

Grade 11

Washington Comprehensive

Assessment of Science

(WCAS)



Overview for High School Students & Families

- **When:** WCAS administered for first time for 5th, 8th, and 11th grade spring 2018
- **Why:** Fulfills federal (ESSA) requirement that students be tested in science once at elementary, middle, and high school.
- **What:** WCAS measures proficiency level based on the [Washington State 2013 K-12 Science Learning Standards](#), adopted Oct 2013.
- **Who:** Passing test is a graduation requirement for the class of 2021 and beyond

WCAS Assessment Schedule

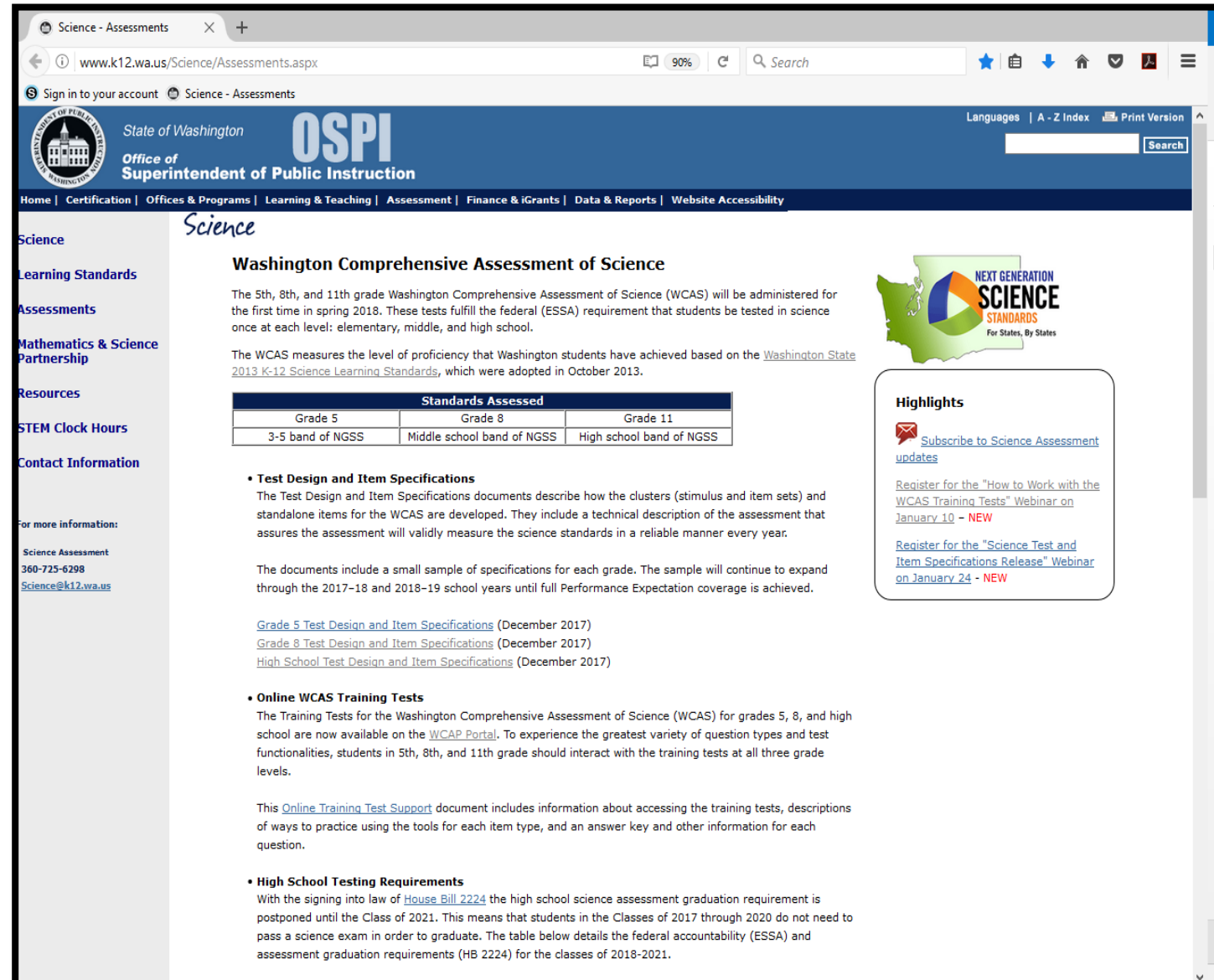
- The classes of 2019 and 2020 will take the WCAS in the spring of their 11th grade, but it is NOT a graduation requirement
- The class of 2021 will be required to pass the WCAS for graduation.
- Alternatives to this graduation requirement will become available after the class of 2021 takes the WCAS.
- **NOTE: The Biology EOC will no longer be administered!**

