbon is stored. • In a multiple-choice item, teacher must use the answer choices provided.
Restrictions: Task must include natural carbon consumers and producers (plants, animals, bacteria).	**Restrictions:** Carbon cycles should only include natural carbon consumers and producers (plants, animals, bacteria).	**Restrictions:** Task must include natural carbon consumers and producers (plants, animals, bacteria).

Test Administration Considerations

For students with physical limitations, development and use of model can be done by the teacher with directive from the student.

Final Form Options

1) Use pre-built form

Allowable Adaptations/Accommodations

- Use graphics and/or physical models
- Enlarge text/graphics/answer options;
- Re-enactment or Computer simulations
- Simplify text/directions
- Simplified models
- Data displays may be simplified, modified, adjusted for student understanding
- 2-Dimensional or 3-dimensional models
- Use tactile graphics; replace provided graphics with graphics commonly used by the student
- Text and vocabulary can be tailored to the student's vocabulary in cases where the vocabulary is not a key element of the concept;
- Place answer choices on word cards, choice board, AAC device
- Braille
- Re-read text and/or answer options
- Read aloud and/or Text to Speech
- Speech recognition internet searches
- Responses may be cut out and/or laminated to present to student
- Scribe and/or Speech to Text
- Sign text

Additional Tools, Supports, and Accommodations for Multilingual Learners

- Written or oral translation of test directions
- Side-by-side dual language versions of the test
- Translated versions of entire tests
- Written or oral response in native language
- Customized dual language glossary
- Customized dual language pop-up electronic glossary
- Commercial word-to-word dual language dictionary
- Sight translation is the oral, on-the-fly rendering of test directions, items, or both from English into a student's native language
- Clarify, explain test directions in student's native language
- Provide images or graphics for unknown vocabulary or words where the vocabulary where the support vocabulary or word is not what the item is intended to measure

Additional Materials for Test Administration

See specific forms in INSIGHT Item and Form Management for materials needed

HS.PS1-5 PHYSICAL SCIENCES-MATTER AND ITS INTERACTIONS

Washington K–12 Learning Standard

HS-PS1-5 Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.

SEP: Constructing Explanations and Designing Solutions: Apply scientific principles and evidence to provide an explanation of phenomena and solve design problems, taking into account possible unanticipated effects.

DCI: PS1.B Chemical Reactions Chemical processes, their rates, and whether or not energy is stored or released can be understood in terms of the collisions of molecules and the rearrangements of atoms into new molecules, with consequent changes in the sum of all bond energies in the set of molecules that are matched by changes in kinetic energy.

CCC: Patterns: Different patterns may be observed at each of the scales at which a system is studied and can provide evidence for causality in explanations of phenomena.

Essential Concept

EC.HS-PS1-5: Use scientific principles and evidence to explain how changing temperature or concentration affects reaction rate.

SEP: Apply scientific principles and evidence to explain phenomena.

DCI: PS1.B: Chemical processes can be understood in terms of the collisions of molecules and the rearrangements of atoms by changes in energy.

CCC: Patterns at different levels (atomic, microscopic, and visible) of systems can show cause and effect of phenomena.

Figure 3: Access Points HS-PS1-5 (M, I, L)

More	Intermediate	Less
Student will conduct and record the results of a given investigation procedure or be provided the results of a given investigation procedure and use the evidence to explain how changing the temperature and concentration of reacting particles affects the rate of a chemical reaction.	**Student will use evidence from the results of an investigation to explain how changing the temperature and/or concentration of reacting particles affects the rate of a chemical reaction.**	**Student will use evidence to identify whether changing temperature and/or concentration of the reacting particles affects the reaction rate of a given reaction.**
Requirements: • Every performance task must have at least five unique items/questions.	**Requirements:** • Every performance task must have at least five unique items/questions.	**Requirements:** • Every performance task must have at least five unique items/questions.

