



Educator Guide to Student Preparation

PEAKS English Language Arts and Mathematics
Alaska Science Assessments



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Purpose of this Guide

The Performance Evaluation for Alaska's Schools (PEAKS) and the Alaska Science Assessment are statewide summative assessments that encompass English language arts (ELA), mathematics, and science. The initial administration of PEAKS and the Alaska Science Assessment was in spring 2017.

This Educator Guide to Student Preparation provides an overview of the resources created to help prepare students for the PEAKS and Alaska Science assessments. This guide is intended to help educators familiarize students with the format of the PEAKS and Alaska Science Assessments using the paper-based Item Samplers or the computer-based Student Tutorials and Online Tools Training (OTT).

The Item Samplers, Student Tutorials, and OTT are available to students, educators, parents, and community members. DEED encourages everyone to utilize these tools to become familiar with the assessments.

Descriptions of the paper-based Item Samplers and the computer-based Student Tutorials and OTT are presented in this guide. The items in the Item Samplers and OTT are for illustrative purposes and allow students to become comfortable with their mode of assessment. They are not intended to reflect content that will be assessed on PEAKS in the spring.

Connection to the Standards

The Performance Evaluation for Alaska's Schools (PEAKS) assessment measures the skills and concepts outlined in the Alaska English Language Arts and Mathematics Standards. These K-12 standards can be found on the [Alaska Department of Education & Early Development Standards webpage](#).

Although it is important to familiarize students with what they will experience on PEAKS and the Alaska Science Assessment, ensuring that students receive instruction in the ELA, math and science standards is key. These standards establish a strong foundation of knowledge and skills all students need for success after graduation. A solid curriculum and instruction based on evidence and best practices will provide a strong content background for students. PEAKS and the Alaska Science Assessment, as summative assessments, measure a student's understanding of the standards.

Computer-Based Assessments Preparation

The computer-based assessment (CBA) has two resources to support students learning to navigate within the test environment, utilize the tools available, and become familiar with the format of the assessment: Student Tutorials and OTT.

Student Tutorials

The following Student Tutorials are web-based videos that introduce the computer-based test engine. The tutorials use age-appropriate sample test items, animation, audio, and closed captioning to describe the testing tools and navigation through the test engine.

General Testing

Interface Tool Tips
Test Sign-in
Testing Basics
Online Tools Training
Using Help
Finishing the Test
Accommodations

Creating a Response

Entering Text
Drag and Drop

Matching

Drop Down
Select Answer
Multi-Select
Reading Passage
Text Highlighting
Keypad Input
Hot Spot
Matching Table
Draw Hands on a Clock
Evidence-Based Selected
Response

Calculators

Basic Calculator
Scientific Calculator
Graphing Tool

Graphing

Coordinate Grid
Line Plot
Number Line Plot
Bar Graph

How to Access Student Tutorials

Quick Guide: Accessing PEAKS Student Tutorials is located in Appendix A of this guide and on the [PEAKS webpage](#). Look for the heading 'Student Preparation'.

This one-page document provides step-by-step instructions and screenshots to guide users to the tutorials.

Online Tools Training (OTT)

The purpose of the Online Tools Training (OTT) is to familiarize students with Alaska’s computer-based test engine, INSIGHT, and to give them an opportunity to practice the types of questions that will be on the PEAKS and Alaska Science assessments.

The OTT is not meant to illustrate the rigor and complexity of the questions students will encounter on the test this spring. The OTT covers only a small amount of the content in the Alaska English Language Arts and Math Standards and should not be used to inform instruction. An answer key for each item is provided within the Summary Table for each grade and content area. Summary Tables are available in Appendix C of this guide and on the [PEAKS webpage](#). Look for the heading ‘Student Preparation’. Students can login and practice an unlimited number of times.

Students need multiple opportunities to practice using the OTT so that they are familiar with using the tools and functions that are part of the PEAKS and Alaska Science assessments. Students should practice on the same types of devices (e.g., computers, tablets) that they will use during the spring assessments. Students should also take the assessment on the type of device that they are most familiar with using in the classroom.

Guidance for Teachers

Here are some examples of the types of features in the OTT that teachers should review with students:

- Read the Practice Hint for each question, if one is provided, and review how to answer. These practice hints will not be visible on the spring assessments.
- Show how to navigate using the drop down list of questions at the top of the page and the navigation buttons.
- Model when and why to use the flag feature (e.g., if students find themselves stuck on a problem, they can flag it and then go back to it later).
- Model the Cross-Off feature to show how it can be used to eliminate answer options for multiple-choice questions.
- With the English Language Arts passages:
 - Show students how to click to go to the next page in the passage; explain to students how they can look back at the passage on the left side of the screen when answering the questions on the right side of the screen.
 - Practice moving the line guide on the screen as the student reads the passage.
 - Practice using the highlighter to highlight important text.
 - Practice responding to a Text-Dependent Analysis (TDA) writing prompt.
- In the math test:
 - Show students how to access the calculators (available only in Session 2 of the grades 6-8 OTTs and the grade 9 OTT).
 - Practice solving math problems on scratch paper and then entering the answers on the screen.
 - Practice entering functions (up to six can be entered) on the graphing tool and moving the pointer to show different X values. (Graphing tool only available in grade 9)
 - Practice plotting points and graphing different types of lines on a coordinate graph.

- Model how to use the final review page to make sure all items have been completed and how students can return to a specific item by clicking on the number.

The following lists show the types of technology skills students will need to use for the PEAKS and Alaska Science assessments.

Tools

- Help (?)
- Pointer
- Highlighter
- Eraser
- Cross-Off (eliminates answer choices)
- Magnifier
- Sticky Note
- Calculator
- Flag
- Line Guide
- Options (Color Choices, Contrasting Color, Masking)

Students must be able to read and use the buttons for navigation.

- Question Drop-down List
- Back
- Next
- Pause
- Resume
- Flag
- Review/End Test
- Submit

The following list shows types of technology skills students will need to use for the PEAKS and Alaska Science Assessments by content area.

English Language Arts

Mouse or touch-screen skills:

- Click to highlight a word or sentence
- Click to outline a word or sentence that is highlighted.
- Drag and drop to sort, order, or label.
- Select an item from a drop down menu.
- Click to select an answer.

Keyboarding skills:

- Type to construct short responses and a Text-Dependent Analysis.

Math

Mouse or touch-screen skills:

- Drag and drop a word, number, or item to sort, order, label, or match.
- Click to highlight a word, number, or item.
- Select an item from a drop down menu.
- Click to select an answer.

- Click to create a plot point; select between dashed and solid lines.
- Click and drag a line.

Keyboarding skills:

- Type numbers (and delete to change an answer).

Science

Mouse or touch-screen skills:

- Click to select an answer.

Keyboarding skills:

- Type single word responses
- Type to construct short responses or constructed responses

This Online Tools Training – Guidance for Teachers is also available on of this guide and on the [PEAKS webpage](#). Look for the heading ‘Student Preparation’.

How to Access the OTT

Quick Guide: Accessing Online Tools Training (OTT) can be found in Appendix B of this guide and on the [PEAKS webpage](#). Look for the heading ‘Student Preparation’.

The OTT is located on [DRC INSIGHT Portal](#) and is only accessible using Google Chrome. They are available to everyone. A generic username and password is provided for each OTT (subject and grade specific).

Paper-Based Assessments Preparation

The paper-based assessment (PBA) has a set of grade level item samplers for students to use to become familiar with the format of the PBA.

Paper-Based Item Samplers

Paper-Based Item Samplers are designed to help students become familiar with taking the paper-based assessment. Students will practice working with the different item types that they will encounter in the spring on the PEAKS and Alaska Science assessments. For example, all of the science samplers and samplers for grades 3 and 4 are in the same consumable format students will use on the actual assessments.

How to Access Paper-Based Item Samplers

The PBA Item Samplers are available to print from the [PEAKS webpage](#). Look for the heading 'Student Preparation'.

Item Types

Item types may vary by grade and content area. Specific item types students may see are listed below and also available on the [PEAKS webpage](#).

Selected-Response (SR) Items

Selected-Response (SR) items are an efficient method for measuring a broad range of content and can be used to assess a variety of skills. There are three types of SR items used on the assessments: Multiple-Choice (MC), Multi-Select (MS), and two-part Evidence-Based Selected Response (EBSR). In all cases, SR items require that students choose the correct answer(s) from a provided list. While students may perform some work directly related to determining the correct answer, they are not required to generate the content of the answer when responding to a selected-response item. An exception to this requirement is short response/gridded-response items, in which students are required to enter a short alphanumeric response.

Multiple-Choice (MC) Items

All Multiple-Choice (MC) items have four answer choices, including three “distractors” (incorrect answers) and one correct answer. Distractors for Mathematics represent common misconceptions, incorrect logic, incorrect application of an algorithm, computational errors, etc. Distractors for English Language Arts (ELA) represent common misinterpretations, unsound reasoning, or casual reading errors, etc. A correct response to an MC item is worth one raw point. MC items are at all grades and in all content areas.