Grade in 2017-18	Class of...	Science Assessment Spring 2018	Science Assessment Spring 2019 and beyond
12	2018	None	None
11	2019	WCAS for federal accountability	None
10	2020	None	WCAS for federal accountability in 11th grade (2019)
9	2021	None	WCAS for graduation and federal accountability in 11th grade (2020)

WCAS Information and Resources (OSPI)

Visit the [OSPI Science Assessment webpage](https://www.k12.wa.us/Science/Assessments.aspx) for information about the WCAS including

- Test Design and Item Specifications
- Link to Online WCAS Training Tests
- FAQs



The screenshot shows the OSPI Science Assessments webpage. The header includes the OSPI logo and navigation links. The main content area is titled "Science" and features the "Washington Comprehensive Assessment of Science" section. This section includes a table of standards assessed for grades 5, 8, and 11, and several bullet points detailing test design, online training tests, and high school testing requirements. A sidebar on the left provides additional navigation options, and a highlights box on the right offers links to subscribe to updates and register for webinars.

Science - Assessments

www.k12.wa.us/Science/Assessments.aspx

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Science

Learning Standards

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Resources

STEM Clock Hours

Contact Information

For more information:

Science Assessment
360-725-6298
Science@k12.wa.us

Washington Comprehensive Assessment of Science

The 5th, 8th, and 11th grade Washington Comprehensive Assessment of Science (WCAS) will be administered for the first time in spring 2018. These tests fulfill the federal (ESSA) requirement that students be tested in science once at each level: elementary, middle, and high school.

The WCAS measures the level of proficiency that Washington students have achieved based on the [Washington State 2013 K-12 Science Learning Standards](#), which were adopted in October 2013.

Standards Assessed		
Grade 5	Grade 8	Grade 11
3-5 band of NGSS	Middle school band of NGSS	High school band of NGSS

- **Test Design and Item Specifications**

The Test Design and Item Specifications documents describe how the clusters (stimulus and item sets) and standalone items for the WCAS are developed. They include a technical description of the assessment that assures the assessment will validly measure the science standards in a reliable manner every year.

The documents include a small sample of specifications for each grade. The sample will continue to expand through the 2017-18 and 2018-19 school years until full Performance Expectation coverage is achieved.

[Grade 5 Test Design and Item Specifications](#) (December 2017)
[Grade 8 Test Design and Item Specifications](#) (December 2017)
[High School Test Design and Item Specifications](#) (December 2017)
- **Online WCAS Training Tests**

The Training Tests for the Washington Comprehensive Assessment of Science (WCAS) for grades 5, 8, and high school are now available on the [WCAP Portal](#). To experience the greatest variety of question types and test functionalities, students in 5th, 8th, and 11th grade should interact with the training tests at all three grade levels.

This [Online Training Test Support](#) document includes information about accessing the training tests, descriptions of ways to practice using the tools for each item type, and an answer key and other information for each question.
- **High School Testing Requirements**

With the signing into law of [House Bill 2224](#) the high school science assessment graduation requirement is postponed until the Class of 2021. This means that students in the Classes of 2017 through 2020 do not need to pass a science exam in order to graduate. The table below details the federal accountability (ESSA) and assessment graduation requirements (HB 2224) for the classes of 2018-2021.

