State Summative Science Test Year 2

WERA Conference
December, 2019

Washington Comprehensive Assessment of Science (WCAS)

Office of Superintendent of Public Instruction

Chris Reykdal, State Superintendent

Welcome!

Who is with us today?

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Today's Topics

- Current State Tests
- WCAS Results
- WCAS Design and Features
- Assessment Resources
- Training Test and Item Specifications Activity
- WCAS Development

Current State Tests

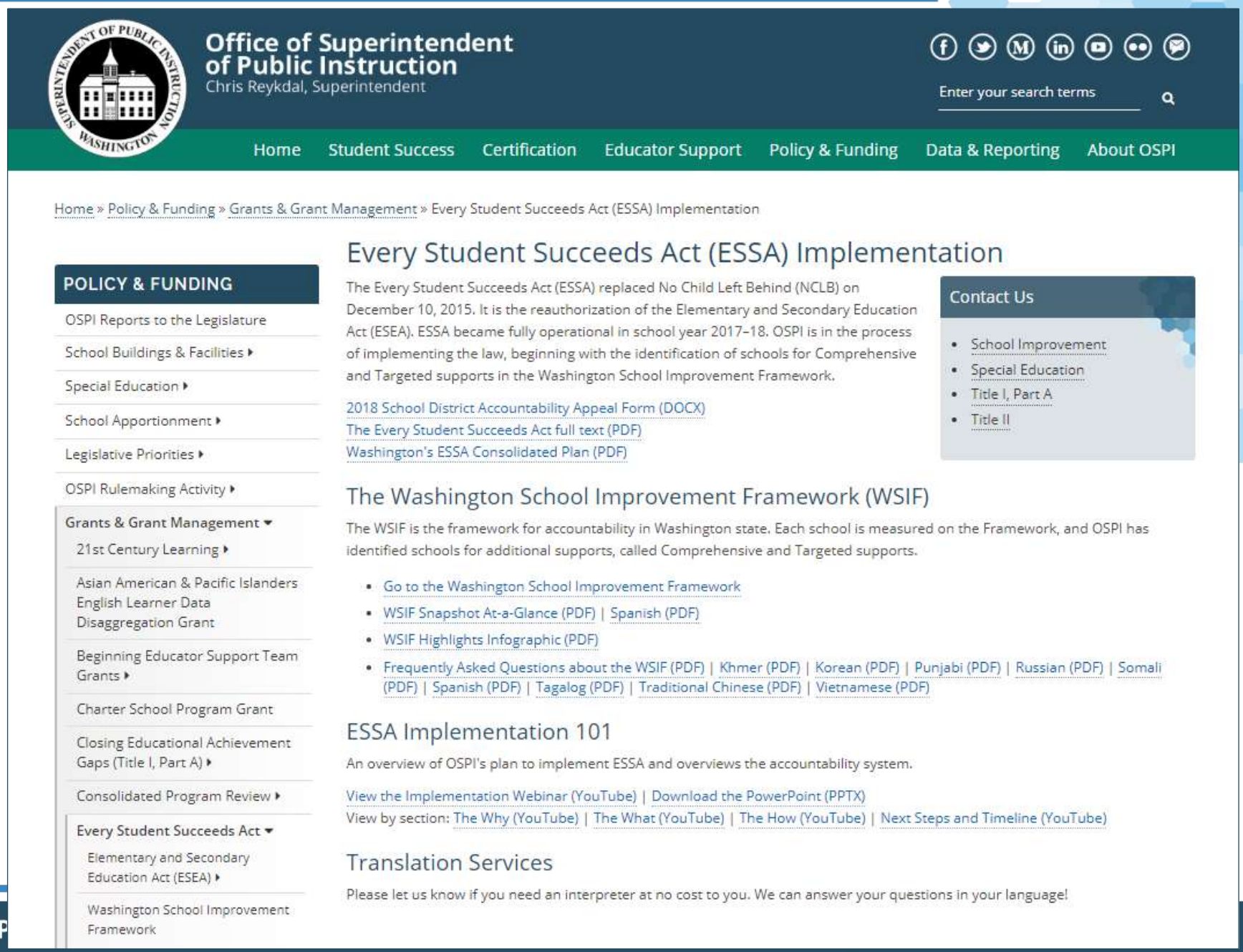
Why do we have state tests?

- The No Child Left Behind Act (NCLB) and state law require that we give a state science test once each in elementary, middle, and high school for the purpose of school and district accountability.

- The Every Student Succeeds Act (ESSA) continues those same requirements.

Every Student Succeeds Act (ESSA)

https://www.k12.wa.us/policy-funding/grants-grant-management/every-student-succeeds-act-essa-implementation



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POLICY & FUNDING

- OSPI Reports to the Legislature
- School Buildings & Facilities
- Special Education
- School Apportionment
- Legislative Priorities
- OSPI Rulemaking Activity
- Grants & Grant Management
  - 21st Century Learning
  - Asian American & Pacific Islanders English Learner Data Disaggregation Grant
  - Beginning Educator Support Team Grants
  - Charter School Program Grant
  - Closing Educational Achievement Gaps (Title I, Part A)
  - Consolidated Program Review
  - Every Student Succeeds Act
    - Elementary and Secondary Education Act (ESEA)
    - Washington School Improvement Framework

Every Student Succeeds Act (ESSA) Implementation

The Every Student Succeeds Act (ESSA) replaced No Child Left Behind (NCLB) on December 10, 2015. It is the reauthorization of the Elementary and Secondary Education Act (ESEA). ESSA became fully operational in school year 2017–18. OSPI is in the process of implementing the law, beginning with the identification of schools for Comprehensive and Targeted supports in the Washington School Improvement Framework.

2018 School District Accountability Appeal Form (DOCX)
The Every Student Succeeds Act full text (PDF)
Washington's ESSA Consolidated Plan (PDF)

Contact Us

- School Improvement
- Special Education
- Title I, Part A
- Title II

The Washington School Improvement Framework (WSIF)

The WSIF is the framework for accountability in Washington state. Each school is measured on the Framework, and OSPI has identified schools for additional supports, called Comprehensive and Targeted supports.

- Go to the Washington School Improvement Framework
- WSIF Snapshot At-a-Glance (PDF) | Spanish (PDF)
- WSIF Highlights Infographic (PDF)
- Frequently Asked Questions about the WSIF (PDF) | Khmer (PDF) | Korean (PDF) | Punjabi (PDF) | Russian (PDF) | Somali (PDF) | Spanish (PDF) | Tagalog (PDF) | Traditional Chinese (PDF) | Vietnamese (PDF)

ESSA Implementation 101

An overview of OSPI's plan to implement ESSA and overviews the accountability system.

View the Implementation Webinar (YouTube) | Download the PowerPoint (PPTX)
View by section: The Why (YouTube) | The What (YouTube) | The How (YouTube) | Next Steps and Timeline (YouTube)

Translation Services

Please let us know if you need an interpreter at no cost to you. We can answer your questions in your language!

