District of Columbia
Office of the State Superintendent of Education

DC Science

The District of Columbia Assessment of the Next Generation Science Standards

Assessment Design and Blueprints

Grade 5

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The DC Science Assessment

The District of Columbia Assessment of the Next Generation Science Standards

What is the DC Science Assessment?

The DC Science Assessment is the District of Columbia's statewide assessment of the Next Generation Science Standards (NGSS). It is an online assessment that focuses on sense-making and problem solving in science.

As students explore the NGSS learning standards, called Performance Expectations (PEs), they learn to make sense of scientific phenomena and solve problems using approaches that scientists use. During the test, students use scientific principles, skills, and behaviors to observe phenomena, generate questions, conduct investigations, create models, predict outcomes, analyze results, and engage in argumentation and communication. The DC Science Assessment presents students with tasks that are built around scientific phenomena as well as engineering design challenges. Tasks are arranged into clusters of items designed to address NGSS's three-dimensional approach to the application of knowledge and practice -- an approach that integrates Disciplinary Core Ideas (DCI), Science and Engineering Practices (SEP), and Crosscutting Concepts (CCC). As students work through these multidimensional clusters of items, they use scientific principles, skills, and behaviors to make sense of scientific phenomena and propose solutions to engineering design problems.

How is the DC Science Assessment Administered?

The DC Science Assessment is administered through Pearson TestNav, the same online platform that students use for the Partnership for Assessment of Readiness for College and Careers (PARCC) assessments in English Language Arts and Mathematics. Much like PARCC, the DC Science Assessment offers a suite of testing accommodations and features to make the assessment accessible for all students.

Who Takes the DC Science Assessment?

The DC Science Assessment is administered to students in grades 5 and 8 and to students enrolled in high school biology.

Claims Structure

Grade 5 Assessment: NGSS Content Grades 3-5

Master Claim

Students use scientific principles, skills, and behaviors to make sense of phenomena and address real-world problems.

Subclaim 1

Students use *Physical Science* principles, skills, and behaviors to make sense of phenomena and address real-world problems.

Subclaim 2

Students use *Life Science* principles, skills, and behaviors to make sense of phenomena and address real-world problems.

Subclaim 3

Students use *Earth and Space Science* principles, skills, and behaviors to make sense of phenomena and address real-world problems.

High Level Blueprint

Grade 5 Assessment: NGSS Content Grades 3-5

Reporting Domain	Percentage of PEs per Science Domain in the NGSS	Percentage of PEs per Domain on the DC Science Assessment	Number of Item Clusters*	Total Raw Score Points**
Physical	40%	35% - 45%	9	81
Life	29%	25% - 35%		
Earth and Space	31%	25% - 35%		

**Each item cluster is composed of six items. Each test form includes item clusters that target content from all three domains and Engineering Design.*
***Items have a range of scores from 1 to 3 raw score points.*

Assessment Standards

Grade 5 Assessment: Assessed NGSS Performance Expectations from Grades 3-5

The NGSS Performance Expectations are learning goals that describe what students should be able to do by the end of instruction. Each performance expectation describes how students purposely engage in the Science and Engineering Practices, apply the Crosscutting Concepts and use their understanding of Disciplinary Core Ideas to make sense of the world and address real-world problems. The table shows the NGSS Performance Expectations from grades 3-5 that are assessed in the DC Science Grade 5 assessment.