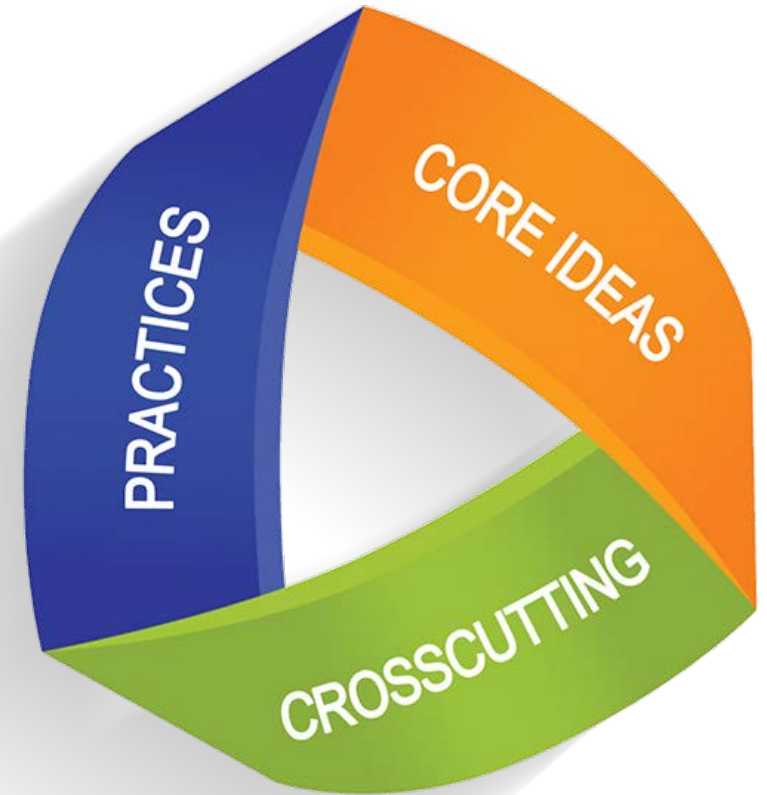
Next Generation Science Standards For States, By States

Highlights

- [Subscribe to Science Assessment updates](#)
- [Register for the "How to Work with the WCAS Training Tests" Webinar on January 10 - NEW](#)
- [Register for the "Science Test and Item Specifications Release" Webinar on January 24 - NEW](#)

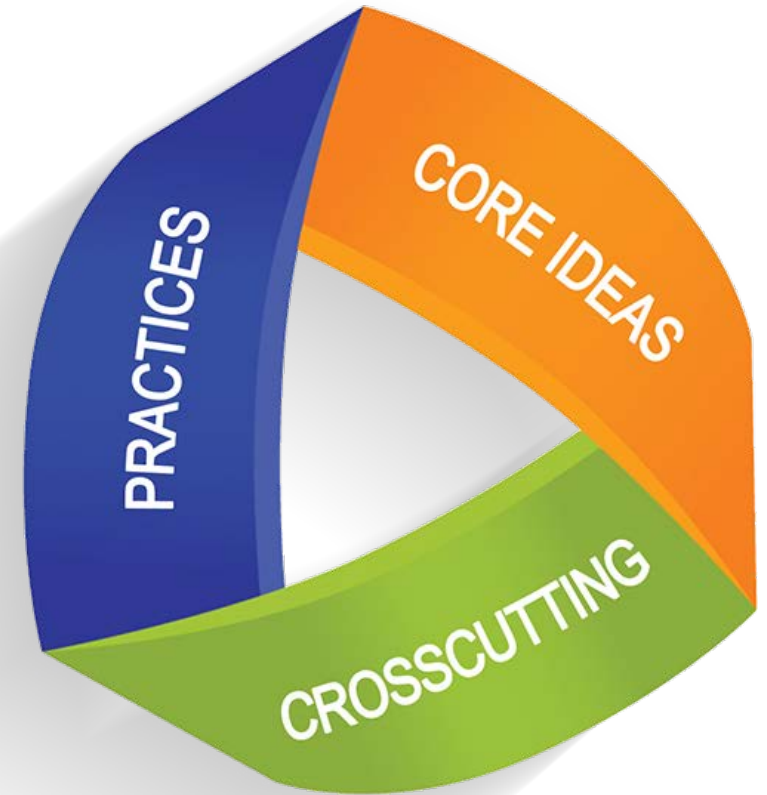
What Will the Grade 11 WCAS Assess?