Multiple-Choice items may be linked to, or stand independent from, a passage or stimulus source. Items that operate independent of a stimulus are also known as “stand-alone MC.” Standalone items may still have tables, graphs, or other information used in support of the stem. ELA uses a mixture of MC items linked to a stimulus or passage and some that are standalone. For mathematics, all MC items are considered standalone. **Sample: Multiple Choice**

Which statement **best** explains Earth's day and night cycle?

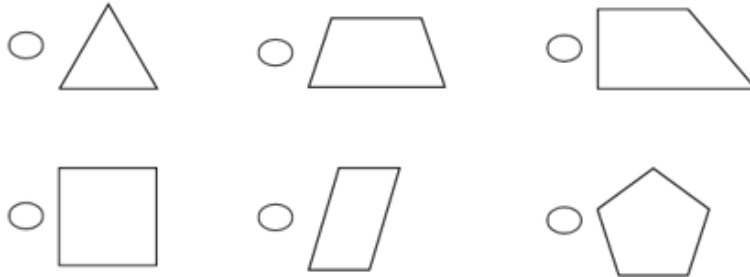
- ☐ (a) Earth rotates once each day on its axis.
- ☐ (b) Earth revolves around the Sun each year.
- ☐ (c) The Sun is closest to Earth during the day.
- ☐ (d) The tilt of Earth changes throughout the year.

Multi-Select (MS) Items

Multi-Select (MS) items are autoscored items with more than one correct answer. Some MS items are similar to MC items but have two or more correct answers. Other MS items are multipart autoscored items, which may have varying combinations of multiple-choice (MC), multiple-response, multi-part selected response, enhanced selected response, completion or short-answer, and technology-enhanced items.

Sample One: Multi-Select Item

Sasha is designing a window. The window will be a shape that is a quadrilateral but not a rectangle. Select ALL the shapes that Sasha could choose.



Sample Two: Multi-Part Selected Response

17. Read the sentence.

When we ____ 1 ____ at the ____ 2 ____, we were ____ 3 ____ by the rest of the ____ 4 ____.

Choose the correct spelling of each word.

Blank 1

- A. arived
- B. arrived
- C. arrivved

Blank 2

- A. field
- B. feild
- C. feeld

Blank 3

- A. greetted
- B. greated
- C. greeted

Blank 4

- A. teem
- B. team
- C. teme

Two-Part Evidence-Based Selected-Response (EBSR) Items

The Evidence-Based Selected-Response items (EBSR) have two parts and are designed to elicit an evidence-based response, usually based on what a student has read in a reading passage. EBSR items are used mainly with the ELA assessment, and most EBSR items are linked to a stimulus passage or to a stimulus passage set. All two-part EBSR items have an Accuracy piece and an Evidence piece.

The accuracy piece of the item is Part A. Part A of a typical EBSR item is similar to a standard MC test question. A student analyzes a stimulus and chooses a single correct answer from four answer choices. Part B of a typical EBSR item elicits evidence from the passage and requires that the student select one or more correct answers based on the response the student provided to Part A. Part B is also different from Part A in that it may have five or six answer options (rather than the four answer options typical of an MC item) and more than one option may be correct.

Sample: Evidence-Based Selected Response

This question has two parts. First, answer part A.
Then, answer part B.

Part A

Which inference about the narrator in "An Amazing Day at the Aquarium" is supported by the passage?

- ☐ (a) The narrator wants to work at the aquarium.
- ☐ (b) The narrator goes on many field trips.
- ☐ (c) The narrator is eager to discover new information.
- ☐ (d) The narrator has been to the ocean before.

Part B

Which sentence from the passage **best** supports your answer in part A?

- ☐ (a) I couldn't believe what I was hearing: our class was going on a field trip to the City Aquarium!
- ☐ (b) Even when I was little, I was interested in all things aquatic.
- ☐ (c) There were other exhibits too.
- ☐ (d) Maybe I could make a difference by helping save our oceans.

Text-Dependent Analysis (TDA) Items

The English Language Arts (ELA) section of the PEAKS assessment presents students with a Text-Dependent Analysis (TDA) item. A TDA is a text-based analysis based on a single passage or a multiple- passage set that each student has to read during the assessment. The passage or passage set will consist of either literary or informational text. In order to successfully answer a TDA, students must analyze and use information from the passage(s) to plan a comprehensive, holistic response. Students will then write their response, including supporting evidence from the passage(s). In the computer-based assessment of PEAKS, students will have up to 5,000 characters to formulate their response. For the paper-based PEAKS assessment, students will have the space provided to them for their response. Responses are scored using a rubric that takes into account both the composition and the conventions of the student's writing.

The TDA portion of the PEAKS assessment requires students to read the text and then respond in writing in one of two ways:


- identifying and explaining a theme or central idea, using textual evidence to support the claim about what that theme or central idea is, or
- analyzing the development of an event, character, central ideas, or theme, using textual evidence to support the explanation and analysis.


Sample: Text Dependent Analysis

Both passages tell about famous inventors. Write a response explaining how the traits of Thomas Edison and Robert Fulton helped them to be successful inventors.

Use evidence from **both** passages to support your response.

Writer's Checklist

 Enlarge



[Click To Respond](#)

Additional educator resources for TDA, including the scoring guidelines and a writer's checklist, can be found on the [PEAKS webpage](#).

Technology-Enhanced (TE) Items

Technology-Enhanced items are computer-delivered, selected-response (SR) and open-ended response test items that use enhancements to augment the user interface. The TE items discussed below are representative of item types that will appear on the computer-based PEAKS assessment. While these item types share the same functional structure of traditional paper-based test questions, the expansive features and function of a computer-based medium are meant to show the possibilities available for constructed-response (CR) items in print and online environments.

Short Answer/Text Input or Keypad Input

Short Answer/Text Input or Keypad Input items allow for many types of inputs. The number of characters is usually limited to a relatively small number in order to facilitate autoscoring. The types of characters allowed can also be limited to text only, numbers only, or a mix. For keypad input items, the characters a student may use to answer the question are limited to the buttons visible on the keypad. For paper-based assessments, short answer/text input or keypad input items are displayed as gridded response items.

Sample One: Short Answer/Text Input

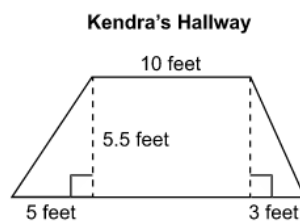
Look at the function.

$$f(x) = -2x + 6$$

What is the value of $f(3)$? Write your answer in the box below.

Sample Two: Keypad Input

Kendra is buying carpet for the hallway floor. The shape of the hallway floor is shown below.



What is the **least** amount of carpet Kendra needs to buy to cover the hallway floor? Express your answer in square feet.

1	2	3	
4	5	6	
7	8	9	
0	.	(-)	

Sample Three: Gridded Response

(Mathematics paper-based print companion for Short Answer/Text Input or Keypad Input items)

Multiply.

$$22 \times 12$$

Enter your answer in the gridded response area.

	/	/	/	
.
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

Coordinate Graph Input

Coordinate Graph Input items allow for the graphing of points and lines. Regions, determined by plotted lines, can be shaded. Solid and open “dots,” as well as solid and dashed lines, may also be available to the student. Typically, the student only has access to the particular tools needed to answer the question. Coordinate graphs can have prepopulated titles, labels, and scales or can allow the student to populate them.

Sample One: Coordinate Graph Input

Joseph works at a gym. Each morning, he brings out bags of basketballs for members to use. There are the same number of basketballs in each bag. The table shows the total number of basketballs depending on how many bags Joseph has.

Bags	0	2	4	6	7
Basketballs	0	6	12	18	21

Plot points on the coordinate grid to show the number of basketballs in 1, 2, 3, and 4 bags.

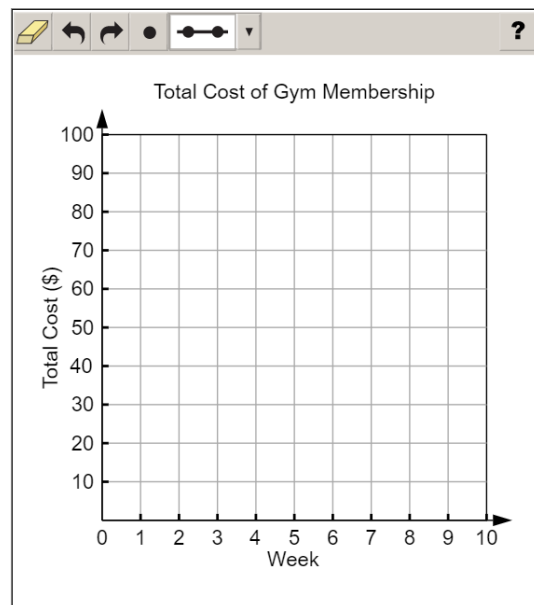
The coordinate grid shows a linear relationship between the number of bags and the total number of basketballs. The x-axis is labeled 'Bags' and the y-axis is labeled 'Basketballs'. The points plotted are (1, 3), (2, 6), (3, 9), and (4, 12).

