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

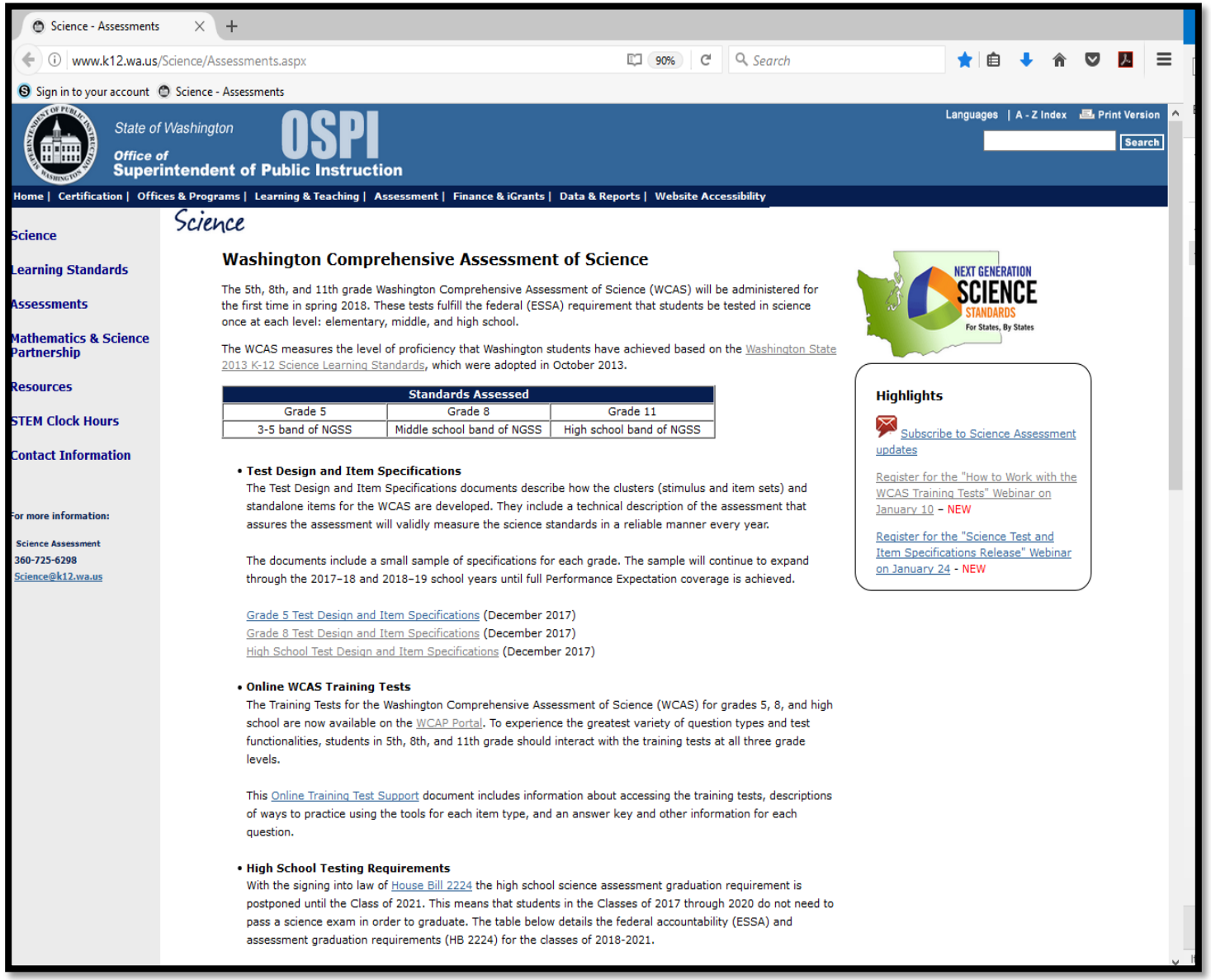
- The classes of 2019 and 2020 will take the WCAS in the spring of their 11th grade, but it is NOT a graduation requirement
- The class of 2021 will be required to pass the WCAS for graduation.
- Alternatives to this graduation requirement will become available after the class of 2021 takes the WCAS.
- **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](#) for information about the WCAS including