- WCAS will assess all three dimensions of the science learning standards
 - **Science and Engineering Practices,**
 - **Disciplinary Core Ideas**
 - **Crosscutting Concepts**
- (each dimension detailed on following slides)



Science and Engineering Practices

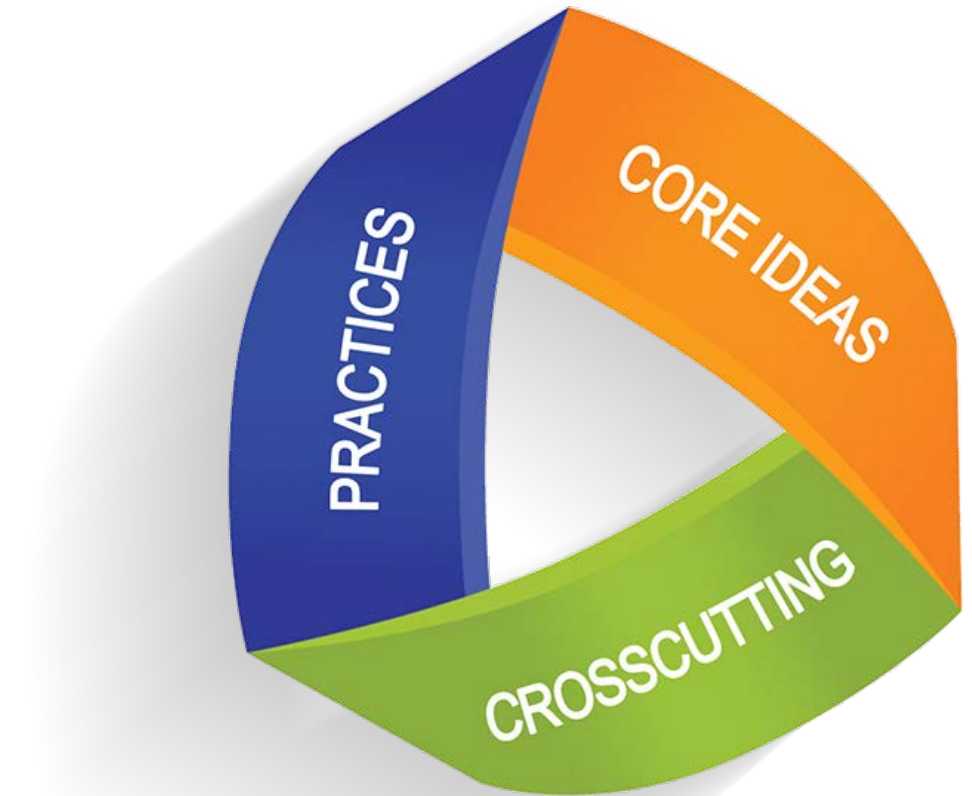
- Asking questions and defining problems
- Developing and using models
- Planning and carrying out investigations
- Analyzing and interpreting data
- Using mathematics and computational thinking
- Constructing explanations and designing solutions
- Engaging in argument from evidence
- Obtaining, evaluating, and communicating information