More	Intermediate	Less
• Student must conduct and record the results of a given investigation procedure or be provided the results of a given investigation procedure. • The set of five items must include: o at least one item that uses evidence to explain the effect of a change in temperature AND o at least one item that uses evidence to explain the effect of a change in concentration • In a multiple-choice item, teacher must use the answer choices provided.	• Student must be given a description and the results for at least one investigation. • The set of five items must include: o at least one item that uses evidence to explain the effect of a change in temperature AND/OR o at least one item that uses evidence to explain the effect of a change in concentration • In a multiple-choice item, teacher must use the answer choices provided.	• Student must be given a description and the results for at least one investigation. • The set of five items must include: o at least one item that uses evidence to explain the effect of a change in temperature AND/OR o at least one item that uses evidence to explain the effect of a change in concentration • In a multiple-choice item, teacher must use the answer choices provided.
Restrictions: • Investigations may only test one variable (temperature or concentration) at a time. • Reactions can only have two reactants, but may occur in the presence of other materials, such as in water or air, that do not participate in the reaction.	**Restrictions:** • Investigations may only test one variable (temperature or concentration) at a time. • Reactions can only have two reactants, but may occur in the presence of other materials, such as in water or air, that do not participate in the reaction.	**Restrictions:** • Investigations may only test one variable (temperature or concentration) at a time. • Reactions can only have two reactants, but may occur in the presence of other materials, such as in water or air, that do not participate in the reaction.

Test Administration Considerations

For students with physical limitations, the investigation can be done by the teacher with directive from the student.

Final Form Options

1) Use pre-built form

Allowable Adaptations/Accommodations

- Use graphics and/or physical models
- Enlarge text/graphics/answer options;
- Re-enactment or Computer simulations
- Simplify text/directions
- Simplified models
- Data displays may be simplified, modified, adjusted for student understanding

- 2-Dimensional or 3-dimensional models
- Use tactile graphics; replace provided graphics with graphics commonly used by the student
- Text and vocabulary can be tailored to the student's vocabulary in cases where the vocabulary is not a key element of the concept;
- Place answer choices on word cards, choice board, AAC device
- Braille
- Re-read text and/or answer options
- Read aloud and/or Text to Speech
- Speech recognition internet searches
- Responses may be cut out and/or laminated to present to student
- Scribe and/or Speech to Text
- Sign text
- Hand-over-hand support for manipulating materials
- Accessible thermometers

Additional Tools, Supports, and Accommodations for Multilingual Learners

- Written or oral translation of test directions
- Side-by-side dual language versions of the test
- Translated versions of entire tests
- Written or oral response in native language
- Customized dual language glossary
- Customized dual language pop-up electronic glossary
- Commercial word-to-word dual language dictionary
- Sight translation is the oral, on-the-fly rendering of test directions, items, or both from English into a student's native language
- Clarify, explain test directions in student's native language
- Provide images or graphics for unknown vocabulary or words where the vocabulary where the support vocabulary or word is not what the item is intended to measure

Additional Materials for Test Administration

See specific forms in INSIGHT Item and Form Management for materials needed

Form WA A2 Science_HS_HS.PS.1.5M

The More Complex Access Point requires the student to engage in the investigation.

Materials:

- Three plastic soda bottles
- Three balloons
- Baking soda
- Vinegar

Inflating a Balloon with Baking Soda Investigation Procedure

1. Set up: three plastic soda bottles and three balloons.
2. Using a funnel, add 28 g of baking soda to each balloon (two people may be needed for this; one person to hold the balloon open and the other person to put the baking soda inside of the balloon).
3. Pour 28 grams of vinegar at three different temperatures (4°C, 21°C, 38°C) into each bottle.
4. Carefully fit the balloon over the bottle opening (be careful not to drop the baking soda into the vinegar yet).
5. Once the balloon is fitted snugly on the nozzle, hold up the balloon and allow the baking soda to fall into the vinegar.
6. Observe the chemical reaction and effect on the balloon.
7. Record observations (diameter of the balloon) using Table 1 in Student Materials in INSIGHT.
8. Repeat reactions, with 21°C vinegar in each bottle, but adding 14g, 28g, and 42g of baking soda to each balloon, respectively.
9. Record observations (diameter of balloon) using Table 2 in Student Materials in INSIGHT.