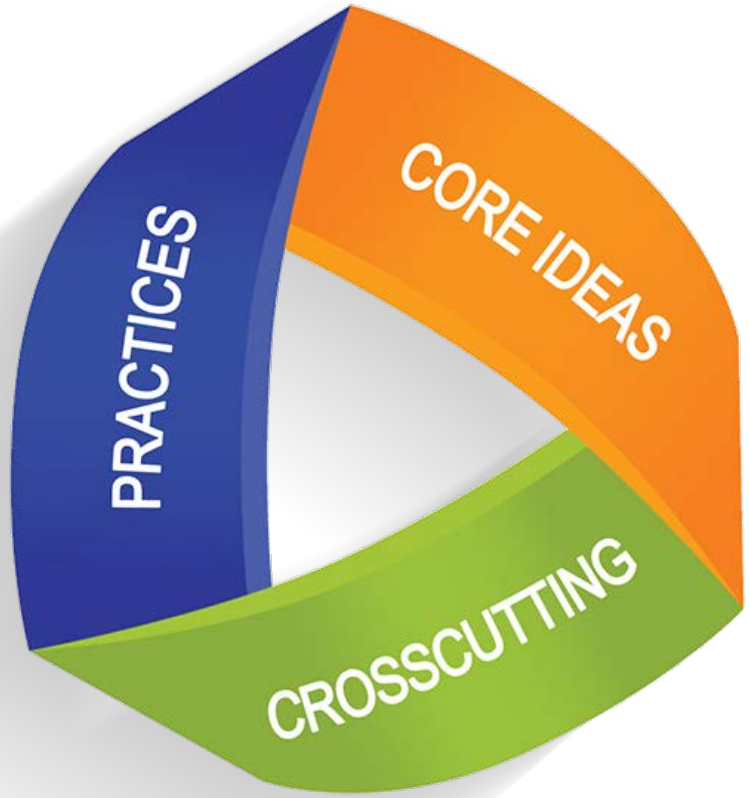
- Test Design and Item Specifications
- Link to Online WCAS Training Tests
- FAQs



What Will the Grade 11 WCAS Assess?

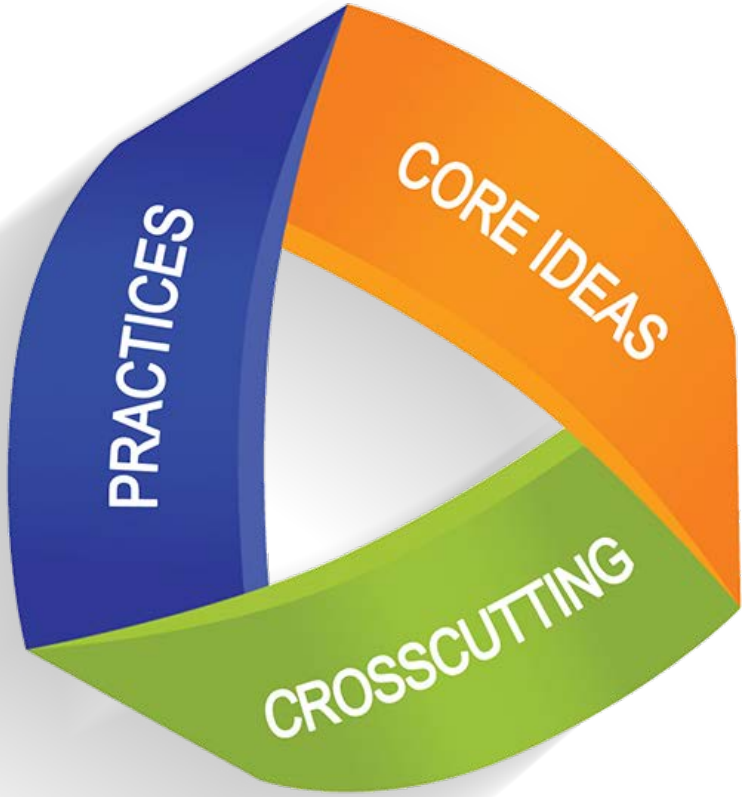
- WCAS will assess all three dimensions of the science learning standards
  - **Science and Engineering Practices,**
  - **Disciplinary Core Ideas**
  - **Crosscutting Concepts**

(each dimension detailed on following slides)