Disciplinary Core Ideas

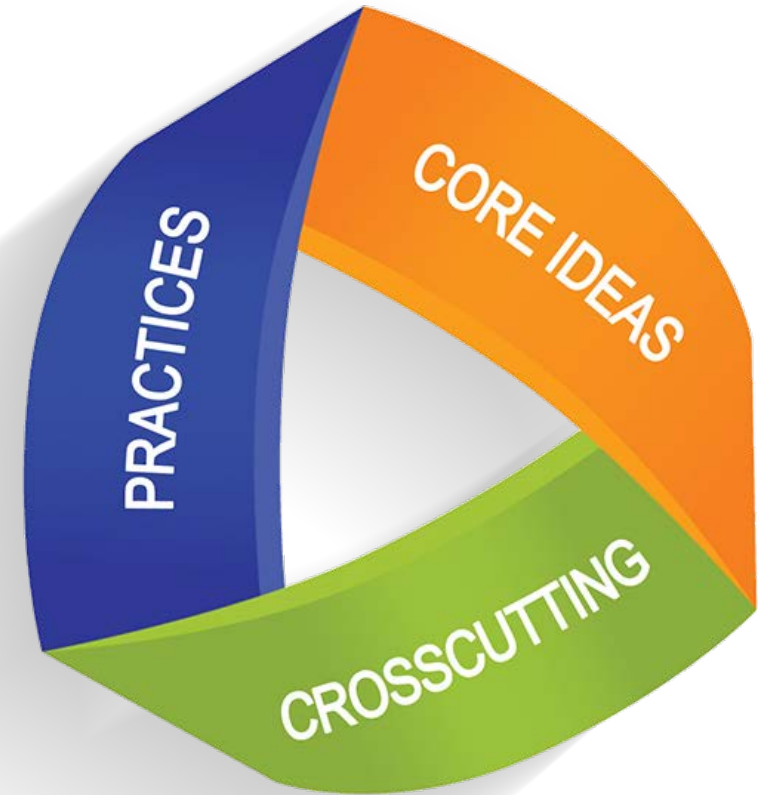
- Physical Sciences
- Life Sciences
- Earth and Space Sciences
- Engineering, Technology and Applications of Science

Each of these has 2-4 subcategories of core ideas



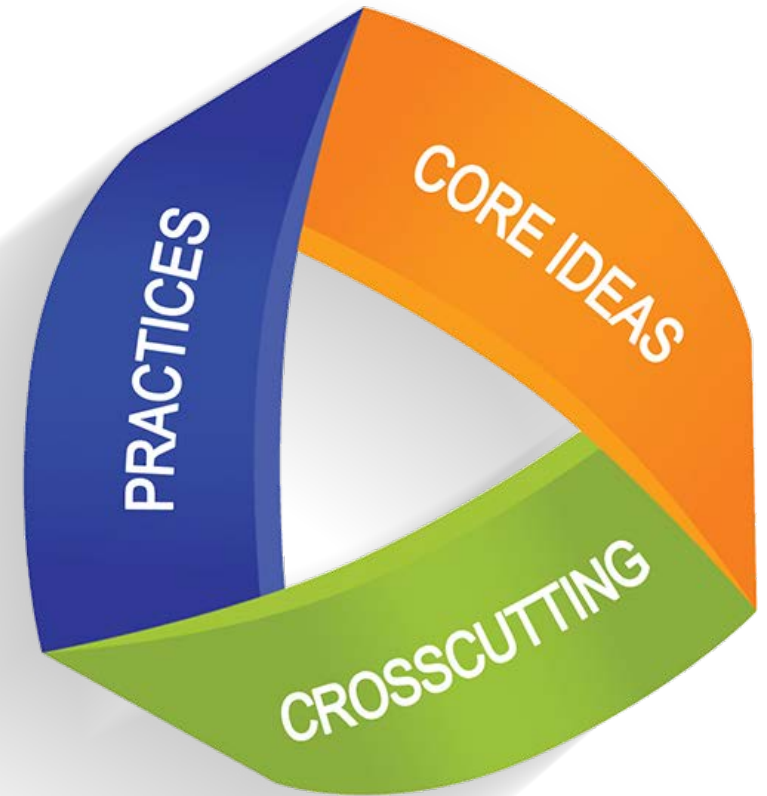
Crosscutting Concepts

- Patterns
- Cause and Effect: Mechanisms and Explanation
- Scale, Proportion, and Quantity
- Systems and Systems Models
- Energy and Matter: Flows, Cycles and Conservation
- Structure and Function
- Stability and Change



What will questions look like?