Physical Science		Life Science	Earth & Space Science	Engineering, Technology, & Applications of Science
3-PS2-1	5-PS1-3	3-LS1-1	3-ESS2-1	3-5-ETS1-1
3-PS2-2	5-PS1-4	3-LS2-1	3-ESS2-2	3-5-ETS1-2
3-PS2-3	5-PS2-1	3-LS3-1	3-ESS3-1	3-5-ETS1-3
3-PS2-4	5-PS3-1	3-LS3-2	4-ESS1-1	
4-PS3-1		3-LS4-1	4-ESS2-1	
4-PS3-2		3-LS4-2	4-ESS2-2	
4-PS3-3		3-LS4-3	4-ESS3-1	
4-PS3-4		3-LS4-4	4-ESS3-2	
4-PS4-1		4-LS1-1	5-ESS1-1	
4-PS4-2		4-LS1-2	5-ESS1-2	
4-PS4-3		5-LS1-1	5-ESS2-1	
5-PS1-1		5-LS2-1	5-ESS2-2	
5-PS1-2			5-ESS3-1	

Item Cluster Structure: Item Types and Number of Raw Score Points

This table contains information about the item types included in each item cluster:

<table>
<tr><th colspan="2">Item Type</th><th>Number of Items in a Cluster</th><th>Number of Raw Score Points for Each Item</th><th>Total Number of Raw Score Points</th></tr>
<tr><td rowspan="3">Selected-Response Items</td><td>Multiple Choice*
Students select one correct answer from among several options
And/or
Multiple Select*
Students select more than one correct answer from among several options.</td><td>2</td><td>1</td><td>2</td></tr>
<tr><td rowspan="2">Technology Enhanced*
Students taking the computer-based tests respond to items using technology such as drag-and-drop, hot spot, and drop-down menus.</td><td>2</td><td>1</td><td>2</td></tr>
<tr><td>1</td><td>2</td><td>2</td></tr>
<tr><td>Constructed-Response Items</td><td>Constructed Response**
Students write a response to a multi-part item.</td><td>1</td><td>3</td><td>3</td></tr>
<tr><td colspan="2">Total for each Cluster</td><td>6</td><td></td><td>9</td></tr>
</table>

** Multiple choice, multiple select, and technology enhanced item types are machine-scored.*
***Constructed-response items are hand-scored.*

Test Form Structure: Units, Item Clusters, and Number of Raw Score Points

This tables shows the point structure of the DC Science Assessment forms:

Unit	Number of Item Clusters*	Number of Items	Number of Raw Score Points	Purpose
1	3	18	81	Individual Reporting
2	3	18		
3	3	18		
4	3	18		