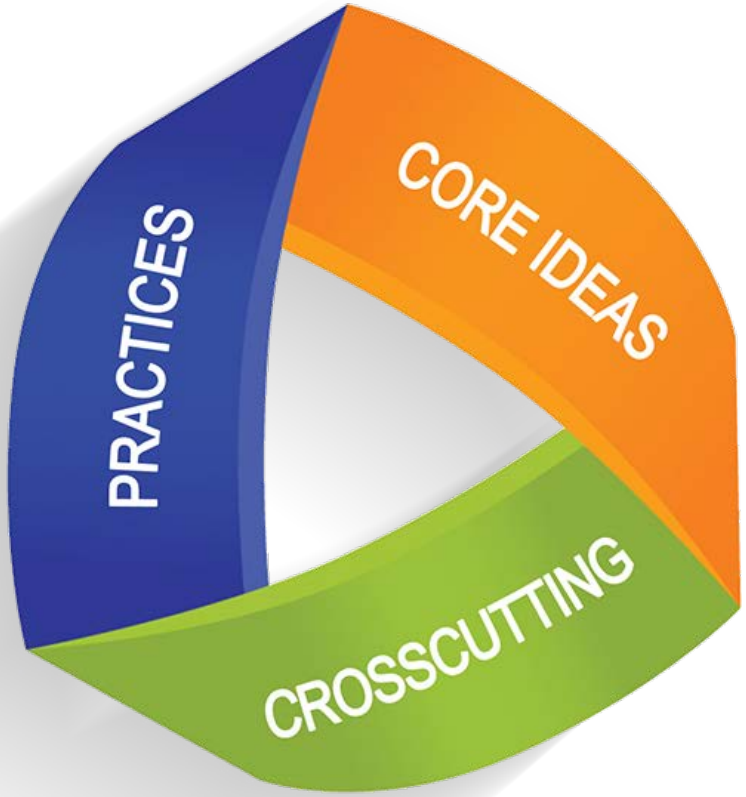
Science and Engineering Practices

- 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

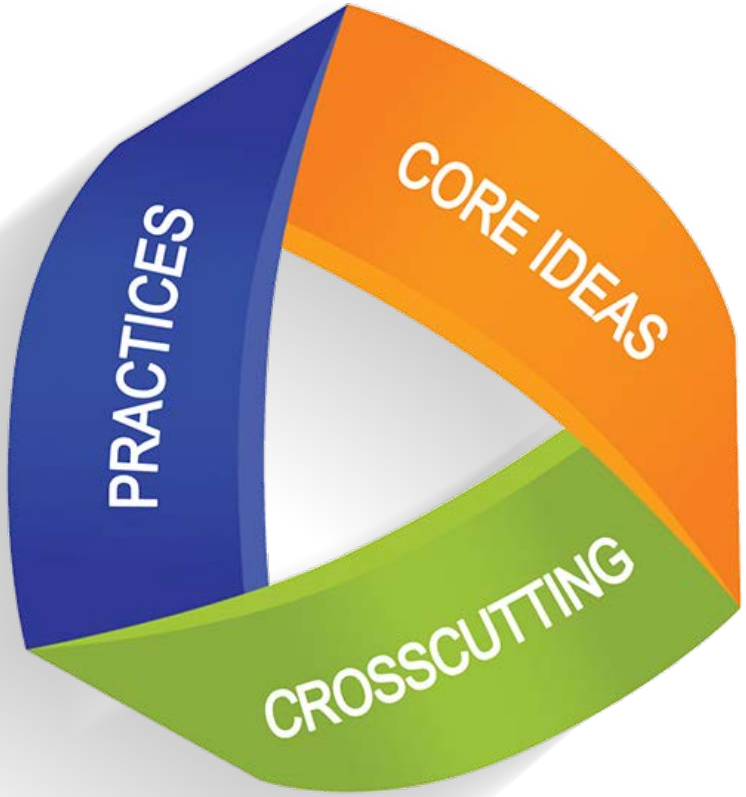
- Physical Sciences
- Life Sciences
- Earth and Space Sciences
- Engineering, Technology and Applications of Science