House Bill (HB) 1599

- The high school science assessment graduation requirement was removed.
- Students need to demonstrate their readiness for post-secondary career or college via one or more pathways. The pathways available to the Class of 2020 are:
  - Smarter Balanced or WA-AIM (ELA and math)
  - Dual credit courses in English language arts (ELA) and math
  - High school transition courses in ELA and math
  - C+ in AP, IB, or Cambridge class or achieving certain score on AP, IB, or Cambridge tests in ELA and math
  - ACT or SAT score
  - COE-Local, if completed during the 2018–19 school year
- Students must demonstrate skills via a pathway for ELA and math. The above options can be used interchangeably to meet both requirements. Alternatively, the following two pathways are considered to meet both ELA and math.
  - ASVAB
  - CTE Sequence, including completing a Core Plus branded program
- Some students with disabilities may demonstrate
  - CIA cut-score on Smarter Balanced ("L2 Basic")
  - Locally Developed Assessment (LDA)
  - Off-grade assessment

OSPI-Graduation Requirements HB 1599

State Science Standards

- Washington State adopted the Next Generation Science Standards (NGSS) as science learning standards in October of 2013.
    - *2013 Washington State K-12 Science Learning Standards*
- WCAS first administered in Spring 2018
    - 5, 8, 11

NGSS Resources

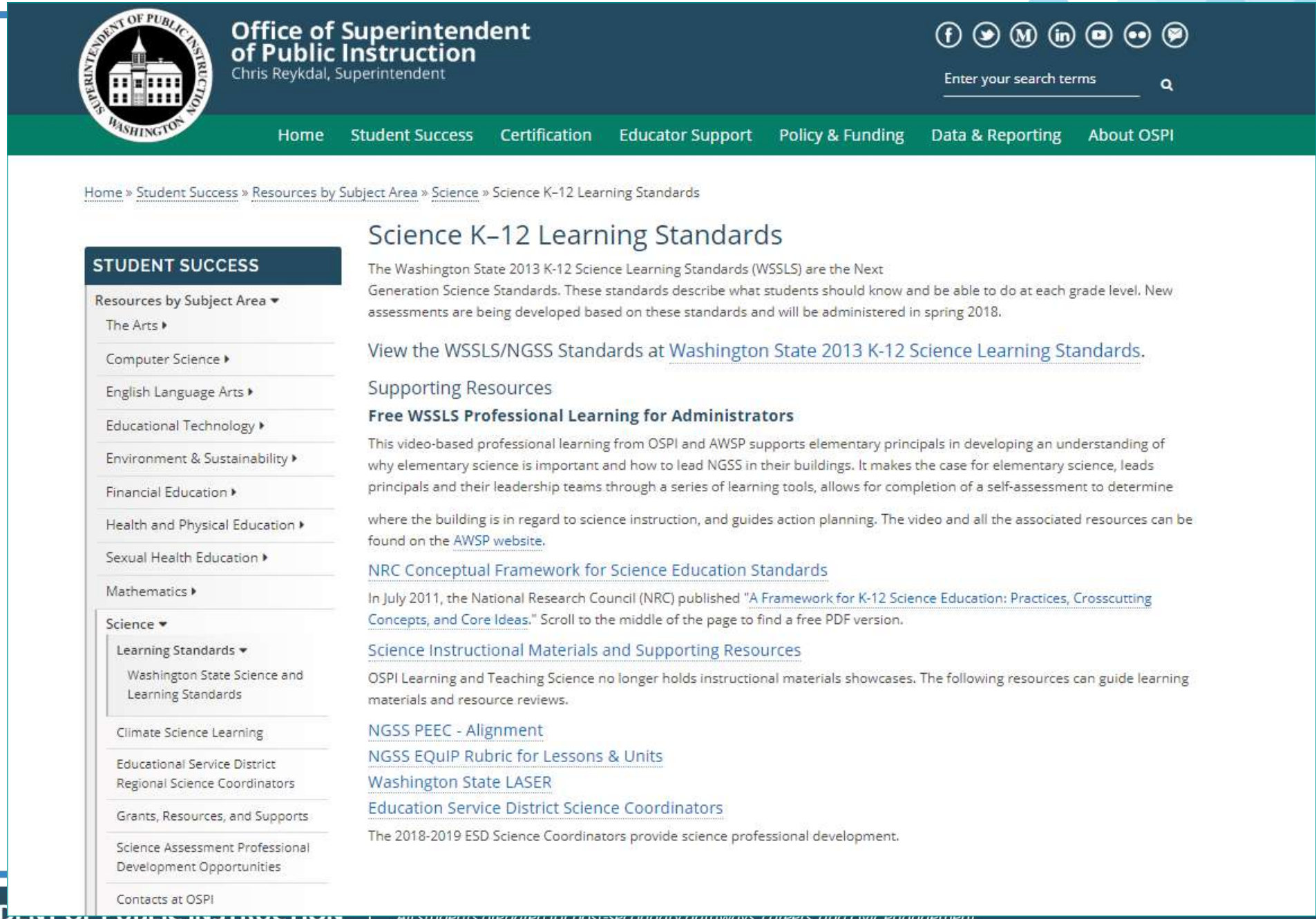
- Next Generation Science Standards (NGSS)
- NGSS Appendices
- K–12 Framework for Science Education

Learning and Teaching Science

- Ellen Ebert, Director
  - Ellen.Ebert@k12.wa.us

2013 Washington State K-12 Science Learning Standards

https://www.k12.wa.us/student-success/resources-subject-area/science/science-k%E2%80%9312-learning-standards



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STUDENT SUCCESS

- Resources by Subject Area
  - The Arts
  - Computer Science
  - English Language Arts
  - Educational Technology
  - Environment & Sustainability
  - Financial Education
  - Health and Physical Education
  - Sexual Health Education
  - Mathematics
  - Science
    - Learning Standards
      - Washington State Science and Learning Standards
    - Climate Science Learning
    - Educational Service District Regional Science Coordinators
    - Grants, Resources, and Supports
    - Science Assessment Professional Development Opportunities
    - Contacts at OSPI

Science K–12 Learning Standards

The Washington State 2013 K-12 Science Learning Standards (WSSLS) are the Next Generation Science Standards. These standards describe what students should know and be able to do at each grade level. New assessments are being developed based on these standards and will be administered in spring 2018.

View the WSSLS/NGSS Standards at Washington State 2013 K-12 Science Learning Standards.

Supporting Resources

Free WSSLS Professional Learning for Administrators

This video-based professional learning from OSPI and AWSP supports elementary principals in developing an understanding of why elementary science is important and how to lead NGSS in their buildings. It makes the case for elementary science, leads principals and their leadership teams through a series of learning tools, allows for completion of a self-assessment to determine where the building is in regard to science instruction, and guides action planning. The video and all the associated resources can be found on the AWSP website.

NRC Conceptual Framework for Science Education Standards

In July 2011, the National Research Council (NRC) published "A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas." Scroll to the middle of the page to find a free PDF version.

Science Instructional Materials and Supporting Resources

OSPI Learning and Teaching Science no longer holds instructional materials showcases. The following resources can guide learning materials and resource reviews.

NGSS PEEC - Alignment
NGSS EQuIP Rubric for Lessons & Units
Washington State LASER
Education Service District Science Coordinators

The 2018-2019 ESD Science Coordinators provide science professional development.

Washington Comprehensive Assessment of Science (WCAS)

Washington State 2013 K-12 Science Learning Standards Next Generation Science Standards (NGSS)		
Grade 5	Grade 8	Grade 11
3-5 band	Middle School band	High School band

http://www.k12.wa.us/Science/Standards.aspx

2020 WCAS Test Windows

Grades	Requirement	Testing Window
5 & 8	Required for federal and state accountability	**Online:** April 13 – June 5 **Accommodated Paper Form:** April 13 – May 22
11	Required for federal and state accountability	**Online:** May 4 – June 5 **Accommodated Paper Form:** May 1 – May 22

Accommodated paper testing is available only to support large print, braille, and standard print (English and Spanish) forms for students whose IEP or 504 plan states paper.

The student to Test Administrator (TA) ratio should be no greater than 3 students to 1 TA when administering the WCAS accommodated paper form.