** Three field-test item clusters are randomly placed throughout the form.*

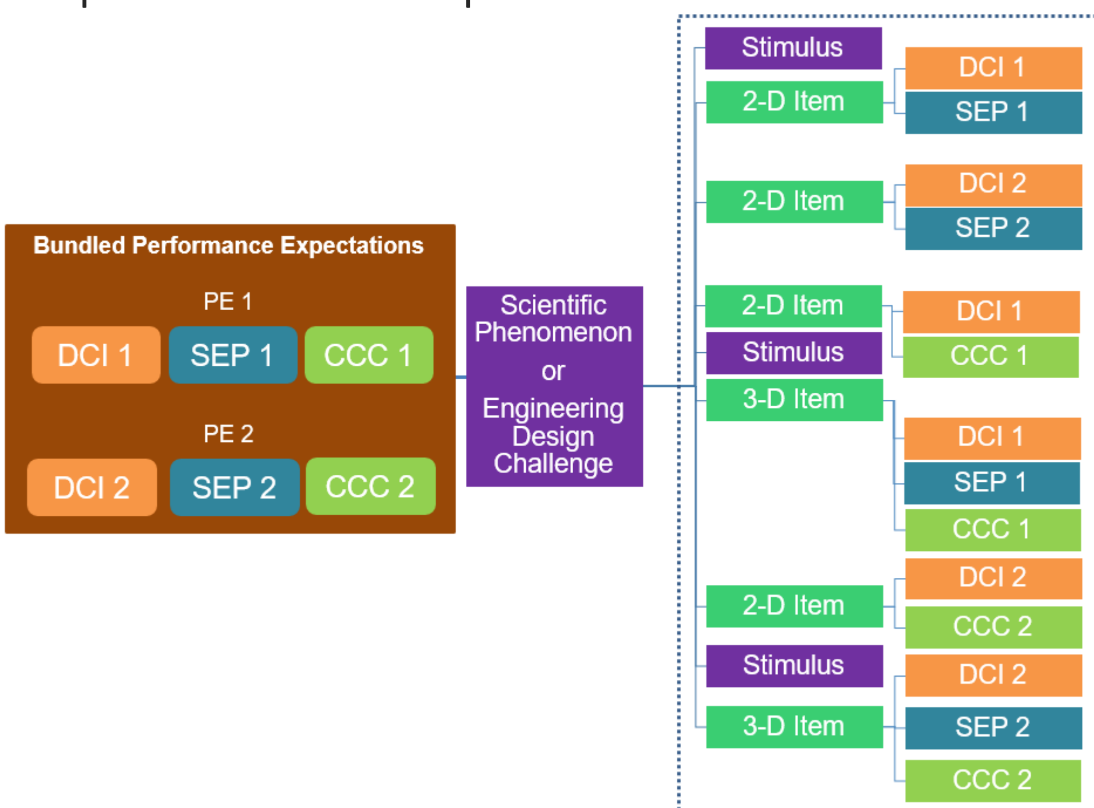
Item Clusters Design

Item clusters are designed to assess a NGSS Performance Expectation (PE) bundles and constitute the building blocks of the DC Science Assessment. A PE bundle is usually made of two or three related PEs that are used to explain or make sense of a scientific phenomenon or to design a solution to a problem presented in the stimulus. The six items in an item cluster are designed around the ideas presented in the stimulus. Although the items are independent from each, they are structured to support a student's progression through the item cluster.

Students are asked to make sense of phenomena by using the Science and Engineering Practices (SEP), Disciplinary Core Ideas (DCI), and Crosscutting Concepts (CCC) represented in the PE bundle. PEs are often bundled within a single domain, but may include PEs from different domains. PE bundles sometimes share a similar Science and Engineering Practice or Crosscutting Concepts or may include multiple Science and Engineering Practices or Crosscutting Concepts. Each item within the cluster aligns to two or three dimensions (2-D, 3-D).

This Sample Item Cluster Map shows how the items in a sample cluster work together to achieve a full representation of dimensionalities in a two-PE bundle.