HS.ESS2-2 EARTH AND SPACE SCIENCES: EARTH'S SYSTEMS

Washington K–12 Learning Standard

HS-ESS2-2 Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems.

SEP: Analyzing and Interpreting Data: Analyze data using tools, technologies, and/or models (e.g., computational, mathematical) in order to make valid and reliable scientific claims or determine an optimal design solution.

DCI: ESS2.A: Earth Materials and Systems: Earth's systems, being dynamic and interacting, cause feedback effects that can increase or decrease the original changes.

ESS2.D: Weather and Climate: The foundation for Earth's global climate systems is the electromagnetic radiation from the sun, as well as its reflection, absorption, storage, and redistribution among the atmosphere, ocean, and land systems, and this energy's re-radiation into space.

CCC: Stability and Change: Feedback (negative or positive) can stabilize or destabilize a system.

Influence of Engineering, Technology, and Science on Society and the Natural World: New technologies can have deep impacts on society and the environment, including some that were not anticipated. Analysis of costs and benefits is a critical aspect of decisions about technology.

Essential Concept

EC.HS-ESS2-2: Analyze data to make a claim about the impact of a change to Earth's surface (e.g., greenhouse gases, river dams, erosion) on another Earth system.

SEP: Data can be used to make a scientific claim.

DCI: ESS2.A: A change in one Earth system can cause a change in another Earth system.

ESS2.D: Energy from the sun interacts with Earth's systems and impacts climate.

CCC: Stability and Change - A change in one system can cause another system to become more stable or more unstable. New technologies can have a positive or negative impact on our systems.

Figure 4: Access Points HS-ESS2-2 (M, I, L)

More	Intermediate	Less
Student will organize and interpret data to make a claim about the impact of a change to Earth's surface on the stability of another Earth system.	**Student will organize and interpret data to make a claim about the impact of a change to Earth's surface on another Earth system.**	**Student will interpret given organized data and identify a claim about the impact of a change to Earth's surface on another Earth system.**
Requirements:	**Requirements:**	**Requirements:**

More	Intermediate	Less
• Every performance task must have at least five unique items/questions. • The set of five items must include at least: o One item that organizes data; AND o One item that interprets data; AND o One item that connects the change in Earth's surface to a change in another Earth system; AND o One item that describes how the Earth system becomes more or less stable. • Student must use at least two tools (e.g., charts, graphs, or tables) to organize and/or interpret data. • In a multiple-choice item, teacher must use the answer choices provided.	• Every performance task must have at least five unique items/questions. • The set of five items must include at least: o One item that organizes data; AND o One item that interprets data; AND o One item that connects the change in Earth's surface to a change in another Earth system. • Student must use at least two tools (e.g., charts, graphs, or tables) to organize and/or interpret data. • In a multiple-choice item, teacher must use the answer choices provide	• Every performance task must have at least five unique items/questions. • The set of five items must include at least : o One item that interprets data; AND o One item that identifies a claim about the impact of a change in Earth's surface on another Earth system. • Student must use at least two tools (e.g., charts, graphs, or tables) to interpret given data. • In a multiple-choice item, teacher must use the answer choices provided.
Restrictions: All graphs are limited to one dependent variable and one independent variable.	**Restrictions:** All graphs are limited to one dependent variable and one independent variable.	**Restrictions:** All graphs are limited to one dependent variable and one independent variable.

Final Form Options

1) Use pre-built form

Allowable Adaptations/Accommodations

- Use graphics and/or physical models
- Enlarge text/graphics/answer options;
- Re-enactment or Computer simulations
- Simplify text/directions
- Simplified models
- Data displays may be simplified, modified, adjusted for student understanding
- 2-Dimensional or 3-dimensional models

- Use tactile graphics; replace provided graphics with graphics commonly used by the student
- Text and vocabulary can be tailored to the student's vocabulary in cases where the vocabulary is not a key element of the concept;
- Place answer choices on word cards, choice board, AAC device
- Braille
- Re-read text and/or answer options
- Read aloud and/or Text to Speech
- Speech recognition internet searches
- Responses may be cut out and/or laminated to present to student
- Scribe and/or Speech to Text
- Sign text
- Hand-over-hand support for orientation to materials