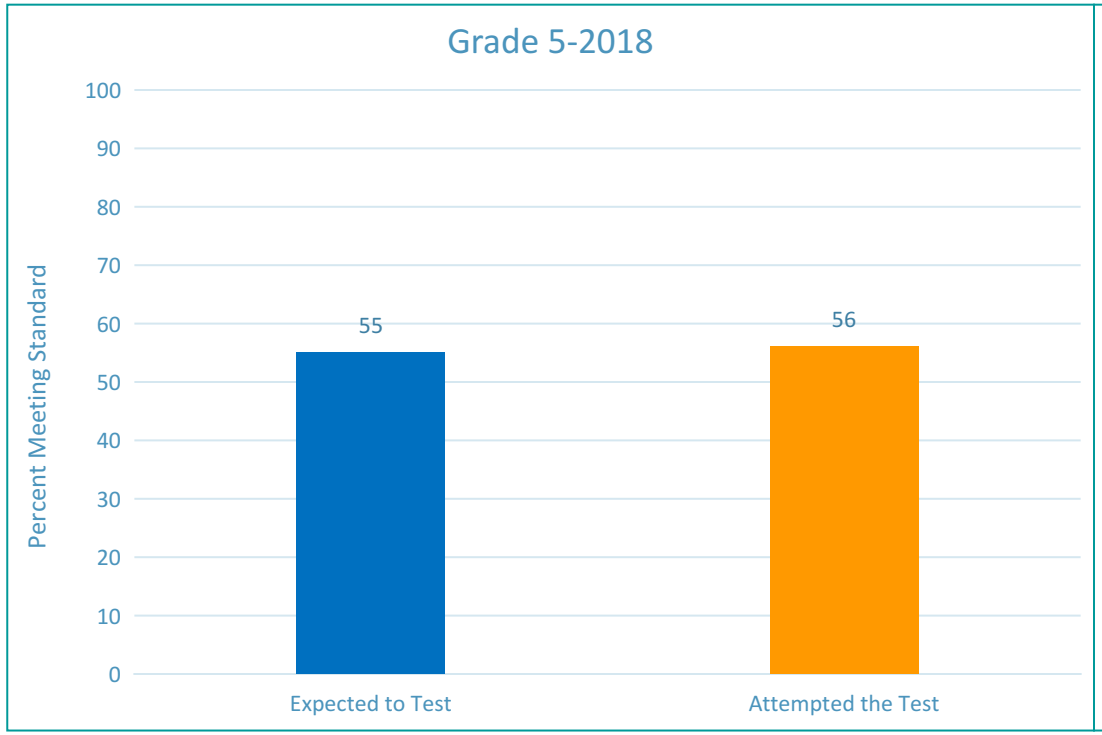
http://www.k12.wa.us/assessment/StateTesting/timelines-calendars.aspx

WCAS Accommodated Paper Testing

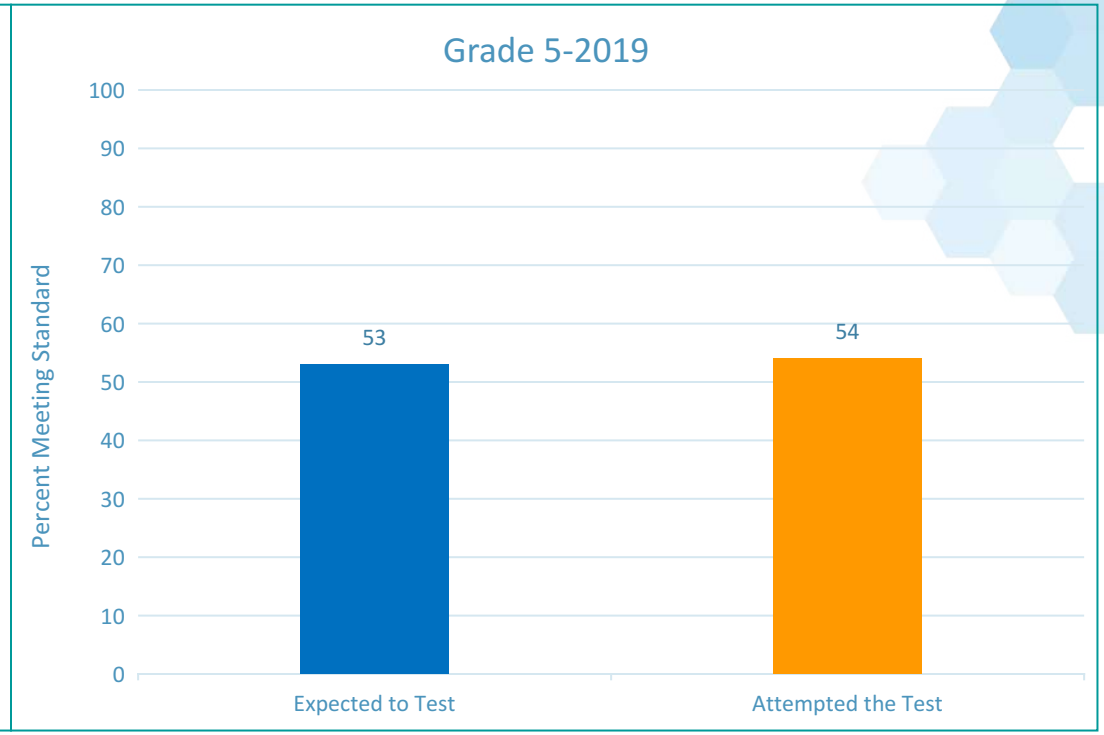
- Standard forms and Spanish forms are shipped back to the vendor for processing and scoring
- Large print and braille student responses are transcribed onto a standard print form before being shipped back to vendor for processing and scoring
- Resources
  - Paper Test Administration Manual (TAM): https://wa.portal.cambiumast.com/resources/user-guides-and-manuals-testc/
  - Training Module: https://wa.portal.cambiumast.com/resources/modules-testc/
  - Secure TA Script of Student Directions—shipped with test booklets