Sample Two: Coordinate Graph Input

Annabelle is deciding which summer gym membership to purchase.

- Gym 1 charges \$60 to join and \$5 for each week.
- Gym 2 charges \$40 to join and \$9 for each week.

Graph lines to show the total cost of each gym on the coordinate plane. Plot a point on the graph where both gyms cost the same amount.



Drag and Drop Input

Drag and Drop Input items can be used in a wide variety of ways. Students may move objects around the screen to categorize, sequence, build, or complete. A reset feature is available that allows the student to start over from the original configuration.

Sample One: Drag and Drop Input

Determine the value of each number or expression. Drag each number or expression into the correct box.

Negative	Zero	Positive

$-(-2)$ -4.65 $|-7|$ $-4 + -4$ $-3 + 6$

Sample Two: Drag and Drop Input

Read the sentences.
Choose the two words that **best** fill in the blanks.
Drag the words to the blanks.

My grandfather always told my brother and me that the two most important things in life are _____ and _____. He claimed that even though those two things can't be bought or sold, they can be valued by people every single day of their lives. He also said that those two ideals have brought him more joy and happiness than he ever could have imagined.

pets cars honesty toys freedom books

Drop-Down List Input

Sample One: Drop-Down List Input items can be used in a variety of ways. Most often, this item type is used for completing sentences or building expressions and equations.

Sample One: Drop-Down List Input

Read the sentence. Choose the correct conjunctions from the drop-down menus.

While I like playing the guitar for my friends, I like taking lessons on Saturday mornings when all my friends are still sleeping practicing for a half hour every single day of the week.

but also

and

nor

or

Sample Two: Drop-Down List Input

Use the drop-down menu to compare the fractions.

$\frac{4}{4}$ $\frac{4}{1}$

<

=

>

Matching Input

Matching items allow for the use of text or graphics as the matching objects. The student clicks on one object and then clicks on a second object to connect them.

Sample: Matching Input

Match each fraction below with the model showing an equal fraction of shaded bars.

The interface shows a list of fractions on the left and corresponding bar models on the right. A blue line connects the fraction $\frac{2}{8}$ to the second bar model, which is a 2x4 grid with 2 out of 8 squares shaded gray.

Fractions listed:

- $\frac{2}{8}$
- $\frac{2}{6}$
- $\frac{1}{5}$
- $\frac{3}{6}$

Bar models shown:

- 1x5 grid with 1 out of 5 squares shaded gray.
- 2x4 grid with 2 out of 8 squares shaded gray.
- 1x3 grid with 1 out of 3 squares shaded gray.
- 2x4 grid with 4 out of 8 squares shaded gray.

Matching Table Interaction

Matching Table Interaction items are similar to Matching Input items, but instead of a traditional match made by connecting lines, the elements in rows and columns of a table are matched using check boxes.

Sample One: Matching Table Interaction

The chart shows a summary of four events in Newton's life before he went to college and a number for each event's sequence. Match each event with the order it occurs by selecting the correct number. You will use each number only once.

	1	2	3	4
Newton insisted on studying mathematics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Newton was sent to live with his grandfather.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Newton was given responsibility for an estate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Newton attended school for the first time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sample Two: Gridded Response

(ELA paper-based print companion for Drag and Drop, Drop Down list and Matching Table Interaction items.)

Choose whether each event happens in "The Legend of the Black Fish," "Orca Rescue," or both passages. Record the answers in the answer bubbles.

EVENTS	1. Happens in "The Legend of the Black Fish"	2. Happens in "Orca Rescue"	3. Happens in Both Passages
a. Someone receives help from an animal.			
b. An animal shows thanks for receiving help.			
c. A saved animal splashes wildly in the water.			
d. An animal is in trouble.			

a. ① ② ③

b. ① ② ③

c. ① ② ③

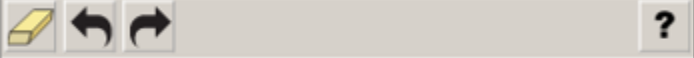
d. ① ② ③

Highlighting Text

Highlighting Text items allow a word, phrase, sentence, or paragraph of a designated text to be highlighted.

Sample: Highlighting Text

Read the paragraphs from "The Legend of the Black Fish." Then, choose **two** sentences that show a central message of the passage.



Natsilane healed the sea lion's flipper, and the sea lion safely returned Natsilane home, just as promised.

After he returned home, Natsilane began carving a large black fish from wood. **After he finished the carving, Natsilane released it into the water, wishing that it would always be helpful and friendly to people just as the sea lion had been to him.** To Natsilane's surprise, his carved black fish came to life!

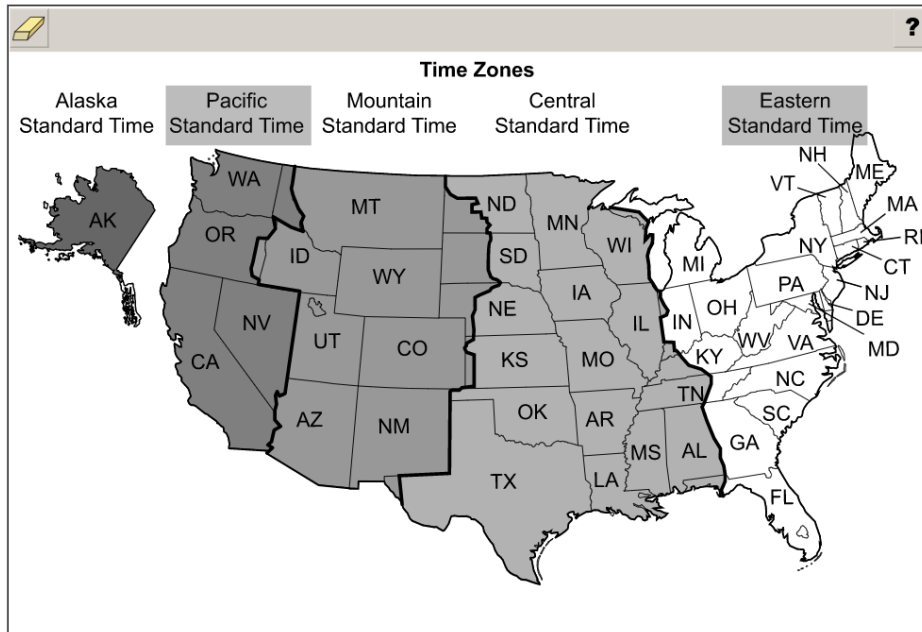
Hot Text or Hotspot Selection

Hot Text or Hotspot Selection items allow for the selection of text or graphics that identify the criteria for the solution to the problem. One or multiple words, numbers, equations, or other graphical elements can be selected. This is similar to Multiple Select but provides more options for item display as exemplified below.

Sample One: Hot Text Selection

Jeremy and Anne both live in the United States. They live in different time zones, and they do not live in Alaska or Hawaii. Jeremy calls Anne at 11:40 A.M. in Jeremy's time zone. Anne answers Jeremy's call at 2:40 P.M. in Anne's time zone.

On the map, click the title of ALL the time zones in which Jeremy and Anne could live.



Sample Two: Hot Text Selection

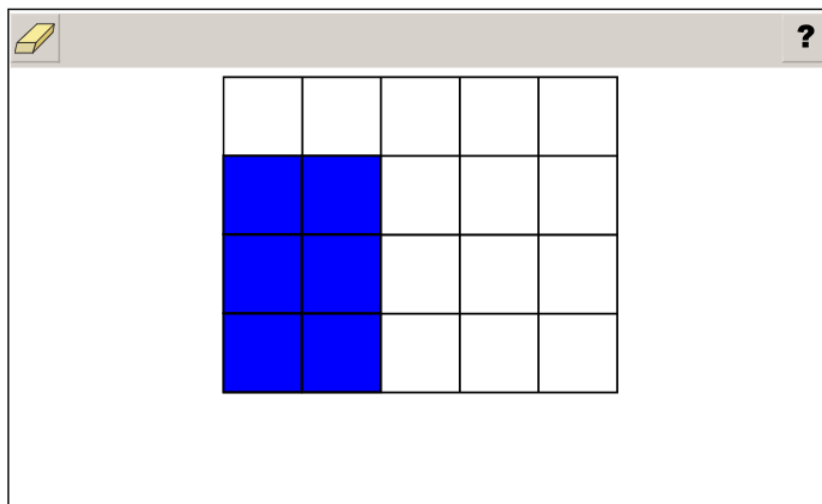
Nolan counts the people at a swimming pool. He rounds the number of people to the nearest ten. He says, "There are 40 people at the swimming pool."