Each of these has 2-4 subcategories of core ideas

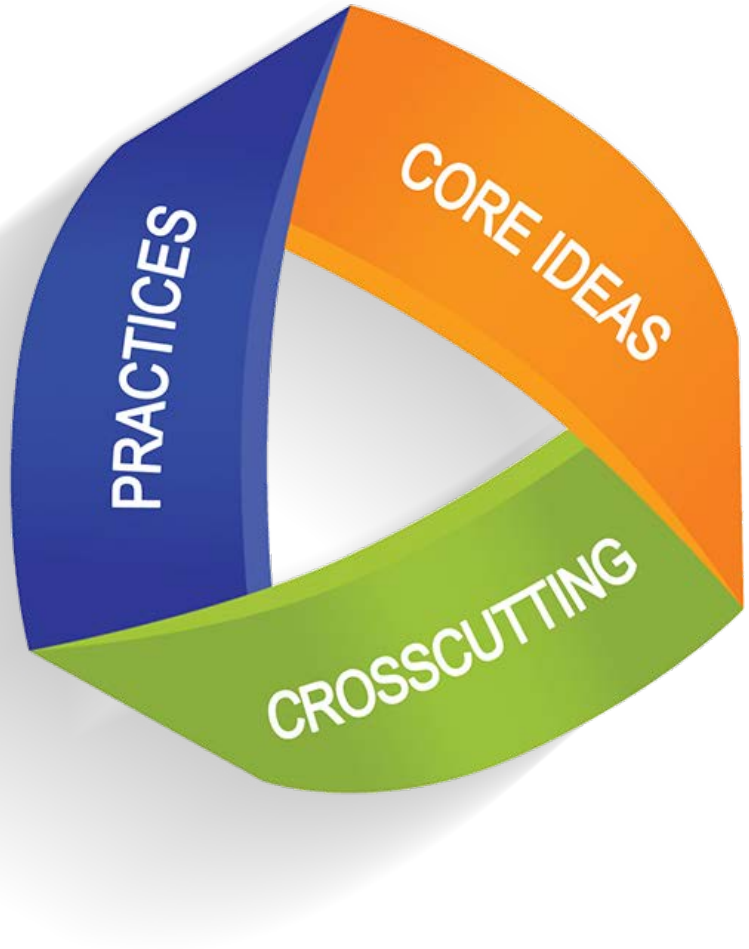
Crosscutting Concepts

- 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

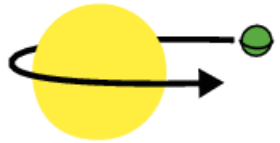
Disciplinary Core Idea:
Earth and Space Sciences

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.

	 Large yellow ball is stationary, while small green ball spins.	 Large yellow ball is stationary, while small green ball is tilted.	 Large yellow ball is stationary, while small green ball moves around it.
The cause of day and night	☐	☐	☐
The length of a year	☐	☐	☐
The cause of the seasons	☐	☐	☐

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

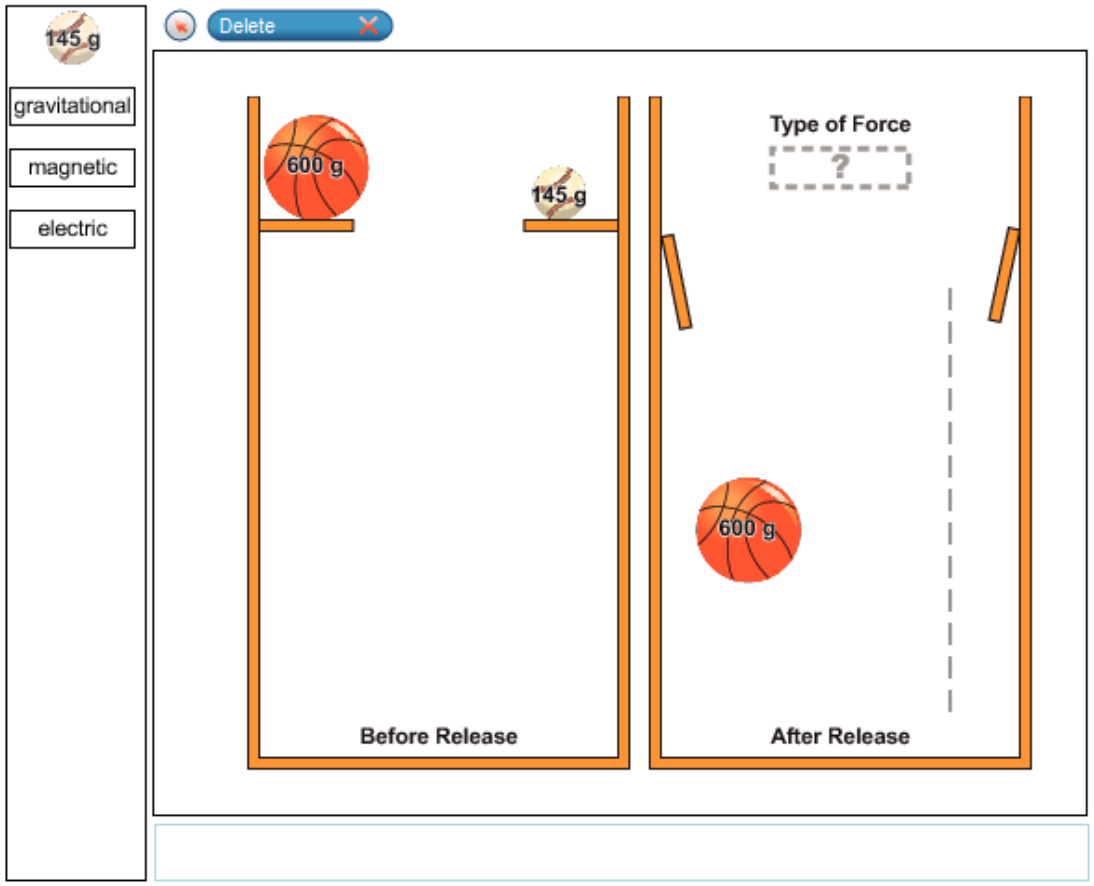
A class investigates whether heavier objects fall faster than lighter objects.