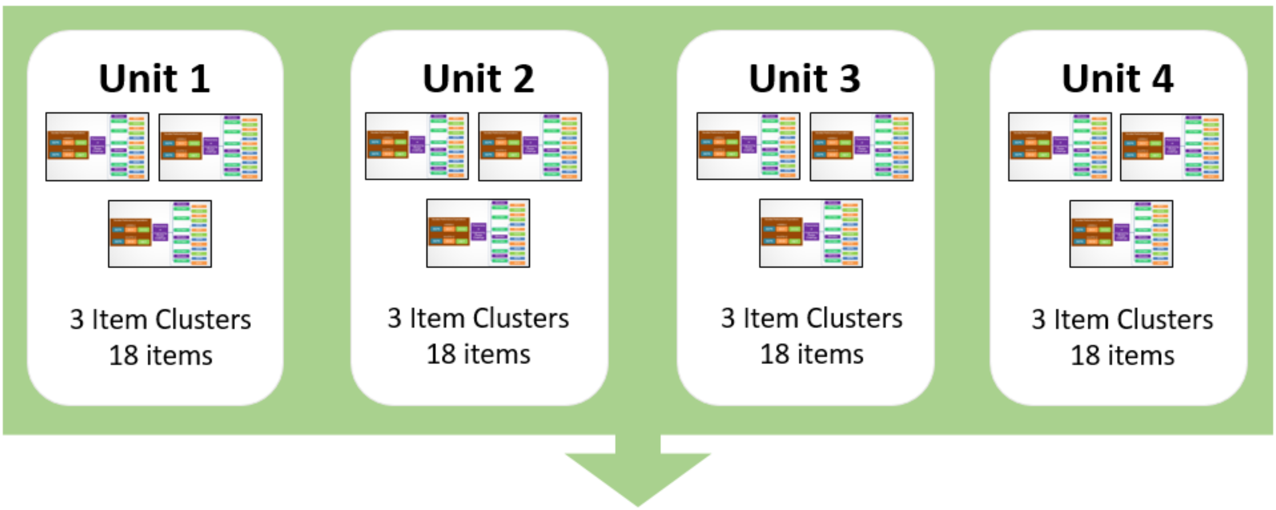
Sample Item Cluster Map



Test Form Design: Operational and Field Test Item Clusters

The DC Science Assessment uses a fixed-form design. Each operational test form contains the same item clusters in a given year.

Operational Test Form



9 Operational Item Clusters and 3 Embedded Field Item Clusters
81 points contributing to an individual student report

Test Units

The DC Science Assessment is composed of four units. In each unit, students encounter three item clusters. Three of the four units contribute to the individual student score. Each unit can yield up to 27 raw score points.

Field Test Items

Operational test forms contain three embedded field test item clusters. The field test items do not contribute to the student’s score. The embedded field-test item clusters are randomly placed in the test.

Testing Times

The DC Science Assessment is intended to be administered online in four sessions. The 180-minute administration time allows 45 minutes for each unit of the test. Contact your district testing coordinator for further information on the specific test schedule for your district or building.

Performance Level Definitions

Performance Level	Description
Exceeds Expectations	A student who *Exceeds Expectations* demonstrates thorough understanding and sophisticated reasoning when applying Disciplinary Core Ideas, using Science and Engineering Practices, and using Crosscutting Concepts to make sense of phenomena or address solutions in the natural or designed world.
Meets Expectations	A student who *Meets Expectations* demonstrates a substantial understanding and relevant reasoning when applying Disciplinary Core Ideas, using Science and Engineering Practices, and using Crosscutting Concepts to make sense of phenomena or address solutions in the natural or designed world.
Approaches Expectations	A student who *Approaches Expectations* demonstrates a basic understanding and draws connections between and among science dimensions when applying Disciplinary Core Ideas, using Science and Engineering Practices, and using Crosscutting Concepts to make sense of phenomena or address solutions in the natural or designed world.
Partially Meets Expectations	A student who *Partially Meets Expectations* demonstrates a below-basic understanding and is not yet making connections between and among science dimensions when using Disciplinary Core Ideas, using Science and Engineering Practices, and using Crosscutting Concepts to make sense of phenomena or address solutions in the natural or designed world.

Cut Scores

The DC Science Assessment has a scale of 300-600 with an anchor of 450 as meeting expectations.

Grade/ Subject	**Performance Level**	**Cut Score**
Grade 5	Exceeds Expectations	476
	Meets Expectations	450
	Approaches Expectations	418

Performance Level Descriptors (PLDs)

The DC Science Assessment Performance Level Descriptors outline specific expectations of student performance. The Performance Level Descriptors delineate and provide examples of what a typical student within a performance level would know and be able to demonstrate from a content perspective. The Performance Level Descriptors show a progression of multidimensional performance across performance levels aligned to the Next Generation Science Standards. The Performance Level Descriptors can be useful to better understand the performance levels in the DC Science Assessment reports.

Grade 5 Level 2: Approaching Expectations

A fifth-grade student performing at Level 2 demonstrates a basic understanding and draws connections between and among science dimensions when applying grades 3-5 Disciplinary Core Ideas, using elementary Science and Engineering Practices, and using elementary Crosscutting Concepts to make sense of phenomena or address solutions in the natural or designed world.