- Questions will start with a puzzling phenomenon that requires an understanding of two or more of each **practices**, **disciplinary core ideas**, and **crosscutting concepts**.
- Then a series prompts will be given where each tests 2 or more of each of the **practices**, **core ideas** or **crosscutting concepts**.



Matching Item (MI) Example



Science and Engineering Practice:
Developing and Using Models



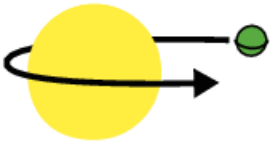
Disciplinary Core Idea:
Earth and Space Sciences

Crosscutting Concept:
Cause and Effect;
Systems and System Models

Students use a large yellow ball and a small green ball to model the sun and Earth. They use the balls to explain the cause of day and night, to model the length of a year, and to explain the cause of the seasons.

Select **each** box to identify which movements of the balls are needed to explain each phenomenon.

- You can select more than one box for each statement.

	 <p>Large yellow ball is stationary, while small green ball spins.</p>	 <p>Large yellow ball is stationary, while small green ball is tilted.</p>	 <p>Large yellow ball is stationary, while small green ball moves around it.</p>
The cause of day and night	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The length of a year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The cause of the seasons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Not a Washington item – included as an example of item-type only.

Drag & Drop w/ Fill-In Labeling Example 1

Science and Engineering Practice:
Planning and Carrying out Investigations

Disciplinary Core Idea:
Physical Sciences

Crosscutting Concept:
Cause and Effect;
Systems and System Models

A class investigates whether heavier objects fall faster than lighter objects.

A basketball with a mass 600 g and a baseball with a mass 145 g are set up to be released at the same time from the same height as shown in the "Before Release" diagram.

The balls are released at the same time and fall partway to the ground as shown in the "After Release" diagram.

- Place the baseball on the gray dashed line to show where it would be in relation to the basketball.
- Place the correct label in the "Type of Force" box to identify the force that the students are testing.

145 g

Delete

gravitational

magnetic

electric

600 g

145 g

Type of Force

?