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.

A. Place the baseball on the gray dashed line to show where it would be in relation to the basketball.

B. Place the correct label in the "Type of Force" box to identify the force that the students are testing.



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Drag & Drop w/ Fill-In Labeling Example 2

Science and Engineering Practice:
Developing and Using Models

Disciplinary Core Idea:
Earth and Space Sciences

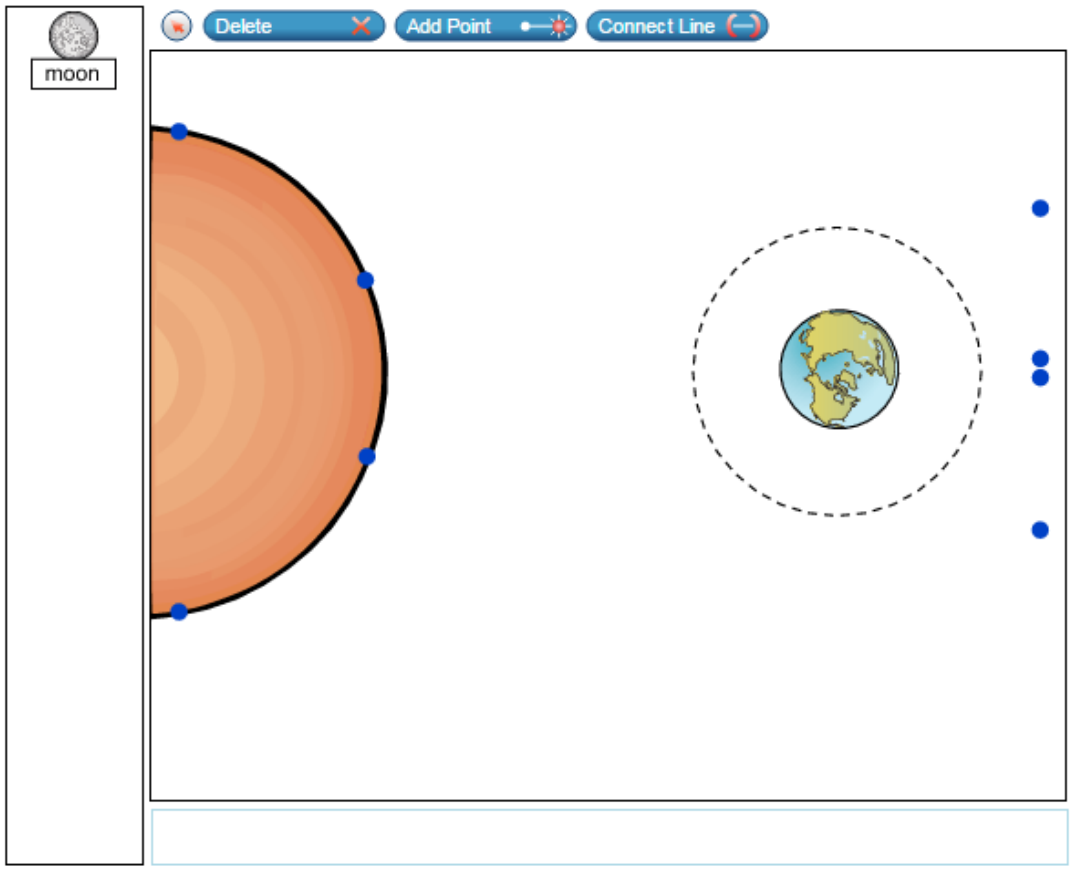
Crosscutting Concept:
Cause and Effect; Systems and System Models

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**