Click on ALL the numbers of people that could be at the swimming pool.

Sample Three: Hotspot Selection

Claire is using a grid to design her garden. Her garden must have a perimeter of 10 units.

Select squares in the grid below to model one design Claire could use for her garden.




Clock Input

Clock Input items allow students to place hour and minute hands on an analog clock in order to create a desired time.

Sample: Clock Input

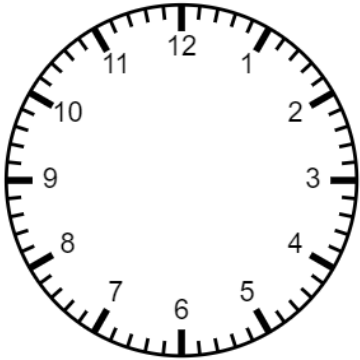
Marcus starts his math test at 9:15 a.m. His math test takes him 1 hour and 10 minutes to complete.

Place the hands on the clock to show the time when Marcus finishes his math test.

 Hour

Hour

Minute



Bar Graph Input

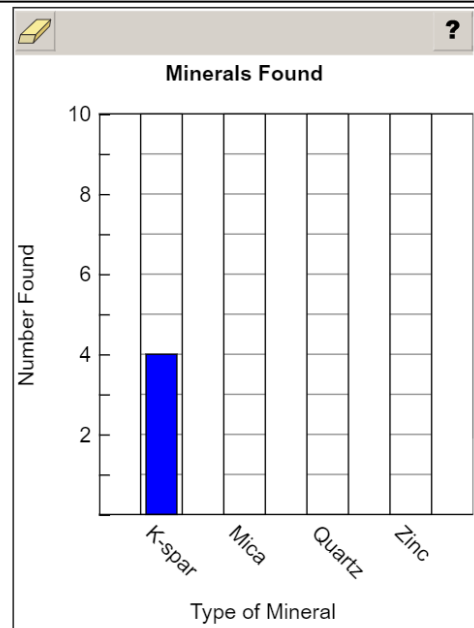
Bar Graph Input items allow students to select the heights of bars to create or complete a bar graph or histogram.

Sample: Bar Graph Input

Lars is finding different types of minerals. The table below shows how many minerals he finds.

Minerals Found	
Type of Mineral	Number Found
K-spar	4
Mica	2
Quartz	8
Zinc	6

Make a bar graph showing the total number of each kind of mineral Lars finds.



Line Plot Input

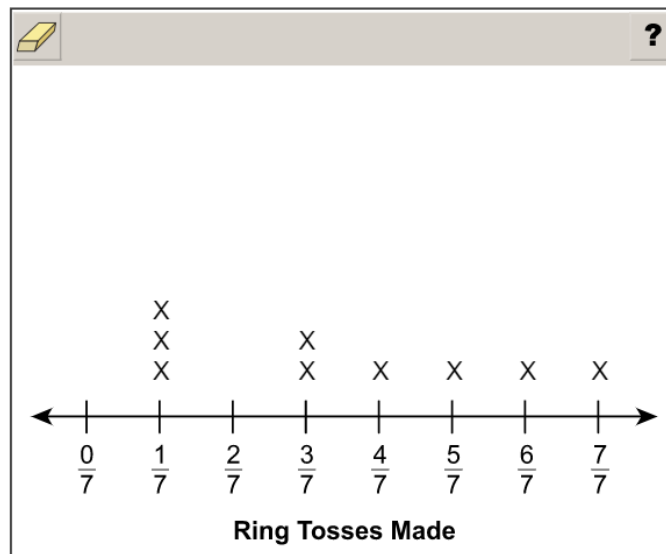
Line Plot Input items allow students to construct or complete a line plot by clicking above the number line to add marks.

Sample: Line Plot Input

Callie has a ringtoss booth at a fair. She records the fraction of rings each person tosses that land on a bottle.

$\frac{1}{7}$, $\frac{3}{7}$, $\frac{1}{7}$, $\frac{4}{7}$, $\frac{3}{7}$, $\frac{6}{7}$, $\frac{1}{7}$, $\frac{5}{7}$, $\frac{7}{7}$

Record the results of the ring tosses on the line plot.



Number Line Graph Input

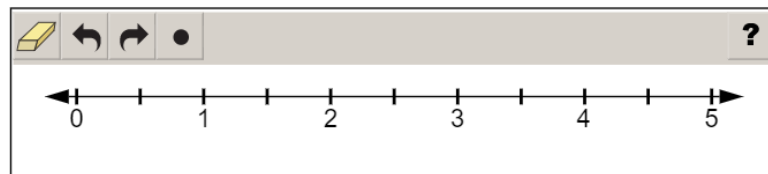
Number Line Graph Input items allow students to plot points or graph regions on a number line. Similar to Coordinate Graph Input items, only the tools needed for answer the question will be provided.

Sample: Number Line Graph Input

A data set is shown.

1.75 1.5 3.25 2 4.75 3 3.5 2.25 3 4.5

On the number line, plot the five key values needed to create a box plot of the data set.



Constructed-Response (CR) Items – Science Only

As the name suggests, Constructed-Response (CR) items differ from Selected-Response items in that the student must generate the content of their response to the problem or objective provided in the item rather than choosing the response from options supplied within the item. Like their MC counterparts, CR items may be linked to, or stand independent from, a stimulus source. CR items that operate independent of a stimulus are known as “standalone CR.” Standalone CR items may still have tables, graphs, or other information used in support of the question. Short CR items are designed to elicit brief written responses (a paragraph of three or four sentences or a series of very objective and concise answers of just a few characters) that are entered into small response boxes. No extemporaneous text/explanation/work is required. Extended CR items are designed to elicit an extended written response (three or four paragraphs, up to one page) or a mixture of a written text and short, concise answers placed in small response boxes. In the paper-based science assessment, students will be provided writing space for their response. For the computer-based science assessment, students will be given a specific character limit in the response area depending on if the item is a short CR or an extended response.

Sample: Constructed Response (Science only)

This question is worth 2 points.

A student recorded air temperatures on Monday and Tuesday.

Air Temperature Information

Time	Monday	Tuesday
8:00 AM	45°F	50°F
9:00 AM	47°F	52°F
10:00 AM	48°F	53°F
11:00 AM	50°F	55°F
12:00 PM	52°F	57°F
1:00 PM	?	?

A. Describe a pattern in the student's recorded data.

0/500

B. Based on the pattern, predict the **most likely** air temperature at 1:00 PM for each day.

Monday: °F

Tuesday: °F

Appendices

[Appendix A:](#) Accessing Student Tutorials

[Appendix B:](#) Accessing Online Tools Training (OTT)

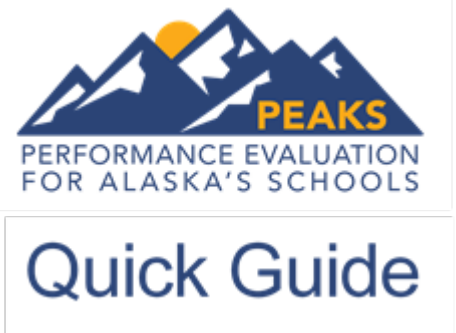
[Appendix C:](#) English Language Arts Summary Tables

[Appendix D:](#) Mathematics Summary Tables

[Appendix E:](#) Science Summary Tables

Appendix A: Accessing Student Tutorials

The Student Tutorials are web-based videos that introduce the computer-based testing system. The tutorials use age-appropriate sample test items, animation, audio, and closed captioning to describe the testing tools and navigation through the test engine. The tutorials are accessible to parents and community and easily viewable on many web browsers. A username and password are not required to access the tutorials.



1. Go to the [DRC INSIGHT Portal](https://ak.drcdirect.com) (ak.drcdirect.com).
2. Select the link to the [Student Tutorials](#) at the bottom of the paragraph underneath the Student Tutorial subheading.

A screenshot of the DRC INSIGHT Portal login page. On the left is a white login box with the DRC INSIGHT logo, 'Username' and 'Password' labels, input fields, a 'Show Text' checkbox, a 'Sign in' button, and a 'Forgot your password?' link. On the right is a dark grey sidebar with white text. It includes a 'Welcome to DRC INSIGHT Portal' message, a paragraph about the Alaska Department of Education and Early Development (DEED) partnership with Data Recognition Corporation (DRC), a paragraph about the portal's purpose, a paragraph about authorized users, a paragraph with contact information for the Alaska Customer Service Line, a section for 'ONLINE TOOLS TRAINING (OTT)', a paragraph about publicly accessible versions, and a 'Student Tutorial:' section. The 'Student Tutorial:' section contains a paragraph and a link: 'https://assets.drcdirect.com/States/AK/Tutorials/Student/current/index.html'. A red arrow points to this link.