Additional Tools, Supports, and Accommodations for Multilingual Learners

- Written or oral translation of test directions
- Side-by-side dual language versions of the test
- Translated versions of entire tests
- Written or oral response in native language
- Customized dual language glossary
- Customized dual language pop-up electronic glossary
- Commercial word-to-word dual language dictionary
- Sight translation is the oral, on-the-fly rendering of test directions, items, or both from English into a student's native language
- Clarify, explain test directions in student's native language
- Provide images or graphics for unknown vocabulary or words where the vocabulary where the support vocabulary or word is not what the item is intended to measure

Additional Materials for Test Administration

See specific forms in INSIGHT Item and Form Management for materials needed

HS.ESS3-4 EARTH AND SPACE SCIENCES: EARTH AND HUMAN ACTIVITY

Washington K–12 Learning Standard

HS-ESS3-4 Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

SEP: Constructing Explanations and Designing Solutions: Design or refine a solution to a complex real-world problem based on scientific knowledge, student- generated sources of evidence, prioritized criteria, and tradeoff considerations.

DCI: ESS3.C: Human Impacts on Earth Systems: Scientists and engineers can make major contributions by developing technologies that produce less pollution and waster and that preclude ecosystem degradation.

ETS1.B: Developing Possible Solutions: When evaluating solutions, it is important to take into account a range of constraints, including cost. Safety, reliability, and aesthetics, and to consider social, cultural, and environmental impacts. (secondary)

CCCP: Stability and Change: Feedback (negative or positive) can stabilize or destabilize a system.

Influence of Science, Engineering, and Technology on Society and the Natural World Engineers continuously modify these technological systems by applying scientific knowledge and engineering design practices to increase benefits while decreasing costs and risks.

Essential Concept

EC.HS-ESS3-4: Refine a technological solution that reduces a human impact on natural systems.

SEP: Design or refine a solution to a real-world problem based on scientific knowledge, evidence, criteria, and tradeoffs.

DCI: ESS3.C: Scientists and engineers can reduce pollution and waste by developing technologies.

ETS1.B: It is important to consider constraints and impacts when evaluating solutions.

CCC: Stability and Change - Feedback can affect a system when a change in one system causes a change in another system. New technologies can have a positive or negative impact on our systems. Engineers change technologies to increase positive impacts and decrease negative impacts.

Figure 5: Access Points HS-ESS3-4 (M, I, L)

More	Intermediate	Less
Student will use data to evaluate refinements to a technological solution, based on criteria and constraints, and describe whether the solution reduces a human impact on natural systems.	**Student will use data to describe refinements to a technological solution that reduces a human impact on natural systems, based on criteria and constraints.**	**Student will use data to identify whether refinements to a technological solution reduces human impact on natural systems, based on criteria and constraints.**

More	Intermediate	Less
Requirements: • Every performance task must have at least five unique items/questions. • Student must be given data for at least five refinements to a technological solution that reduces a human impacts on natural systems. o Data can refer to scientific knowledge, evidence, criteria, and tradeoffs. • The set of five items must include: o At least one item that describes whether the solution reduces a human impact on natural systems; AND o At least two items that use data to describe how well a refinement meets criteria for success; AND o At least one item that uses data to describe a constraint on the success of a refinement; AND o At least one item that describes the refinement that best meets criteria for success. • In a multiple-choice item, teacher must use the answer choices provided.	**Requirements:** • Every performance task must have at least five unique items/questions. • Student must be given data for at least five refinements to a technological solution that reduces a human impacts on natural systems. o Data can include scientific knowledge, evidence, criteria, and tradeoffs. • The set of five items must include: o At least two items that use data to identify a refinement to a technological solution, based on given criteria; AND o At least one item that that uses data to identify a refinement to a technological solution, based on a given constraint.; AND o At least one item that uses data to compare refinements. • In a multiple-choice item, teacher must use the answer choices provided.	**Requirements:** • Every performance task must have at least five unique items/questions. • Student must be given data for at least five refinements to a technological solution that reduces a human impacts on natural systems. • Data can include scientific knowledge, evidence, criteria, and tradeoffs. • The set of five items must include at least: o At least two items that use data identify whether a refinement meets a given criterion; AND o At least one item that uses data identify whether a refinement meets a given constraint. • In a multiple-choice item, teacher must use the answer choices provided.
Restrictions: None	**Restrictions:** None	**Restrictions:** None