A student performing at Level 2 can do things like:

Physical Science

- describe the fact that models can be used to represent the motion of a wave and that this motion follows a pattern that can be described in terms of amplitude and wavelength (4-PS4-1)
- make an observation or measurement in relation to a phenomenon that involves the transfer of energy from place to place through moving objects, sound, light, and/or electric currents (4-PS3-2)
- explain that digitized signals can be transmitted over long distances, and compare and test the signal patterns generated from multiple potential solutions to the design problem (4-PS4-3)
- identify simple design problems that result from changes in people's wants and needs over time (3-5-ETS1-1)
- propose and compare multiple solutions to a design problem; propose improvements to existing solutions in order to increase their benefits, decrease known risks, and/or meet societal demands; and communicate with peers concerning proposed improvements in relation to a design solution (3-5-ETS1-2)

Life Science

- recognize the role of plants as a foundational part of any ecosystem as represented in a model and explain that this is due to the role plants play in cycling of matter (5-LS2-1)
- use a small, simple data set to construct an argument that plants need water and air to grow and that they take in water from soil through their roots (5-LS1-1)
- construct an argument based on a small, simple data set or model that animals and plants use their parts, which compose systems, to survive and grow (4-LS1-1)

Earth and Science

- recognize that models can represent the major systems that compose Earth and that these systems play a role in influencing a phenomenon (5-ESS2-1)

- estimate measurements needed, in correct units, to describe the distribution of Earth's fresh water in relation to an explanation of a phenomenon (5-ESS2-2)
- read and comprehend grade-appropriate complex texts and/or other reliable media in order to summarize and obtain scientific and technical ideas related to the effect of human activities on individual Earth systems and on Earth as a whole, and describe how the ideas are supported by evidence (5-ESS3-1)

Grade 5 Level 3: Meets Expectations

A fifth-grade student performing at Level 3 demonstrates a substantial understanding and relevant reasoning when applying grades 3-5 Disciplinary Core Ideas, using elementary Science and Engineering Practices, and using elementary Crosscutting Concepts to make sense of phenomena or address solutions in the natural or designed world.

In addition to the scientific knowledge and practices demonstrated at Level 2, a student performing at Level 3 can do things like:

Physical Science

- develop or use models of waves to describe and/or predict phenomena, and compare the waves based on the properties of amplitude and wavelength depicted in these models (4-PS4-1)
- decide which data need to be collected as evidence to explain a phenomenon and/or which methods should be used to collect the data, as the flow of energy from place to place is traced through moving objects, through collisions between objects, or through sound, light, heat, and/or electric currents; explain the changes in energy and motion that occur when objects collide and when energy is converted between forms such as electricity, light, sound, heat, and motion (4-PS3-2)
- describe that digitized signals can be used to code and decode information, sort and classify designed products based on signal patterns, and then choose the best solution to the design problem based on defined criteria and constraints (4-PS4-3)
- identify the criteria for success of the solution to a design problem and the constraints on materials, time, or cost and/or ask questions about what would happen if a variable in the design is changed (3-5-ETS1-1)
- design an investigation needed in order to test how well a solution performs, and then use the evidence collected to support, choose, or describe improvements to the solution in order to increase its benefits, decrease known risks, or meet societal demands (3-5-ETS1-2)

Life Science

- make or use a model to describe how air, water, and decomposed materials in soil are changed by plants into matter; make a food web involving plants, animals, and, optionally, decomposers; and/or use a food web to describe relationships in an ecosystem (5-LS2-1)
- interpret two or more pieces of evidence, data, and/or models to construct an argument that plants acquire material for growth chiefly from air and water, that plants process matter using sunlight, and that plants absorb gases in air through their leaves (5-LS1-1)
- interpret two or more pieces of evidence, data, and/or models to construct a scientifically sound argument that the internal and external parts of an animal or plant interact as a system to serve various functions in survival, growth, behavior, and reproduction (4-LS1-1)