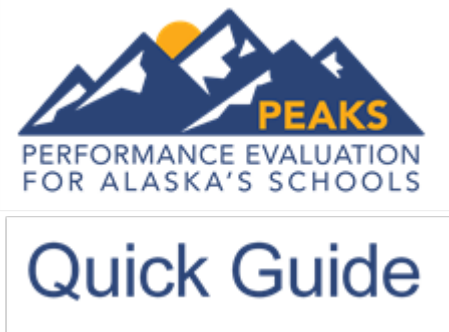
Appendix B: Accessing Online Tools Training (OTT)

The Online Tools Training (OTT) for the computer-based assessments is designed to provide students a hands-on opportunity to experience the test environment. Students can navigate through a “test”, practice using test-taking tools, and try out different technology-enhanced items.

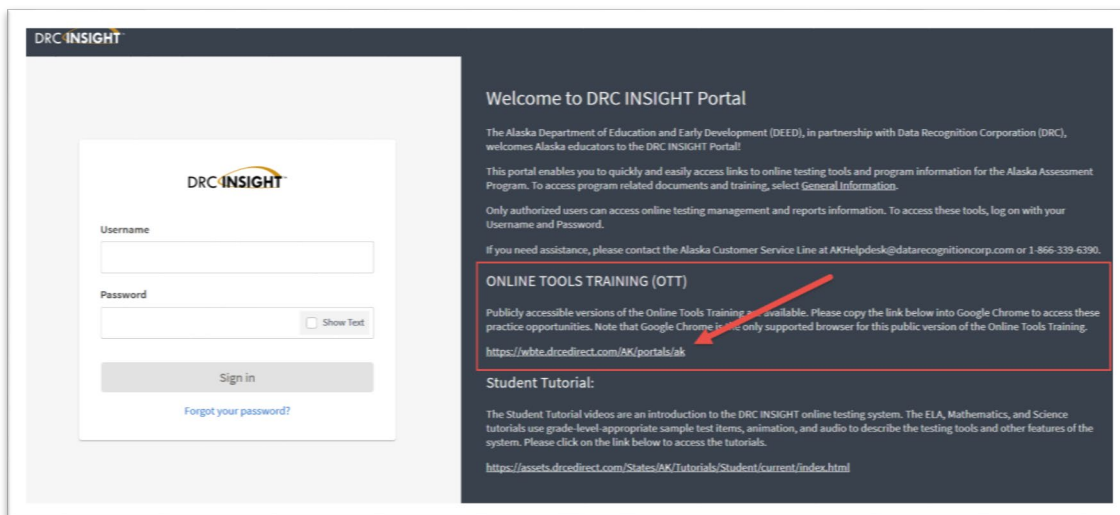
School districts should provide students the opportunity to use the OTT. Students should be familiar with navigating the test environment prior to testing so they can focus on the content of the test and confidently demonstrate their knowledge of the Alaska standards.

The OTT is accessible to students, educators, parents, and community.

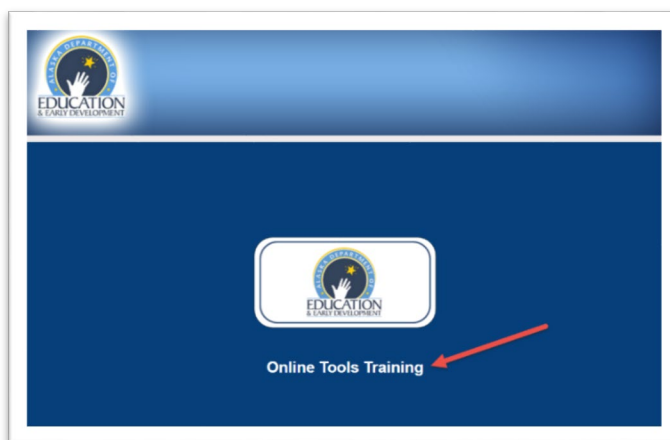
Parents are encouraged to use the OTT and see what kinds of questions their student will be answering. Test questions are not scored and answers are not saved.



1. Open the Google Chrome web browser. The OTT is only available using Google Chrome. If needed, please visit the [Google Chrome homepage](https://www.google.com/chrome/) (google.com/chrome) to download Google Chrome.
2. Go to the [DRC INSIGHT Portal](https://ak.drctdirect.com/) (ak.drctdirect.com).
3. Select the link at the bottom of the page under the 'ONLINE TOOLS TRAINING (OTT)' heading.



4. Select Online Tools Training.



Appendix C: English Language Arts Summary Tables

The summary tables on the following pages include answer keys, standards alignment, and depth of knowledge levels for each item included in the ELA Paper-Based Item Samplers and ELA OTT. These summary tables are also available separately on the [PEAKS webpage](#). Look for the heading 'Student Preparation'.

English Language Arts Grade 3

Part 1

Question	Answer Key	Alignment	DOK
1	A	RL.3.5	2
2	B	RL.3.3	2
3	A, C	RL.3.2	3
4	A4, B5	L.3.4	2
5	D, C	RL.3.1	3
6	B, F	RL.3.9	3
7	A, E	RI.3.5	2
8	C, D	RI.3.3	2
9	D	RI.3.3	2
10	C, C	RI.3.1	3
11	A4, B2	L.3.4	2
12	A, E	RI.3.2	3

Part 2

Question	Answer Key	Alignment	DOK
13	D	L.3.1	2
14	C	L.3.2	2
15	D	W.3.1	2
16	B1B, B2B	L.3.3	2
17	A	W.3.2	3

English Language Arts Grade 4

Part 1

Question	Answer Key	Alignment	DOK
1	A	L.4.4	2
2	C, E	RL.4.3	2
3	A4, B2, C3, D1	RL.4.2	2
4	D, E	RL.4.3	2
5	C, D	RL.4.2	3
6	A	RL.4.3	2

Part 2

Question	Answer Key	Alignment	DOK
7	C	RI.4.3	2
8	A4, B2, C1, D3	RI.4.2	2
9	C, D	RI.4.8	3
10	C, B	RI.4.1	3
11	B, D	RI.4.9	3
12	A, C	RI.4.9	3
13	TDA	W.4.9	3

Part 3

Question	Answer Key	Alignment	DOK
7	A	W.4.3	3
8	A	W.4.1	2
9	A	L.4.1	2
10	C	L.4.2	1
11	C	L.4.3	2

English Language Arts Grade 5

Part 1

Question	Answer Key	Alignment	DOK
1	C	L.5.4	2
2	B/D	RI.5.1	2
3	D/A	RI.5.2	2
4	A/C	RI.5.3	2
5	C/E	RI.5.8	2
6	A	RI.5.6	2
7	G	RI.5.1	2
8	A3, B1	RI.5.3	3

Part 2

Question	Answer Key	Alignment	DOK
9	B	RL.5.1	2
10	A, E	RL.5.6	2
11	B, D	RL.5.4	2
12	D, D	RL.5.2	3
13	A1, B2, C2, D1, E1, F2	RL.5.3	3
14	B, E	RL.5.9	3
15	TDA	W.5.9	3

Part 3

Question	Answer Key	Alignment	DOK
16	B	W.5.2	2
17	A	W.5.3	3
18	D	L.5.1	2
19	C	L.5.2	1
20	C	L.5.3	2

English Language Arts Grade 6

Part 1

Question	Answer Key	Alignment	DOK
1	C, D	RL.6.3	3
2	B	RL.6.5	2
3	A	RL.6.4	2
4	C	RL.6.3	2
5	C	RL.6.3	2
6	A, B	RL.6.2	3
7	C, B	RI.6.3	3
8	D	RI.6.4	2
9	B, C	RI.6.1	2
10	D	RI.6.1	2
11	A1, B4	RI.6.9	3
12	B, E	RI.6.8	3
13	TDA	W.6.9	3

Part 2

Question	Answer Key	Alignment	DOK
14	A4, B2	W.6.1	2
15	A	W.6.3	2
16	D	L.6.1	2
17	B	L.6.2	2
18	D	L.6.3	2

English Language Arts Grade 7

Part 1

Question	Answer Key	Alignment	DOK
1	A, C	RI.7.8	3
2	C	RI.7.6	3
3	B, C	RI.7.3	3
4	B	RI.7.1	2
5	A, B	RI.7.5	3
6	A4, B1, C3, D2	RI.7.2	2
7	D	RL.7.6	3
8	D, B	RL.7.2	3
9	A	RL.7.5	3
10	B, D, E	RL.7.4	3
11	B, C, D	RL.7.7	3
12	A2 and A3 B1 and B4	RL.7.7	3
13	TDA	W.7.9	3

Part 2

Question	Answer Key	Alignment	DOK
14	C	L.7.3	2
15	A	L.7.1	2
16	B	L.7.2	2
17	A	W.7.1	2
18	A	W.7.2	2