Final Form Options

1) Use pre-built form

Allowable Adaptations/Accommodations

- Use graphics and/or physical models
- Enlarge text/graphics/answer options;
- Re-enactment or Computer simulations
- Simplify text/directions
- Simplified models
- Data displays may be simplified, modified, adjusted for student understanding
- 2-Dimensional or 3-dimensional models
- Use tactile graphics; replace provided graphics with graphics commonly used by the student
- Text and vocabulary can be tailored to the student's vocabulary in cases where the vocabulary is not a key element of the concept;
- Place answer choices on word cards, choice board, AAC device
- Braille
- Re-read text and/or answer options
- Read aloud and/or Text to Speech
- Speech recognition internet searches
- Responses may be cut out and/or laminated to present to student
- Scribe and/or Speech to Text
- Sign text
- Hand-over-hand support for manipulating materials
- Accessible thermometers

Additional Tools, Supports, and Accommodations for Multilingual Learners

- Written or oral translation of test directions
- Side-by-side dual language versions of the test
- Translated versions of entire tests
- Written or oral response in native language
- Customized dual language glossary
- Customized dual language pop-up electronic glossary
- Commercial word-to-word dual language dictionary
- Sight translation is the oral, on-the-fly rendering of test directions, items, or both from English into a student's native language
- Clarify, explain test directions in student's native language
- Provide images or graphics for unknown vocabulary or words where the vocabulary where the support vocabulary or word is not what the item is intended to measure

Additional Materials for Test Administration

See specific forms in INSIGHT Item and Form Management for materials needed

SCIENCE TOPICS/PHENOMENA AND FORM NAMES

HS-ETS1-2 Engineering and Technology Engineering Design

Topic/Phenomena	Access Point	Form Name
Pollution	(M) More	WA A4 SCIENCE_HS_HS.ETS1.2_M
	(I) Intermediate	WA A2 SCIENCE_HS_HS.ETS1.2_I WA B3 SCIENCE_HS_HS.ETS1.2_I
	(L) Less	WA A2 SCIENCE_HS_HS.ETS1.2_L
School Lunch Counter	(M) More	WA C1 SCIENCE_HS_HS.ETS1.2_M
	(I) Intermediate	WA C1 SCIENCE_HS_HS.ETS1.2_I
	(L) Less	WA C1 SCIENCE_HS_HS.ETS1.2_L
Landfill	(M) More	WA D2 SCIENCE_HS_HS.ETS1.2_M
	(I) Intermediate	WA D1 SCIENCE_HS_HS.ETS1.2_I
	(L) Less	WA D2 SCIENCE_HS_HS.ETS1.2_L

HS-LS2-5 Life Sciences: Ecosystems: Interactions, Energy, and Dynamics

Topic/Phenomena	Access Point	Form Name
Rabbit and Grass	(M) More	WA A3 SCIENCE_HS_HS.LS2.5_M

Rabbit and Grass	(I) Intermediate	WA A2 SCIENCE_HS_HS.LS2.5_I
	(L) Less	WA A2 SCIENCE_HS_HS.LS2.5_L
Carrot Plants and Photosynthesis	(M) More	WA B1 SCIENCE_HS_HS.LS2.5_M
	(I) Intermediate	WA C1 SCIENCE_HS_HS.LS2.5_I
	(L) Less	WA B3 SCIENCE_HS_HS.LS2.5_L
Western Gray Squirrel and Oak Tree	(M) More	WA C2 SCIENCE_HS_HS.LS2.5_M
	(I) Intermediate	WA D1 SCIENCE_HS_HS.LS2.5_I
	(L) Less	WA C1 SCIENCE_HS_HS.LS2.5_L