Earth and Space Science

- develop or use a model to explain a phenomenon that is based on interactions between Earth's major systems (5-ESS2-1)
- graphs quantities of varying units and uses the distribution of Earth's fresh water to explain a phenomenon (5-ESS2-2)
- obtain and combine information from complex texts and/or other reliable media, including tables, diagrams, and/or charts, to explain scientific and technical ideas related to the effect of human activities on individual Earth systems and on Earth as a whole, and describe how the ideas are supported by evidence (5-ESS3-1)

Grade 5 Level 4: Exceeds Expectations

A fifth-grade student performing at Level 4 demonstrates thorough understanding and sophisticated reasoning when applying grades 3-5 Disciplinary Core Ideas, using elementary Science and Engineering Practices, and using elementary Crosscutting Concepts to make sense of phenomena or address solutions in the natural or designed world.

In addition to the scientific knowledge and practices demonstrated at Level 3, a student performing at Level 4 can do things like:

Physical Science

- evaluate and/or revise models of waves, sort or group waves based on similarities or differences in their patterns and the effects the various waves will have on the motion of an object, and use this information to make predictions (4-PS4-1)
- design an investigation that includes planning fair tests with controlled variables, variables to be changed and measured, and the number of trials considered; the investigation must be one that can be used to provide evidence that supports or refutes an explanation of what changes in energy and motion occur and how energy flows or is transferred when objects collide and when energy is converted between forms such as electricity, light, sound, and motion; the student can also make predictions about what would happen in the investigation if a variable changed. (4-PS3-2)
- apply scientific ideas to generate a solution to a design problem based on defined criteria and constraints, and interpret digitized signals in the context of evaluating the designed product based on signal patterns (4-PS4-3)
- propose solutions to a design problem based on evidence, evaluate the solutions in relationship to the criteria for success and constraints on materials, time, or cost, and predict what would happen if a variable in the design is changed (3-5-ETS1-1)
- plan and conduct the research needed prior to beginning to design a solution, use the research results to generate a solution to a design problem, and/or evaluate the solution or its improvements in terms of increasing benefits, decreasing known risks, or meeting societal demands (3-5-ETS1-2)

Life Science

- revise a food web or make predictions based on a change to an ecosystem (examples include a newly introduced organism or the disappearance of an organism) (5-LS2-1)

- interpret two or more pieces of data to construct or refine an argument that plants cycle water, taking it in through their roots and giving it off through their leaves, and that plants use carbon dioxide in the air and water to produce the sugar they need for growth (5-LS1-1)
- choose the evidence, data, or models needed in relationship to an argument, and then construct an argument (based on the appropriate evidence, data, or model), and/or refine arguments (based on an evaluation of the evidence presented) that differences in structures across species can positively or negatively affect animal or plant survival, growth, and reproduction and/or affect animal behavior and that these effects can be predicted based on system interactions (4-LS1-1)

Earth and Space Science

- use evidence that shows the relationships among variables in order to evaluate or revise a model to improve its representation of the interactions between Earth's major systems (5-ESS2-1)
- interpret graphs and quantities using standard units to reveal patterns that suggest relationships and predicts the effects of changes in the distribution of Earth's fresh water in relation to an explanation of a phenomenon (5-ESS2-2)
- compare and/or combine information from complex texts with that in written texts or graphical displays (including tables, diagrams, and/or charts) to predict the ways in which the activities of humans and individuals affect one or more of Earth's systems, and Earth as a whole, and/or describe changes to human activities that will give a desired effect on one or more of Earth's systems (5-ESS3-1)

NGSS Performance Expectations and Three-Dimensional Performance

The DC Science Assessment is composed of sets of items that are related to a stimulus (phenomenon or engineering design challenge) and are aligned to two or more of the NGSS performance expectations (PE) and use them to elicit evidence of student achievement with respect to the NGSS standards.