600 g

Before Release

After Release

*Not a Washington item –
included as an example of
item-type only.*

Drag & Drop w/ Fill-In Labeling Example 2

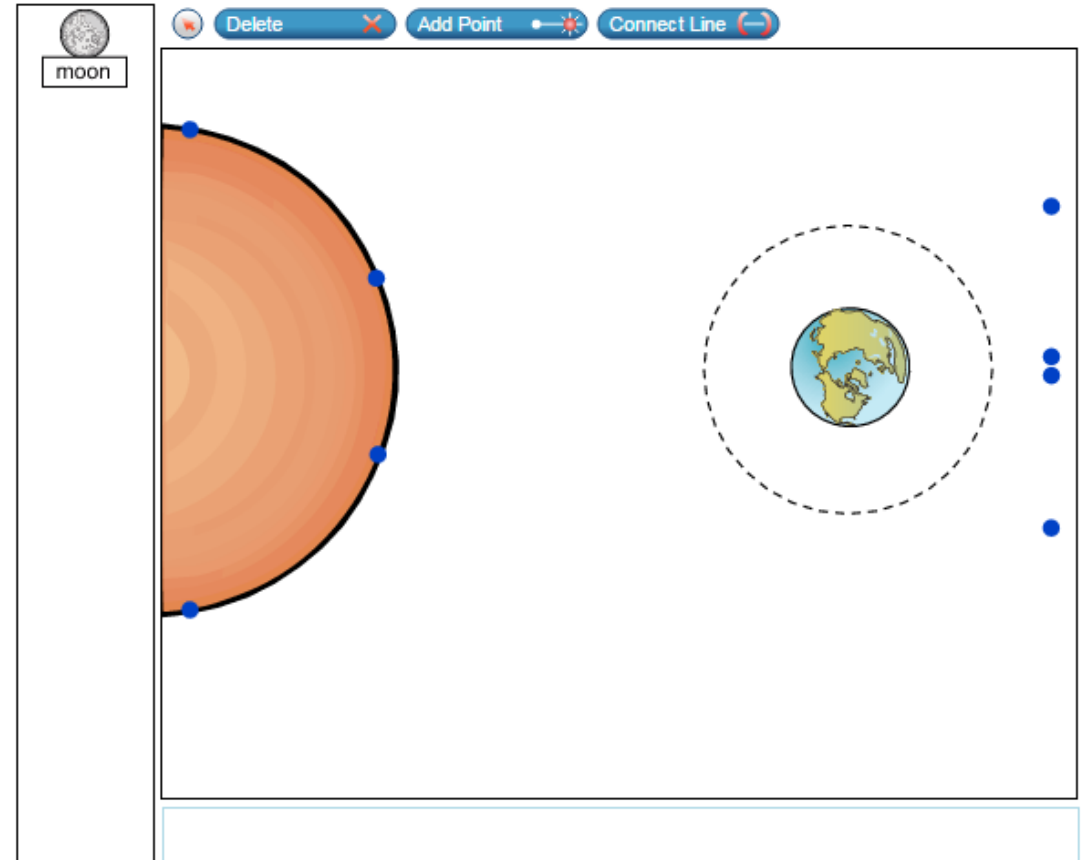
Science and
Engineering Practice:
Developing and Using
Models

Disciplinary Core Idea:
Earth and Space
Sciences

Crosscutting Concept:
Cause and Effect;
Systems and System
Models

Earth, the sun, and the orbital path of the moon are shown.

- A. Using the “Connect Line” tool, draw two lines between blue dots that show where Earth’s shadow can cause a total **lunar** eclipse (an eclipse of the moon).
- B. Place the moon at a position in its orbit where a total **lunar** eclipse can be seen from Earth.
- The lines should begin at the blue dots around the sun and end at the blue dots on the right side of Earth.
 - Only **one** line should be drawn from a particular point.
 - Not all of the blue dots need to have lines between them.



*Not a Washington item –
included as an example of
item-type only.*

WCAS Format and Features

- Will include two familiar item types:
 - **Selected Response—*aka*: multiple choice**
 - **Constructed Response—*aka*: short answer**
- Will consist of several question clusters around a puzzling phenomena as well as standalone items.
- Will use the same online engine as the Smarter Balanced assessments.

Online Practice & Trainings Tests for Grade 11, 7, & 5 WCAS

- Access the WA State WCAS Practice Tests through the Chrome browser at the [WCAP Portal](#)
- Click on “**Practice & Training Tests**” on the right side
- Click on “**Take the Practice & Training Tests**”
- All fields on the Sign-In page should say “**GUEST**”; click “**Sign In**”
- Select **Grade 11** from the “**Select Grade**” drop-down menu; click the blue “Yes” button
- Scroll to the bottom of the page to the “WCAS Training Tests” (pink arrows) section; click “Start Grade 11 Science”



Questions? Need More Information?

- Visit OSPI's Science Assessment Website
 - Contact OSPI Science Assessment at Science@k12.wa.us or
 - (360)725-6298 for more information about Test &
 - Item Specifications, Assessment Design, and Practice Tests
-
- Contact SPS District Assessment Coordinator at
 - wthodges@seattleschools.org or (206)252-0148 for more information



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