English Language Arts Grade 8

Part 1

Question	Answer Key	Alignment	DOK
1	A1, B4, C6	RL.8.3	2
2	A3, D1, E2	RL.8.6	3
3	D	RL.8.4	2
4	B	RL.8.5	3
5	C, E	RL.8.1	2
6	A, D	RL.8.2	3
7	A, A	RI.8.6	3
8	D, D	RI.8.8	3
9	A2, B3, C1	RI.8.3	2
10	A2, B1	RI.8.3	2
11	C, E	RI.8.6	2
12	A	RI.8.9	3
13	TDA	W.8.9	3

Part 2

Question	Answer Key	Alignment	DOK
14	C	L.8.1	2
15	A	L.8.3	2
16	A	W.8.3	3
17	D	W.8.2	3
18	B	L.8.2	2

English Language Arts Grade 9

Part 1

Question	Answer Key	Alignment	DOK
1	A	RL.9.3	3
2	B/D	RL.9.6	3
3	B/D	RL.9.4	2
4	E	RL.9.1	2
5	A/B	RL.9.9	2
6	1. B, E 2. C, D 3. A	RL.9.7	3
7	C	RI.9.3	2
8	B	RI.9.5	2
9	A, D	RI.9.4	2
10	D	RI.9.8	2
11	A1, B2	RI.9.8	3
12	D, B	RI.9.2	3
13	TDA	W.9.9	3

Part 2

Question	Answer Key	Alignment	DOK
14	C	L.9.1	2
15	D	L.9.2	2
16	B	W.9.1	2
17	D	W.9.2	2
18	C	L.9.2	2

Appendix D: Mathematics Summary Tables

The summary tables on the following pages include answer keys, standards alignment, and depth of knowledge levels for each item included in the Math Paper-Based Item Samplers and Math OTT. Please note, there are two different answer keys for each grade level: one for the paper-based item samplers and one for the OTT. These summary tables are also available separately on the [PEAKS webpage](#).

Mathematics Grade 3 – Paper-Based Item Sampler

Part 1

Question	Answer Key	Alignment	DOK
1	D	3.OA.A.2	2
2	D	3.MD.C.9	1
3	C	3.MD.B.5	1
4	B	3.NF.A.1	1
5	A	3.G.A.2	2
6	C	3.OA.B.6	2
7	C	3.OA.A.3	2
8	D	3.NF.A.3	1

Part 2

Question	Answer Key	Alignment	DOK
9	D	3.MD.B.4	2
10	C	3.NF.A.2	1
11	D	3.NBT.A.3	1
12	D	3.OA.A.4	2
13	C	3.G.A.1	1
14	A	3.OA.B.5	1
15	D	3.OA.A.1	1
16	B	3.NBT.A.1	2
17	4	3.G.A.1	1

Mathematics Grade 3 – Online Tools Training

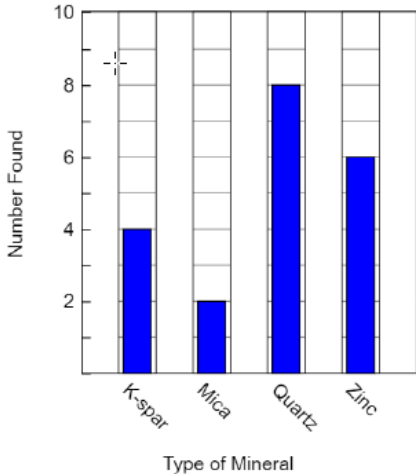

Part 1

Question	Answer Key	Alignment	DOK
1	D	3.OA.A.2	2
2	D	3.MD.C.9	2
3	C	3.MD.B.5	1
4	B	3.NF.A.1	1
5	A	3.G.A.2	1
6	C	3.OA.B.6	2
7	C	3.OA.A.3	2
8	D	3.NF.A.3	1
9	10	3.MD.B.4	2

Question	Answer Key	Alignment	DOK
10		3.NF.A.3	1
11		3.OA.A.3	1

Part 2

Question	Answer Key	Alignment	DOK
12	D	3.MD.B.4	2
13	C	3.NF.A.2	1
14	D	3.NBT.A.3	1
15	D	3.OA.A.4	2
16	C	3.G.A.1	1
17	A	3.OA.B.5	1
18	D	3.OA.A.1	1
19	40, 35, 44	3.NBT.A.1	2
20	4	3.G.A.1	1

Question	Answer Key	Alignment	DOK										
21	<p style="text-align: center;">Minerals Found</p>  <table><caption>Minerals Found Data</caption><thead><tr><th>Type of Mineral</th><th>Number Found</th></tr></thead><tbody><tr><td>K-spar</td><td>4</td></tr><tr><td>Mica</td><td>2</td></tr><tr><td>Quartz</td><td>8</td></tr><tr><td>Zinc</td><td>6</td></tr></tbody></table>	Type of Mineral	Number Found	K-spar	4	Mica	2	Quartz	8	Zinc	6	3.MD.B.4	2
Type of Mineral	Number Found												
K-spar	4												
Mica	2												
Quartz	8												
Zinc	6												
22	<div><div><div>4</div><div>4</div></div><div><div><</div><div></div></div><div><div>4</div><div>1</div></div></div>	3.NF.A.3	2										
23		3.MD.A.1	1										

Mathematics Grade 4 – Paper-Based Item Sampler

Part 1

Question	Answer Key	Alignment	DOK
1	B	4.G.A.1	1
2	C	4.NF.A.2	2
3	D	4.MD.A.1	2
4	B	4.NF.B.3	2
5	B	4.NF.A.1	1
6	B	4.NBT.A.1	2
7	C	4.NF.B.4	2
8	C	4.OA.B.4	1

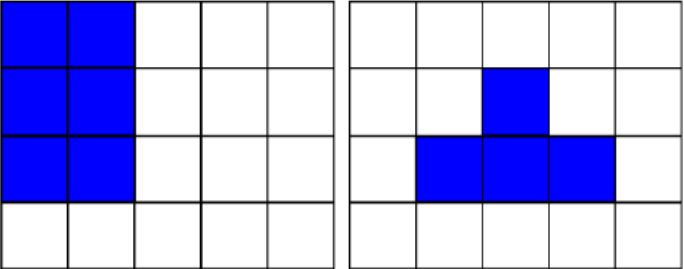
Part 2

Question	Answer Key	Alignment	DOK
9	B	4.G.A.2	1
10	D	4.NF.C.5	2
11	B	4.OA.A.3	2
12	A	4.MD.B.5	1
13	C	4.OA.A.2	2
14	C	4.NBT.A.3	1
15	D	4.G.A.3	1
16	A	4.OA.A.1	1
17	25734	4.NBT.A.2	1

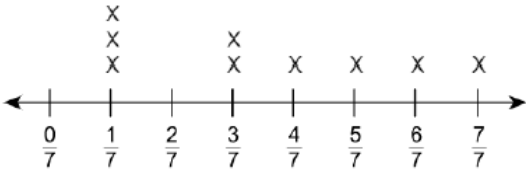
Mathematics Grade 4 – Online Tools Training

Part 1

Question	Answer Key	Alignment	DOK
1	B	4.G.A.1	1
2	C	4.NF.A.2	2
3	D	4.MD.A.1	2
4	B	4.NF.B.3	2
5	B	4.NF.A.1	1
6	B	4.NBT.A.1	2
7	C	4.NF.B.4	2
8	C	4.OA.B.4	1
9	2/3 (or equivalent fraction)	4.NF.B.3	2

Question	Answer Key	Alignment	DOK
10	 <p>Note: These are just two of many possible correct answers. Any shape with a perimeter of 10 should be considered correct.</p>	3.MD.D.10	1

Part 2

Question	Answer Key	Alignment	DOK
11	B	4.G.A.2	1
12	D	4.NF.C.5	2
13	B	4.OA.A.3	2
14	A	4.MD.B.5	1
15	C	4.OA.A.2	2
16	C	4.NBT.A.3	1
17	D	4.G.A.3	1
18	A	4.OA.A.1	1
19	25734	4.NBT.A.2	1
20	$\frac{5}{6} < \frac{6}{5}$ $\frac{3}{8} > \frac{1}{4}$ $1.5 > 1.49$ $0.7 = \frac{7}{10}$ $2.45 < 2.451$ $\frac{1}{2} = \frac{3}{6}$	4.NF.A.2	2
21	 <p>Ring Tosses Made</p>	5.MD.B.3	2