WCAS Results

Statewide WCAS Results-Grade 5

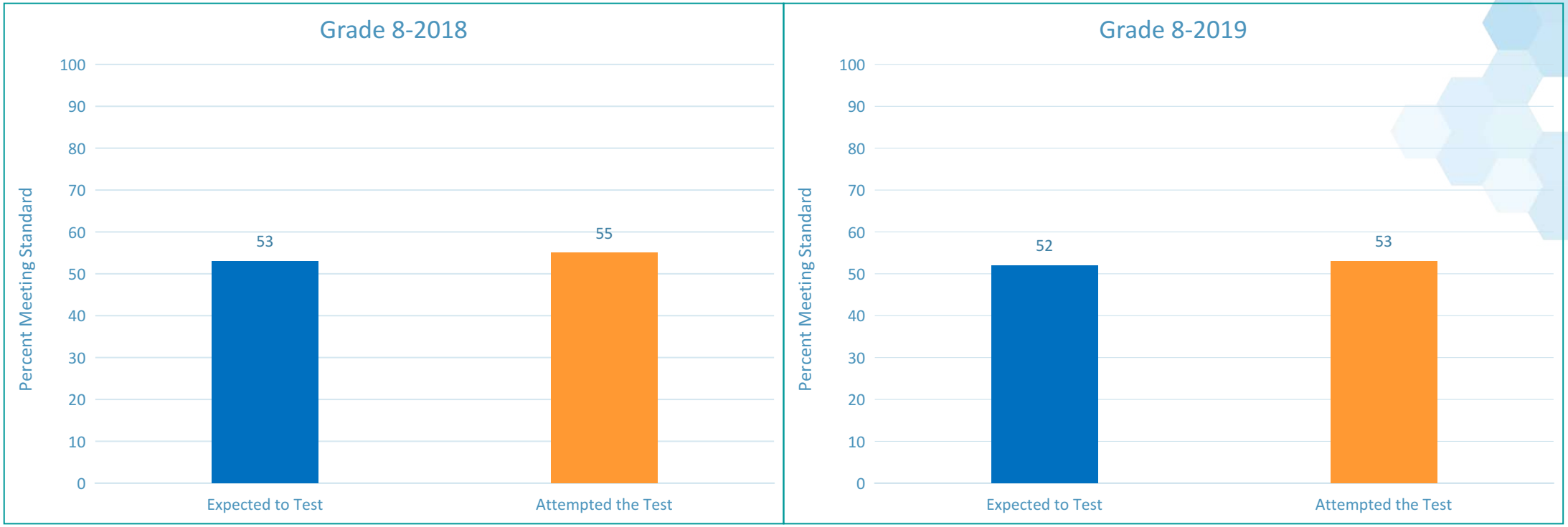


97% participation



93% participation

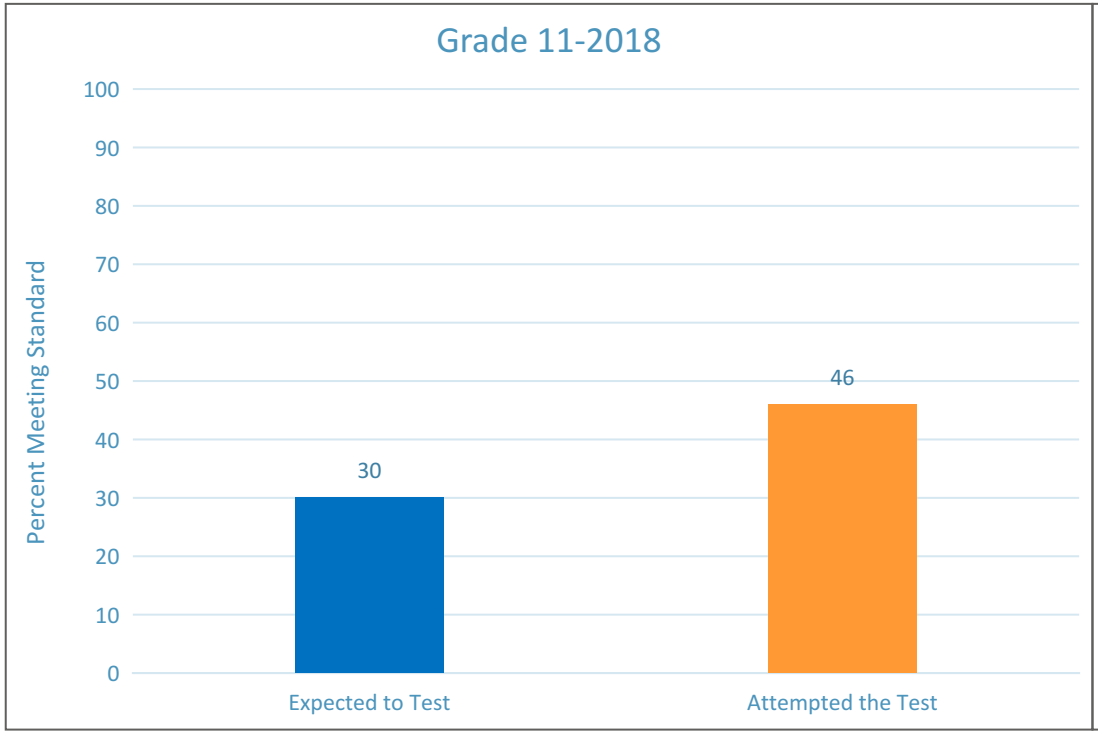
Statewide WCAS Results-Grade 8



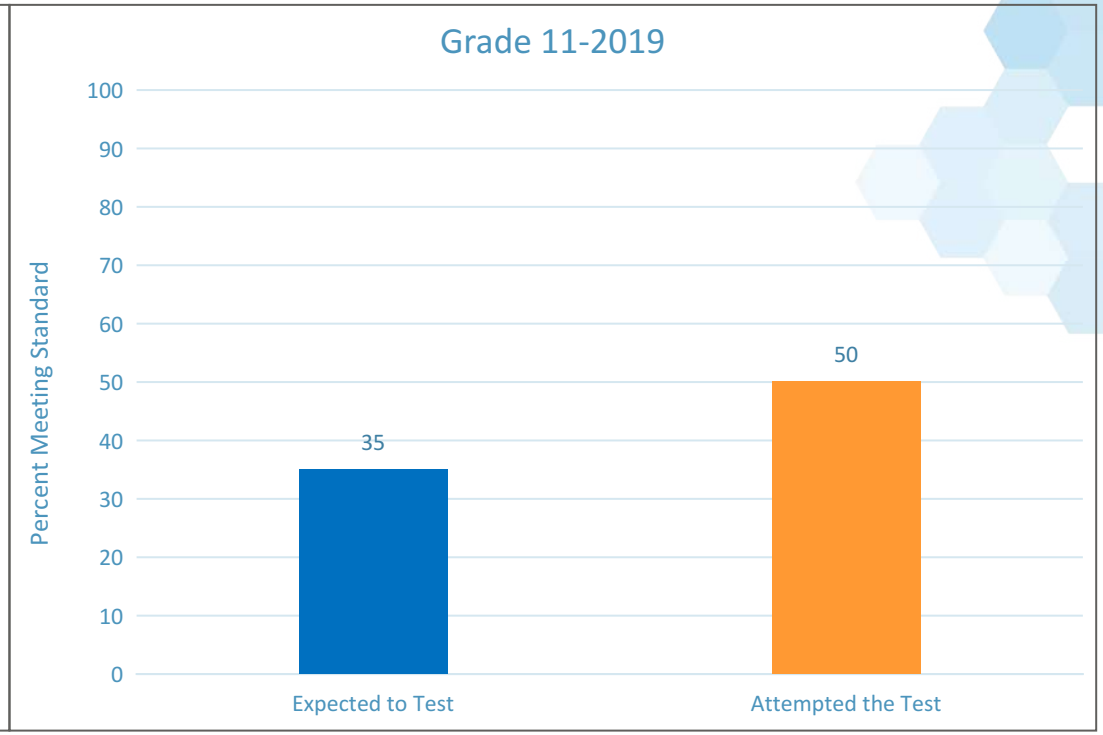
96% participation

92% participation

Statewide WCAS Results-Grade 11

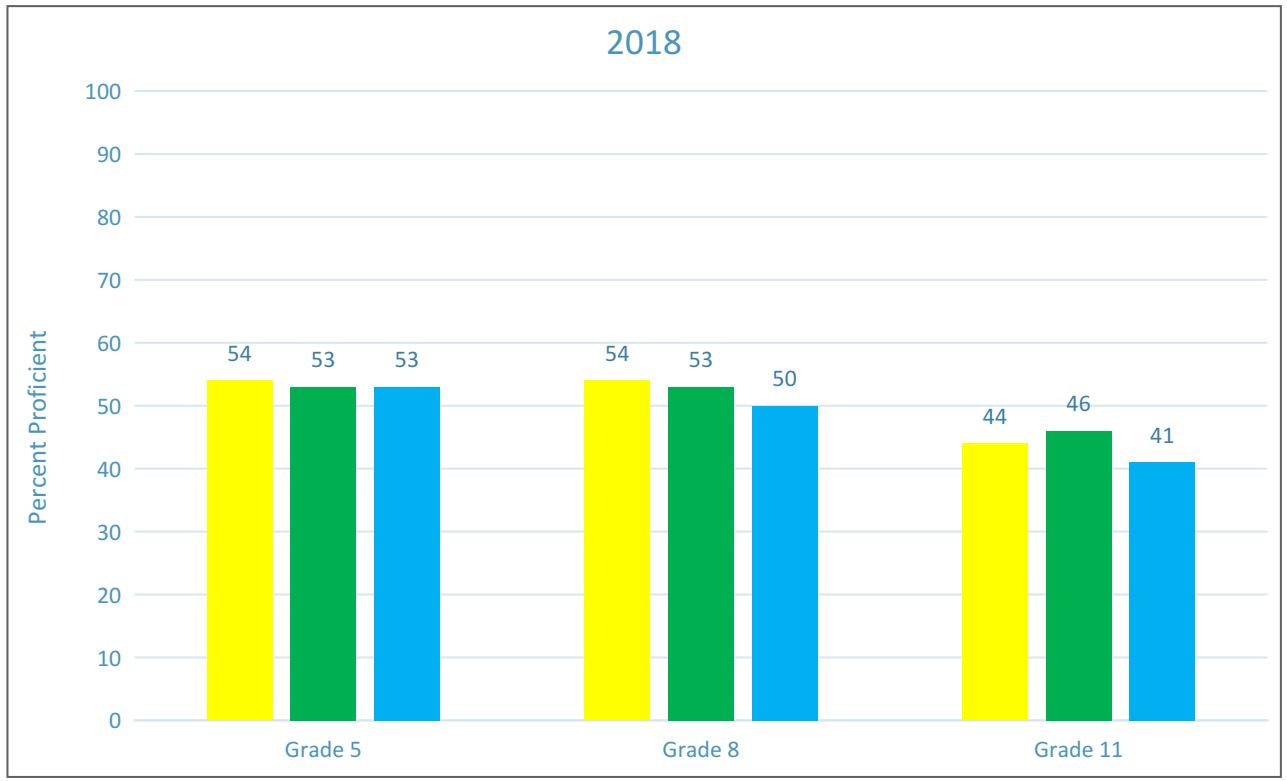


66% participation



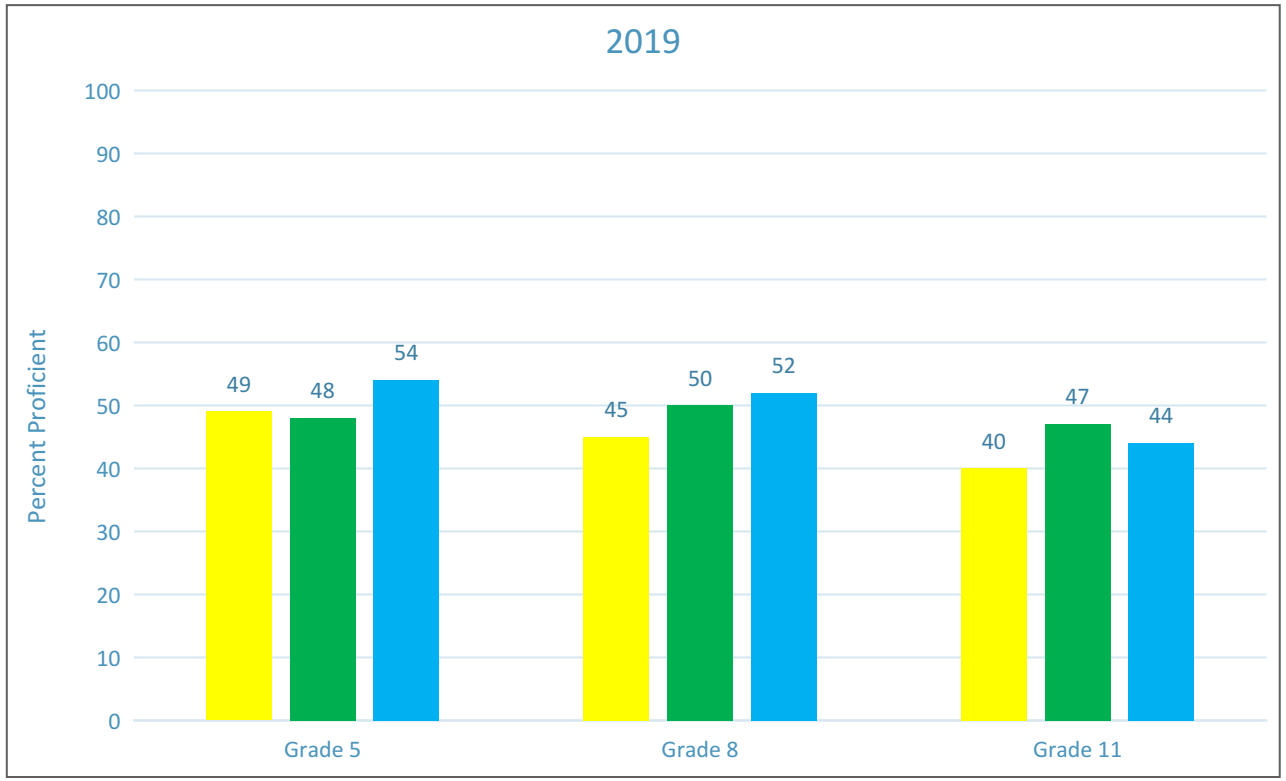
63% participation

2018 Reporting Area Performance



- Practices and Crosscutting Concepts in Physical Sciences
- Practices and Crosscutting Concepts in Life Sciences
- Practices and Crosscutting Concepts in Earth and Space Sciences

2019 Reporting Area Performance



Practices and Crosscutting Concepts in Physical Sciences

Practices and Crosscutting Concepts in Life Sciences

Practices and Crosscutting Concepts in Earth and Space Sciences

Questions to explore…

- How much time do kids spend on science?
- Is your science curriculum aligned to the NGSS?
- When did NGSS implementation occur?
- How much training has staff received on the NGSS?
- Did students practice with WCAS training tests?
- How do your results compare to the state average? Similar districts/schools?
- How many students in your school/district participated in the WCAS ?
- Are your scores considerably different in one reporting area?

2019 Scale Score Ranges

Washington Comprehensive Assessment of Science				
The cut (or threshold) scores for Levels 1, 2, 3, and 4 were developed by Washington educators. These cut scores were adopted by the State Board of Education in August 2018				
Grades	Level 1	Level 2	Level 3	Level 4
5	375 – 649	650 – 699	700 – 784	785 – 1060
8	345 – 649	650 – 699	700 – 764	765 – 1060
11	390 – 649	650 – 699	700 – 790	791 – 1190

- http://www.k12.wa.us/assessment/StateTesting/ScaleScores.aspx

Scores—Communication Timeline

- Scores made available in the Online Reporting System (ORS) on the WCAP Portal in August
- Statewide test scores were publically released on Report Card in September
- Paper WCAS Individual Score Reports (ISRs) arrived in districts in October

WCAS Design and Features

NGSS Performance Expectations per Grade Band

Reporting Area	Number of Three-Dimensional Performance Expectations		
	3-5	Middle School	High School
Physical Science Domain	17	19	24
Life Science Domain	12	21	24
Earth and Space Science Domain	13	15	19
Engineering Domain	3	4	4
Total	45	59	71