PEs provide descriptions of what students should be able to do by the end of instruction for a given grade level or grade band, and are designed “to gather evidence of students’ ability to apply the Science and Engineering Practices (SEP) and their understanding of the Crosscutting Concepts (CCC) in the contexts of specific applications in multiple disciplinary areas.” (National Research Council, 2012, p. 218).

NGSS performance expectations, appendices, evidence statements, and supporting documents are used to guide the development of the DC Science Assessment and add to the framework of reporting results for students, teachers, and others.

The following tables show the learning targets of this assessment including Science and Engineering Practices (SEP), Crosscutting Concepts (CCC), and Disciplinary Core Ideas (DCI). Additionally, the NGSS Tasks Analysis Guide that is used to determine the cognitive demand of the DC Science Assessment tasks, is also provided.

Science and Engineering Practices (SEP)

The practices are what students do to make sense of phenomena. They are both a set of skills and a set of knowledge to be internalized. The SEPs reflect the major practices that scientists and engineers use to investigate the world and design and build systems.

Science and Engineering Practices	
1	Asking Questions and Defining Problems
2	Developing and Using Models
3	Planning and Carrying out Investigations
4	Analyzing and Interpreting Data
5	Using Mathematics and Computational Thinking
6	Constructing Explanations and Designing Solutions
7	Engaging in Argument from Evidence
8	Obtaining, Evaluating, and Communicating Information

For more information on the Science and Engineering Practices, see Appendix F of the NGSS (nextgenscience.org/sites/default/files/resource/files/Appendix%20F%20%20Science%20and%20Engineering%20Practices%20in%20the%20NGSS%20-%20FINAL%20060513.pdf).

Disciplinary Core Ideas (DCI)

The fundamental ideas that are necessary for understanding a given science discipline. The core ideas all have broad importance within or across science or engineering disciplines, provide a key tool for understanding or investigating complex ideas and solving problems, relate to societal or personal concerns, and can be taught over multiple grade levels at progressive levels of depth and complexity.

Disciplinary Core Ideas	
Physical Sciences	
PS1	Matter and its interactions
PS2	Motion and stability: Forces and interactions
PS3	Energy
PS4	Waves and their applications in technologies for information transfer
Life Sciences	
LS1	From molecules to organisms: Structures and processes
LS2	Ecosystems: Interactions and variation of traits
LS3	Heredity: Inheritance and variation of traits
LS4	Biological evolution: Unity and diversity
Earth and Space Sciences	
ESS1	Earth's place in the universe
ESS2	Earth's systems
ESS3	Earth and human activity Engineering, Technology, and Applications of Science
Engineering, Technology, and Applications of Science	
ETS1	Engineering design
ETS2	Links among engineering, technology, science, and society

For more information on the Disciplinary Core Ideas, see the Framework (https://www.nap.edu/catalog/13165/a-framework-for-k-12-science-education-practices-crosscutting-concepts) or Appendix E of the NGSS (nextgenscience.org/sites/default/files/resource/files/AppendixE-ProgressionswithinNGSS-061617.pdf).

Crosscutting Concepts (CCC)

These are concepts that hold true across the natural and engineered world. Students can use them to make connections across seemingly disparate disciplines or situations, connect new learning to prior experiences, and more deeply engage with material across the other dimensions. The NGSS requires that students explicitly use their understanding of the CCCs to make sense of phenomena or solve problems.

Crosscutting Concepts	
1	Patterns
2	Cause and Effect
3	Scale, Proportion, and Quantity
4	Systems and System Models
5	Energy and Matter
6	Structure and Function
7	Stability and Change

For more information on the Crosscutting Concepts, see Appendix G of the NGSS (nextgenscience.org/sites/default/files/resource/files/Appendix%20G%20-%20Crosscutting%20Concepts%20FINAL%20edited%204.10.13.pdf).

NGSS Tasks Analysis Guide

This framework is used to demine the cognitive demand of NGSS tasks that focus on sense-making and problem solving.