Question	Answer Key	Alignment	DOK												
22	<table><tr><td>6.46 = 6.460</td><td><input type="button" value="True"/></td></tr><tr><td>48 > 48.5</td><td><input type="button" value="False"/></td></tr><tr><td>30 < 29.999</td><td><input type="button" value="False"/></td></tr><tr><td>11.05 < 11.50</td><td><input type="button" value="True"/></td></tr><tr><td>14.15 < 15.14</td><td><input type="button" value="True"/></td></tr><tr><td>0.0912 > 0.912</td><td><input type="button" value="False"/></td></tr></table>	6.46 = 6.460	<input type="button" value="True"/>	48 > 48.5	<input type="button" value="False"/>	30 < 29.999	<input type="button" value="False"/>	11.05 < 11.50	<input type="button" value="True"/>	14.15 < 15.14	<input type="button" value="True"/>	0.0912 > 0.912	<input type="button" value="False"/>	5.NBT.A.3	1
6.46 = 6.460	<input type="button" value="True"/>														
48 > 48.5	<input type="button" value="False"/>														
30 < 29.999	<input type="button" value="False"/>														
11.05 < 11.50	<input type="button" value="True"/>														
14.15 < 15.14	<input type="button" value="True"/>														
0.0912 > 0.912	<input type="button" value="False"/>														

Mathematics Grade 5 – Paper-Based Item Sampler

Part 1

Question	Answer Key	Alignment	DOK
1	D	5.NF.B.3	1
2	B	5.NF.B.4	2
3	D	5.OA.B.3	2
4	B	5.NBT.B.6	1
5	A	5.G.A.2	1
6	A	5.NF.A.2	2
7	B	5.MD.A.1	2
8	B	5.NBT.A.1	2

Part 2

Question	Answer Key	Alignment	DOK
9	D	5.OA.A.2	2
10	B	5.G.B.3	2
11	C	5.MD.A.1	2
12	D	5.NF.B.5	2
13	C, E	5.NF.A.1	2
14	B, C, F	5.G.A.1	1
15	B, E	5.MD.A.2	2
16	16	5.NF.B.7	2
17	1134	5.NBT.B.5	1

Mathematics Grade 5 – Online Tools Training

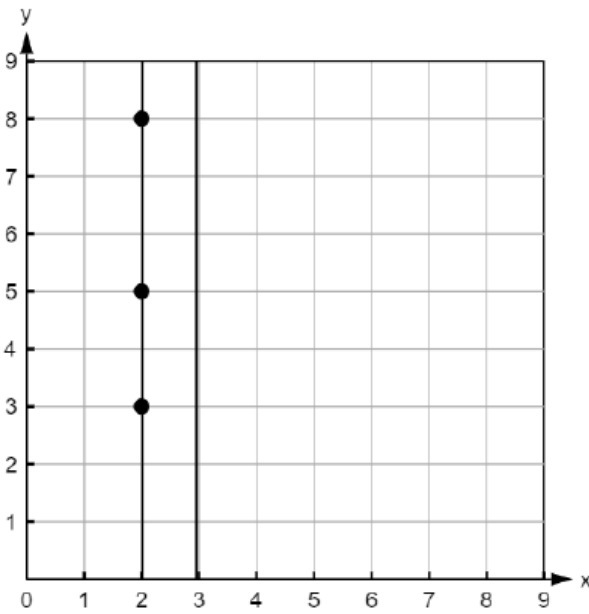
Part 1

Question	Answer Key	Alignment	DOK
1	D	5.NF.B.3	1
2	B	5.NF.B.4	2
3	D	5.OA.B.3	2
4	B	5.NBT.B.6	1
5	A	5.G.A.2	1
6	A	5.NF.A.2	2
7	B	5.MD.A.1	2
8	B	5.NBT.A.1	2

Question	Answer Key	Alignment	DOK												
9	<table><tr><td>$6.46 = 6.460$</td><td><input type="text" value="True"/></td></tr><tr><td>$48 > 48.5$</td><td><input type="text" value="False"/></td></tr><tr><td>$30 < 29.999$</td><td><input type="text" value="False"/></td></tr><tr><td>$11.05 < 11.50$</td><td><input type="text" value="True"/></td></tr><tr><td>$14.15 < 15.14$</td><td><input type="text" value="True"/></td></tr><tr><td>$0.0912 > 0.912$</td><td><input type="text" value="False"/></td></tr></table>	$6.46 = 6.460$	<input type="text" value="True"/>	$48 > 48.5$	<input type="text" value="False"/>	$30 < 29.999$	<input type="text" value="False"/>	$11.05 < 11.50$	<input type="text" value="True"/>	$14.15 < 15.14$	<input type="text" value="True"/>	$0.0912 > 0.912$	<input type="text" value="False"/>	5.NBT.A.3	1
$6.46 = 6.460$	<input type="text" value="True"/>														
$48 > 48.5$	<input type="text" value="False"/>														
$30 < 29.999$	<input type="text" value="False"/>														
$11.05 < 11.50$	<input type="text" value="True"/>														
$14.15 < 15.14$	<input type="text" value="True"/>														
$0.0912 > 0.912$	<input type="text" value="False"/>														
10	$\frac{5}{6} \boxed{<} \frac{6}{5}$ $\frac{3}{8} \boxed{>} \frac{1}{4}$ $1.5 \boxed{>} 1.49$ $0.7 \boxed{=} \frac{7}{10}$ $2.45 \boxed{<} 2.451$ $\frac{1}{2} \boxed{=} \frac{3}{6}$	4.NF.A.2	2												

Part 2

Question	Answer Key	Alignment	DOK
11	D	5.OA.A.2	2
12	B	5.G.B.3	2
13	C	5.MD.A.1	2
14	D	5.NF.B.5	2
15	C, E	5.NF.A.1	2
16	B, C, F	5.G.A.1	1
17	Pacific Standard Time and Eastern Standard Time	5.MD.A.2	2
18	16	5.NF.B.7	2
19	1134	5.NBT.B.5	1

Question	Answer Key	Alignment	DOK								
20	 <p>Note: There are many possible options for the second line. Any vertical line that is not $x = 2$ should be considered correct.</p>	5.G.A.2	2								
21	$\frac{2}{3}$ (or equivalent fraction)	4.NF.B.3	2								
22	<table><tr><td>forty-five and sixteen hundredths</td><td>45.160</td></tr><tr><td>forty-five and sixteen thousandths</td><td>40.516</td></tr><tr><td>four hundred five and sixteen hundredths</td><td>45.016</td></tr><tr><td>forty and five hundred sixteen thousandths</td><td>405.16</td></tr></table>	forty-five and sixteen hundredths	45.160	forty-five and sixteen thousandths	40.516	four hundred five and sixteen hundredths	45.016	forty and five hundred sixteen thousandths	405.16	5.NBT.A.3.a	1
forty-five and sixteen hundredths	45.160										
forty-five and sixteen thousandths	40.516										
four hundred five and sixteen hundredths	45.016										
forty and five hundred sixteen thousandths	405.16										

Mathematics Grade 6 – Paper-Based Item Sampler

Part 1

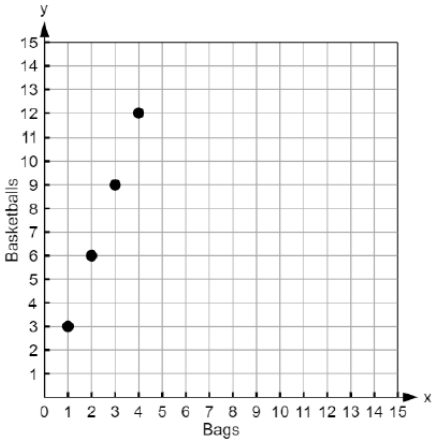
Question	Answer Key	Alignment	DOK
1	C	6.EE.B.5	2
2	B	6.EE.B.7	2
3	B	6.NS.A.1	1
4	C	6.RP.A.3	2
5	C	6.NS.B.3	1
6	B	6.NS.B.2	1
7	B, C, F	6.EE.B.6	2
8	8	6.NS.B.4	1
9	21	6.RP.A.1	2

Part 2

Question	Answer Key	Alignment	DOK
10	C	6.G.A.4	2
11	C	6.G.A.1	1
12	B	6.SP.A.2	2
13	C	6.SP.B.5	2
14	B	6.EE.A.3	2
15	C	6.NS.C.7	1
16	C	6.EE.A.1	1
17	A, D	6.EE.A.2	2

Mathematics Grade 6 – Online Tools Training

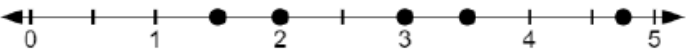
Part 1

Question	Answer Key	Alignment	DOK
1	C	6.EE.B.5	2
2	B	6.EE.B.7	2
3	B	6.NS.A.1	1
4		6.RP.A.3	2
5	C	6.NS.B.3	1
6	B	6.NS.B.2	1