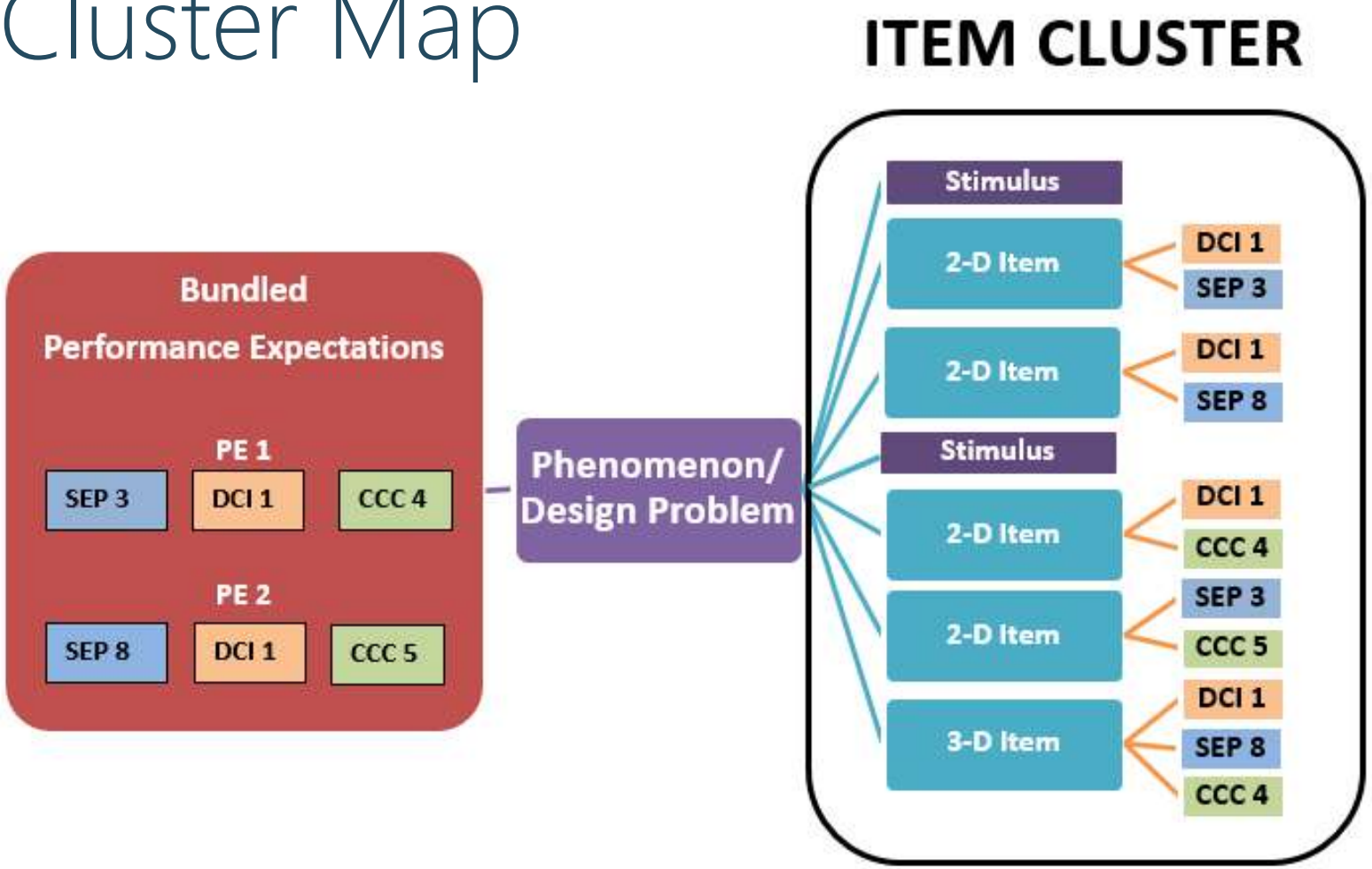
Each Performance Expectation (PE) includes a Science and Engineering Practice, a Disciplinary Core Idea, and a Cross-cutting Concept

WCAS Reporting Areas

Reporting Area	Grade 5	Grade 8	Grade 11
Science and Engineering Practice and Cross-Cutting Concepts in Physical Sciences	17 Performance Expectations 40% ~14 pts	19 Performance Expectations 35% ~14 pts	24 Performance Expectations 36% ~16 pts
Science and Engineering Practice and Cross-Cutting Concepts in Life Sciences	12 Performance Expectations 29% ~10 pts	21 Performance Expectations 38% ~15 pts	24 Performance Expectations 36% ~16 pts
Science and Engineering Practice and Cross-Cutting Concepts in Earth and Space Sciences	13 Performance Expectations 31% ~11 pts	15 Performance Expectations 27% ~11 pts	19 Performance Expectations 28% ~13 pts
Total Points	**35**	**40**	**45**

ETS PEs assessed but not included here.

Item Cluster Map



Standalone Items

- Allow more PEs to be assessed on a test
- Are 2 or 3 dimensional
- Can have multiple parts
- Computer scored item types only

WCAS Features

- All online
- Item Clusters and Standalone Items
- Item Types:
  - Selected Response—multiple choice, multiple select
  - Constructed Response—short answer
  - Technology enhanced—ex: drag and drop, drop-down choices, simulations
- Multi-part items
  - Parts labeled with letters A, B, and C.
  - May have a mix of item types. Parts work together. May ask for evidence to support answer in previous part of the item.

Structure and Test Length

- Structure
  - Operational
    - Grades 5 and 8: 5 Clusters and 6-12 Standalone items
    - High School: 6 Clusters and 6-12 Standalone items
    - Counts toward a student's score
  - Field test items
    - Embedded in the online administration
    - One cluster and/or standalone items
    - Does not count toward a student score
  - All items are aligned to 2 or 3 dimensions of a PE

- Test Length
  - Grade 5: 90 minutes
  - Grade 8: 110 minutes
  - Grade 11: 120 minutes

- Administration
  - Can be administered in multiple sessions like the Smarter Balanced ELA and Math assessments
  - 1 to 3 sessions recommended

Special WCAS Features

- Collapsing stimuli
  - First stimulus is hidden when second stimulus is provided.
  - Both stimuli are available to the student.