HS-PS1-5 Physical Sciences: Matter and Its Interactions

Topic/Phenomena	Access Point	Form Name
Balloons	(M) More	WA A3 SCIENCE_HS_HS.PS1.5_M
	(I) Intermediate	WA A3 SCIENCE_HS_HS.PS1.5_I
	(L) Less	WA A1 SCIENCE_HS_HS.PS1.5_L
Glow Stick	(M) More	WA B1 SCIENCE_HS_HS.PS1.5_M
	(I) Intermediate	WA B1 SCIENCE_HS_HS.PS1.5_I
	(L) Less	WA B1 SCIENCE_HS_HS.PS1.5_L
Chemicals A, B, C	(M) More	WA C2 SCIENCE_HS_HS.PS1.5_M

Chemicals A, B, C	(I) Intermediate	WA C1 SCIENCE_HS_HS.PS1.5_I
	(L) Less	WA C1 SCIENCE_HS_HS.PS1.5_L

HS-ESS2-2 Earth & Space Sciences: Earth's Systems

Topic/Phenomena	Access Point	Form Name
Muddy River	(M) More	WA A3 SCIENCE_HS_HS.ESS2.2_M
	(I) Intermediate	WA A3 SCIENCE_HS_HS.ESS2.2_I
	(L) Less	WA A2 SCIENCE_HS_HS.ESS2.2_L
Volcanic Eruption	(M) More	WA B3 SCIENCE_HS_HS.ESS2.2_M
	(I) Intermediate	WA B1 SCIENCE_HS_HS.ESS2.2_I
	(L) Less	WA B1 SCIENCE_HS_HS.ESS2.2_L
Elwa River	(M) More	WA C2 SCIENCE_HS_HS.ESS2.2_M
	(I) Intermediate	WA C2 SCIENCE_HS_HS.ESS2.2_I
	(L) Less	WA C2 SCIENCE_HS_HS.ESS2.2_L

HS-ESS3-4 Earth and Space Sciences: Earth and Human Activity

Topic/Phenomena	Access Point	Form Name
Compost Pile	(M) More	WA A3 SCIENCE_HS_HS.ESS3.4_M
	(I) Intermediate	WA A3 SCIENCE_HS_HS.ESS3.4_I

Compost Pile	(L) Less	WA A2 SCIENCE_HS_HS.ESS3.4_L
Alternate Fuel	(M) More	WA B1 SCIENCE_HS_HS.ESS3.4_M
	(I) Intermediate	WA B2 SCIENCE_HS_HS.ESS3.4_I
	(L) Less	WA B2 SCIENCE_HS_HS.ESS3.4_L
Batteries	(M) More	WA C2 SCIENCE_HS_HS.ESS3.4_M
	(I) Intermediate	WA C2 SCIENCE_HS_HS.ESS3.4_I
	(L) Less	WA C1 SCIENCE_HS_HS.ESS3.4_L

Glossary of Terms

Carbon cycle: The continuous process by which carbon is exchanged between organisms and the environment.

Cellular Respiration: Process in cells by which oxygen is chemically combined with food molecules and energy is released.

Claim: A statement that asserts something to be true. It can be factual or a judgement.

Concentration: Amount per unit volume.

Constraint: A limitation of the design, e.g. materials, time, and/or cost.

Counterclaim: A statement of opposition to a claim.

Criteria: A standard of judgement; a reference point against which other designs or solutions can be compared.

Distractor: An incorrect answer in a multiple-choice question.

Evidence: Factual information that is used to persuade an audience in favor of a claim.

Particle: A minute fragment or quantity of matter.

Photosynthesis: The chemical process by which plants use light energy to make sugar from water and carbon dioxide.

ESTD
1889

All students prepared for post-secondary pathways, careers, and civic engagement.

Washington Office of Superintendent of
PUBLIC INSTRUCTION

Chris Reykdal | State Superintendent
Office of Superintendent of Public Instruction
Old Capitol Building | P.O. Box 47200
Olympia, WA 98504-7200