Cognitive Demand Levels	Task Description	Number of NGSSS Dimensions Used in Completing the Task	Definitions
5*	Task involves Doing Science	3	**Doing Science:** Students use scientific principles, skills, and behaviors to independently make sense of relevant phenomena and/or address real-world problems building rich and elaborated content knowledge.
4	Task involves Integrated Understanding	3	**Integrated Understanding**: Students are engaged in higher-level thinking with less reliance on scaffolds. Students are required to integrate their understanding of practice with their understanding of content to make sense of phenomena and/or solve engineering problems. The task may ask students to conduct investigations, create models, make predictions, generate interpretations, and propose solutions.
3	Task involves Guided Understanding	2 or 3	**Guided Understanding**: Students are engaged in higher-level thinking using scaffolds. These may include USING a model, using data, and using information to develop an explanation, using science content to construct an argument or to formulate a solution to a problem. The tasks provide scaffolds by telling or providing the students something and asking for the rest of it.
2	Task involves Scripted Understanding	2	**Scripted Understanding:** Students are provided, well-defined set of actions or procedures that they need to take, usually in a given order, to complete a given task. A student can follow those actions and reach the desired answer without really knowing how or why the script leads to that answer.
1*	Task involves Memorization and Recall	1	**Memorization and Recall:** Students are asked to reproduce definitions, formulas, explanations of practices, and principles about particular content they have previously seen.

Based on: Tekkumru-Kisa, Miray & Stein, Mary & Schunn, Christian. (2015). A framework for analyzing cognitive demand and content-practices integration: Task analysis guide in science: TASK ANALYSIS GUIDE IN SCIENCE. Journal of Research in Science Teaching. 52. 10.1002/tea.21208.

** This type of task is not used in NGSS large scale assessments*

Testing Accommodations, Accessibility Features, and Administrative Considerations

This table shows the accommodations that are available for the DC Science Assessment. For more information about each accommodation and its eligibility criteria, including instructions for IEP teams in selecting appropriate accommodations, please access resources on the OSSE Testing Accommodations website: https://osse.dc.gov/service/testing-accommodations.

Accessibility Features Available to All Students

Presentation
▪ Answer masking ▪ Student reads assessment aloud to self ▪ Color contrast ▪ Audio amplification and audio speed control ▪ Magnifier ▪ General masking ▪ Answer eliminator ▪ Bookmark tool ▪ Highlight tool ▪ Line reader tool ▪ Redirect student to test

Administrative Considerations

Setting	Timing and Scheduling	Presentation
▪ Separate /alternate location ▪ Small group testing ▪ Specialized equipment or furniture ▪ Specified area or setting ▪ Headphones or noise buffer	▪ Time of day ▪ Each unit may be administered on a separate day ▪ Frequent breaks	▪ Directions clarified by test administrator ▪ Human reader or human signer ▪ Redirect student to test

Accommodations for Students with Disabilities (IEP or 504) and English Language Learners (ELs) with EL Plans

Setting	Timing and Scheduling	Presentation	Response	English Language Learners
▪ Unique accommoda-tion request	▪ Extended time ▪ Unique accommoda-tion request	▪ Directions not available in ASL: Use human signer for test directions ▪ Screen reader available as text-to-speech ▪ Paper-based edition ▪ Large print edition ▪ Hard-copy Braille edition with tactile graphics ▪ Directions read-aloud and repeated as needed by test administrator ▪ Unique accommoda-tion request	▪ Use of calculator on non-calculator sections ▪ Answers recorded in test book: Must be transcribed into online form ▪ Braille writer or note-taker device not available: Use human scribe ▪ Word prediction external device ▪ Unique accommoda-tion request	▪ Spanish online ▪ Spanish paper edition ▪ Extended time ▪ General administration directions clarified in student's native language (by test administrator) ▪ General administration directions read aloud and repeated as needed in student's native language (by test administrator) ▪ Human reader in Spanish