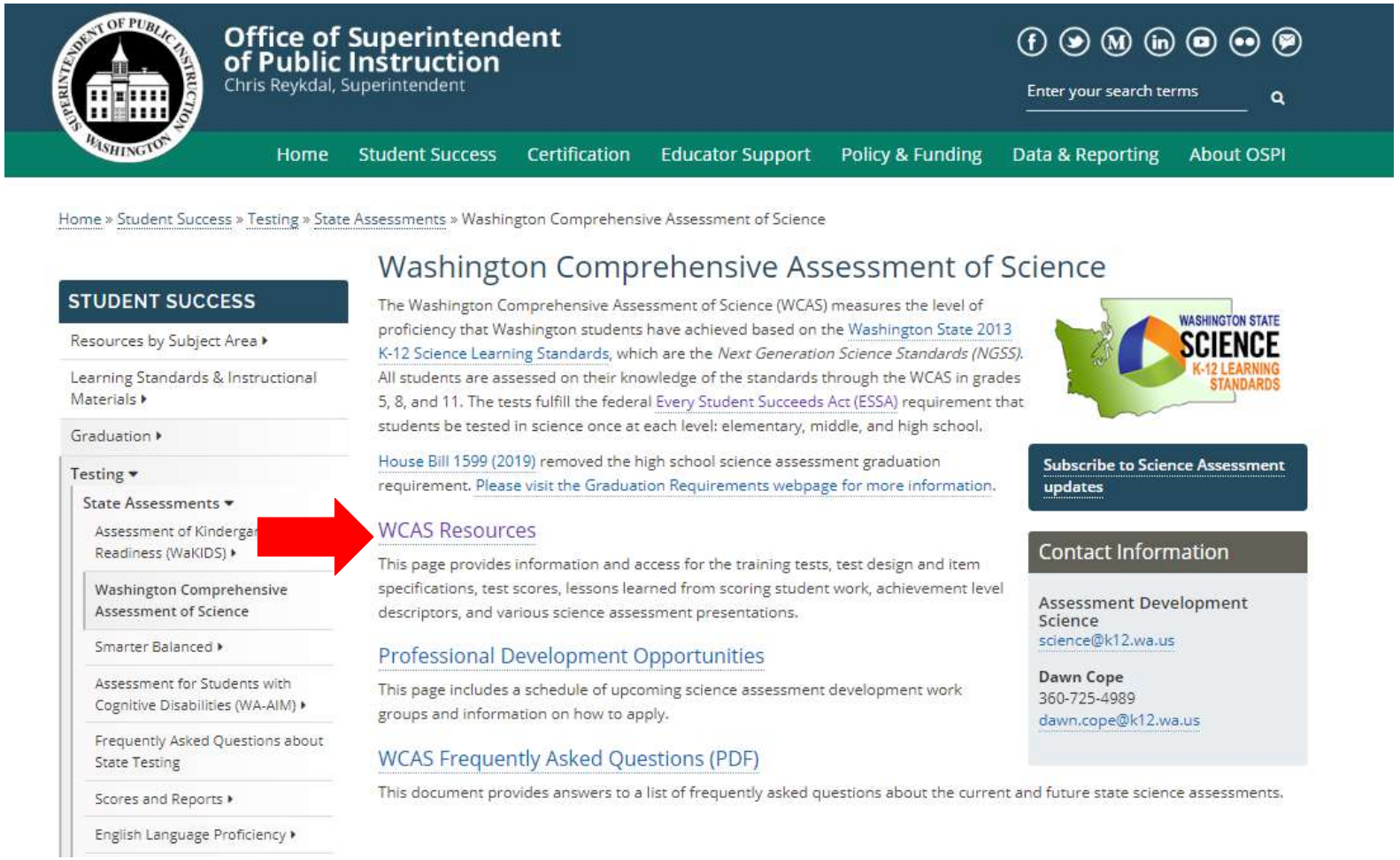
- Locking Items
  - Student can answer the question only once.
  - Allows subsequent questions to update with correct information.
  - An “attention” box warns student that they won’t be able to change their answer.

WCAS Training Tests

- Help students become familiar with the features and tools of online tests.
- Available on the WCAP portal.
- Will be updated in late December 2019

Assessment Resources

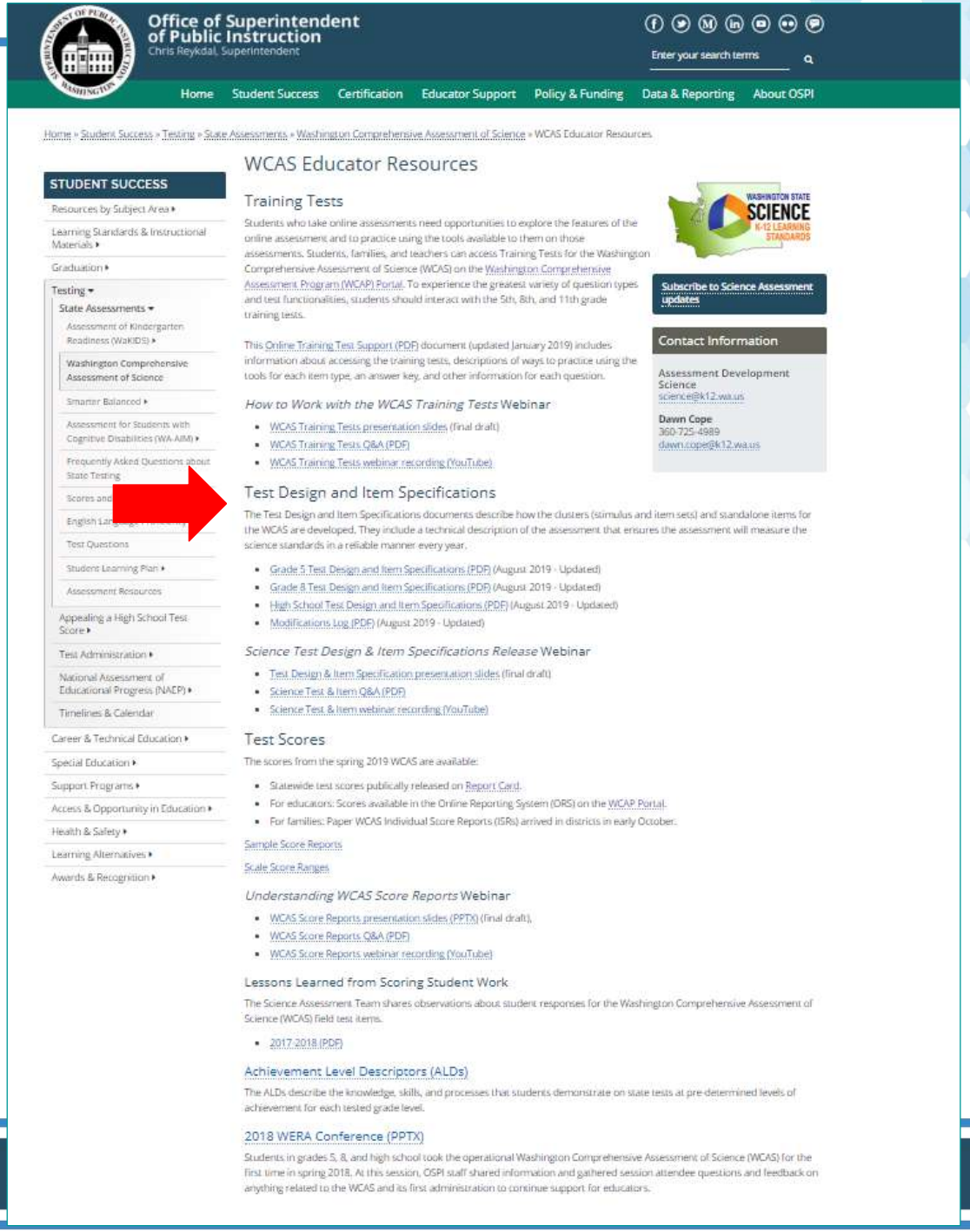
Science Assessment Webpage



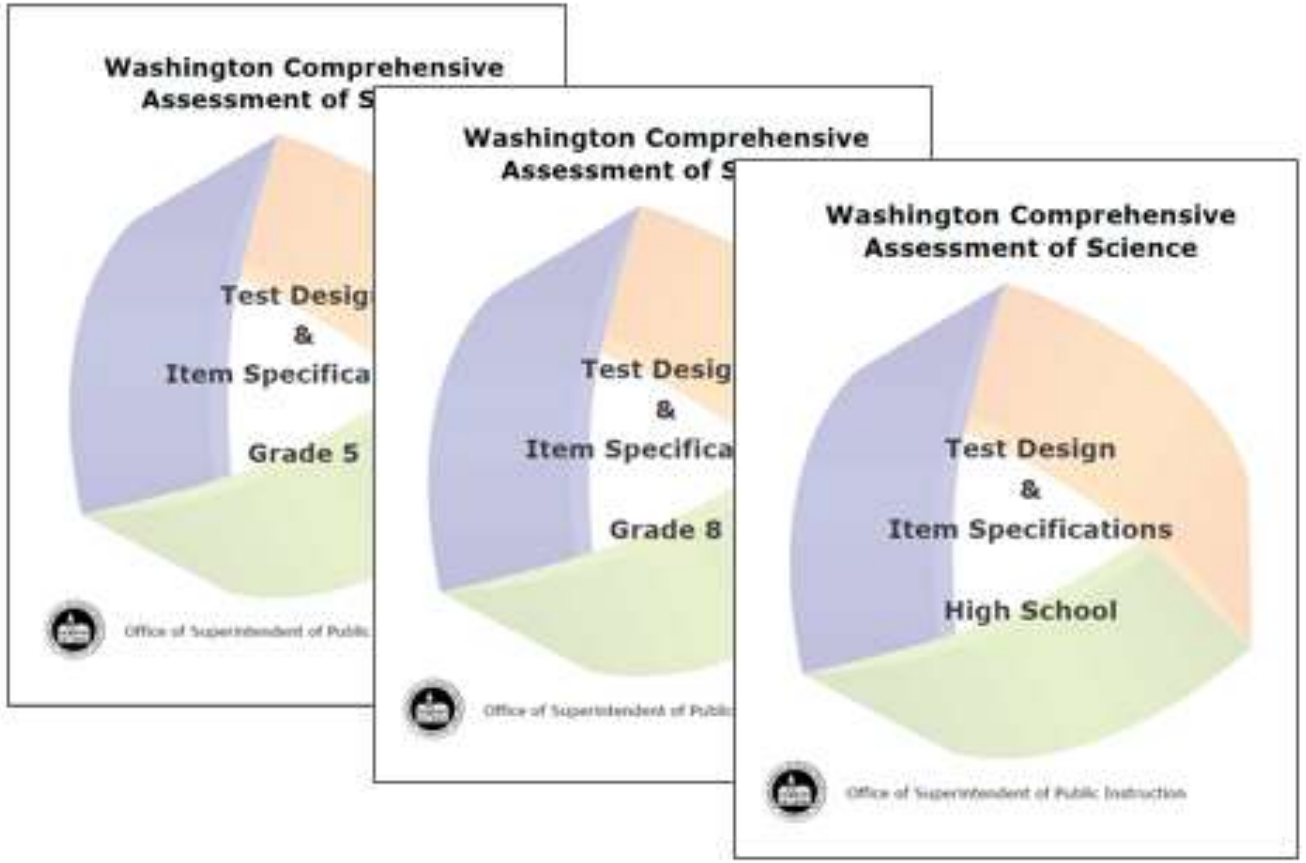
https://www.k12.wa.us/student-success/testing/state-testing-overview/washington-comprehensive-assessment-science

WCAS Educator Resources Webpage

https://www.k12.wa.us/student-success/testing/state-testing-overview/washington-comprehensive-assessment-science



WCAS Test Design and Item Specifications



WCAS Test Design and Item Specifications

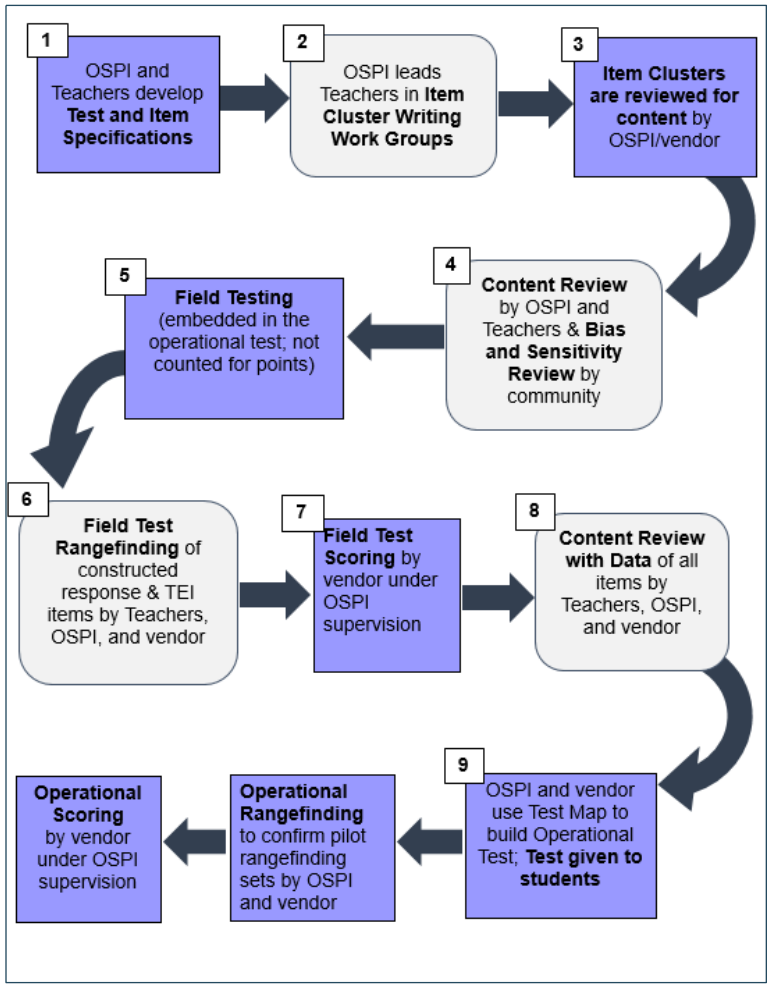
- Describe how item clusters (stimuli and items) and standalone items for the WCAS are developed to assess the NGSS
- Contents
  - Structure of the test
  - Item Types
  - Test organization
  - Overview of NGSS
  - Item specifications that describe how students can demonstrate understanding of the PEs on the state test.
  - Vocabulary word list
- The documents will be updated annually based on WA educator feedback.
- A modification log will be posted at each subsequent publication.

WCAS Development

Goals for WCAS

- Design an assessment that reflects how science content is taught and tested in the classroom.
- Use WA educators in assessment development.
- Develop high quality item clusters and standalone items that achieve alignment to the SEPs, DCIs, CCCs represented in a PE or PE bundle.
- Design an assessment that allows for valid and reliable inferences to be drawn from the results.
- Design an assessment that ensures the fair and accurate assessment of students in special populations.

Science Assessment Development Cycle



Educator Work Group Descriptions

- **(2) Item Cluster Writing Workgroup:** Teams of 2-3 educators write stimuli, items, and rubrics designed to validly measure student understanding of the NGSS.

- **(4) Content Review Workgroup:** Educators review the products of the Item Cluster Writing Workgroup to ensure that every stimulus, item, and rubric is scientifically accurate and gathers appropriate evidence about student skill with the NGSS. At the same time, a separate committee of community members reviews the items and stimuli for any bias and sensitivity issues. Recommendations from the Bias/Sensitivity Review Workgroup are considered by the Content Review Workgroup.

- **(6) Field Test Rangefinding :** Educators look at a range of student responses to each short answer item and decide how to score each response. This educator workgroup refines scoring rubrics and produces the materials that will be used to score the field test items.

- **(8) Content Review with Data Workgroup:** Educators use item performance data, as well as members' science content knowledge, to decide whether each item should advance into the item bank.

Upcoming Professional Development Opportunities

Event	Timing
Item Cluster Writing	March 2020
Field Test Range Finding	July 2020
Content Review	August 2020
Content Review with Data	September 2020

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Thank you!