Question	Answer Key	Alignment	DOK																																																																		
7	B, C, F	6.EE.B.6	2																																																																		
8	8	6.NS.B.4	1																																																																		
9	21	6.RP.A.1	2																																																																		
10	<table><tr><td></td><td>$x + 4$</td><td>$5x + 2$</td><td>$6x - 3$</td></tr><tr><td>$3x + 2(x + 1)$</td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>$3 + (1 - x) + 2x$</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>$3(2x - 1)$</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr></table>		$x + 4$	$5x + 2$	$6x - 3$	$3x + 2(x + 1)$	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	$3 + (1 - x) + 2x$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	$3(2x - 1)$	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7.EE.A.1	2																																																		
	$x + 4$	$5x + 2$	$6x - 3$																																																																		
$3x + 2(x + 1)$	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																																																																		
$3 + (1 - x) + 2x$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																																		
$3(2x - 1)$	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																																																																		
11	<table><tr><td>$6.46 = 6.460$</td><td>True ▾</td></tr><tr><td>$48 > 48.5$</td><td>False ▾</td></tr><tr><td>$30 < 29.999$</td><td>False ▾</td></tr><tr><td>$11.05 < 11.50$</td><td>True ▾</td></tr><tr><td>$14.15 < 15.14$</td><td>True ▾</td></tr><tr><td>$0.0912 > 0.912$</td><td>False ▾</td></tr></table>	$6.46 = 6.460$	True ▾	$48 > 48.5$	False ▾	$30 < 29.999$	False ▾	$11.05 < 11.50$	True ▾	$14.15 < 15.14$	True ▾	$0.0912 > 0.912$	False ▾	5.NBT.A.3	1																																																						
$6.46 = 6.460$	True ▾																																																																				
$48 > 48.5$	False ▾																																																																				
$30 < 29.999$	False ▾																																																																				
$11.05 < 11.50$	True ▾																																																																				
$14.15 < 15.14$	True ▾																																																																				
$0.0912 > 0.912$	False ▾																																																																				
12	<table><tr><td>forty-five and sixteen hundredths</td><td>45.160</td></tr><tr><td>forty-five and sixteen thousandths</td><td>40.516</td></tr><tr><td>four hundred five and sixteen hundredths</td><td>45.016</td></tr><tr><td>forty and five hundred sixteen thousandths</td><td>405.16</td></tr></table>	forty-five and sixteen hundredths	45.160	forty-five and sixteen thousandths	40.516	four hundred five and sixteen hundredths	45.016	forty and five hundred sixteen thousandths	405.16	5.NBT.A.3.a	1																																																										
forty-five and sixteen hundredths	45.160																																																																				
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forty and five hundred sixteen thousandths	405.16																																																																				
13	<table><tr><td>X</td><td></td><td>X</td><td></td><td>X</td><td></td><td>X</td><td></td><td>X</td><td></td><td>X</td></tr><tr><td>X</td><td></td><td>X</td><td></td><td>X</td><td></td><td>X</td><td></td><td>X</td><td></td><td>X</td></tr><tr><td>X</td><td></td><td>X</td><td></td><td>X</td><td></td><td>X</td><td></td><td>X</td><td></td><td>X</td></tr><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td></td><td></td><td></td></tr><tr><td>$\frac{0}{7}$</td><td>$\frac{1}{7}$</td><td>$\frac{2}{7}$</td><td>$\frac{3}{7}$</td><td>$\frac{4}{7}$</td><td>$\frac{5}{7}$</td><td>$\frac{6}{7}$</td><td>$\frac{7}{7}$</td><td></td><td></td><td></td></tr><tr><td colspan="11">Ring Tosses Made</td></tr></table>	X		X		X		X		X		X	X		X		X		X		X		X	X		X		X		X		X		X	0	1	2	3	4	5	6	7				$\frac{0}{7}$	$\frac{1}{7}$	$\frac{2}{7}$	$\frac{3}{7}$	$\frac{4}{7}$	$\frac{5}{7}$	$\frac{6}{7}$	$\frac{7}{7}$				Ring Tosses Made											5.MD.B.3	2
X		X		X		X		X		X																																																											
X		X		X		X		X		X																																																											
X		X		X		X		X		X																																																											
0	1	2	3	4	5	6	7																																																														
$\frac{0}{7}$	$\frac{1}{7}$	$\frac{2}{7}$	$\frac{3}{7}$	$\frac{4}{7}$	$\frac{5}{7}$	$\frac{6}{7}$	$\frac{7}{7}$																																																														
Ring Tosses Made																																																																					

Part 2

Question	Answer Key	Alignment	DOK
14	C	6.G.A.4	2
15	C	6.G.A.1	1
16	B	6.SP.A.2	2
17	C	6.SP.B.5	2
18	B	6.EE.A.3	2
19	C	6.NS.C.7	1

Question	Answer Key	Alignment	DOK
20	C	6.EE.A.1	1
21	A, D	6.EE.A.2	2
22	77	6.G.A.1	2
23		6.SP.B.4	2

Mathematics Grade 7 – Paper-Based Item Sampler

Part 1

Question	Answer Key	Alignment	DOK
1	A	7.EE.A.1	2
2	A	7.NS.A.1	1
3	D	7.EE.A.2	2
4	B	7.NS.A.3	1
5	A, B	7.NS.A.2	1

Part 2

Question	Answer Key	Alignment	DOK
6	B	7.EE.B.4	2
7	B	7.RP.A.2	1
8	C	7.RP.A.2	1
9	B	7.SP.C.5	2
10	A	7.EE.B.4	2
11	B	7.G.B.4	2
12	B	7.SP.A.1	2
13	D	7.G.A.1	2
14	B	7.RP.A.1	1
15	D	7.RP.A.3	2
16	B, C	7.SP.C.7	2
17	70	7.G.A.2	2

Mathematics Grade 7 – Online Tools Training

Part 1

Question	Answer Key	Alignment	DOK							
1	A	7.EE.A.1	2							
2	A	7.NS.A.1	1							
3	D	7.EE.A.2	2							
4	B	7.NS.A.3	1							
5	A, B	7.NS.A.2	1							
6	<table><tr><th>Negative</th><th>Zero</th><th>Positive</th></tr><tr><td>-4.65 $-4 + -4$</td><td></td><td>$-(-2)$ -7 $-3 + 6$</td></tr></table>		Negative	Zero	Positive	-4.65 $-4 + -4$		$-(-2)$ $ -7 $ $-3 + 6$	7.NS.A.1	1
	Negative	Zero	Positive							
-4.65 $-4 + -4$		$-(-2)$ $ -7 $ $-3 + 6$								

Question	Answer Key	Alignment	DOK										
7	<div><div>subtract 20 from x</div><div>the sum of 20 and x</div><div>20 less than x</div><div>20% increase</div><div>20% decrease</div><div>$-20x$</div><div>$0.80x$</div><div>$1.2x$</div><div>$x - 20$</div><div>$120 + x$</div><div>$20 - x$</div><div>$20 + x$</div></div>	7.EE.A.2	1										
8	<table><thead><tr><th>Expression</th><th>Value</th></tr></thead><tbody><tr><td>$-3 \cdot \frac{1}{5}$</td><td>Negative ▾</td></tr><tr><td>$-9 \cdot -4$</td><td>Positive ▾</td></tr><tr><td>$7 \div -9$</td><td>Negative ▾</td></tr><tr><td>$-120 \div 10$</td><td>Negative ▾</td></tr></tbody></table>	Expression	Value	$-3 \cdot \frac{1}{5}$	Negative ▾	$-9 \cdot -4$	Positive ▾	$7 \div -9$	Negative ▾	$-120 \div 10$	Negative ▾	7.NS.A.2	1
Expression	Value												
$-3 \cdot \frac{1}{5}$	Negative ▾												
$-9 \cdot -4$	Positive ▾												
$7 \div -9$	Negative ▾												
$-120 \div 10$	Negative ▾												

Part 2

Question	Answer Key	Alignment	DOK
9	B	7.EE.B.4	2
10	B	7.RP.A.2	1
11	C	7.RP.A.2	1
12	B	7.SP.C.5	2
13	A	7.EE.B.4	2
14	B	7.G.B.4	2
15	B	7.SP.A.1	2
16	D	7.G.A.1	2
17	B	7.RP.A.1	1
18	D	7.RP.A.3	2
19	B, C	7.SP.C.7	2

Question	Answer Key	Alignment	DOK
20		7.G.A.2	2
21	154.1 (accept answers in the range $154 \leq [\text{student response}] \leq 154.2$)	7.G.B.4	2

Mathematics Grade 8 – Paper-Based Item Sampler

Part 1

Question	Answer Key	Alignment	DOK
1	B	8.NS.A.1	1
2	C	8.EE.A.1	1
3	C	8.EE.B.5	2
4	4	8.NS.A.2	2
5	3	8.EE.A.2	1

Part 2

Question	Answer Key	Alignment	DOK
6	B	8.G.A.3	1
7	D	8.EE.C.8	2
8	A	8.SP.A.3	2
9	D	8.F.A.2	2
10	A	8.EE.C.7	1
11	C	8.G.A.1	2
12	C	8.F.A.3	2
13	B	8.G.A.2	2
14	B	8.SP.A.1	1
15	D	8.G.A.5	2
16	A, C	8.F.B.5	1
17	A, B, C, E	8.F.A.1	1

Mathematics Grade 8 – Online Tools Training

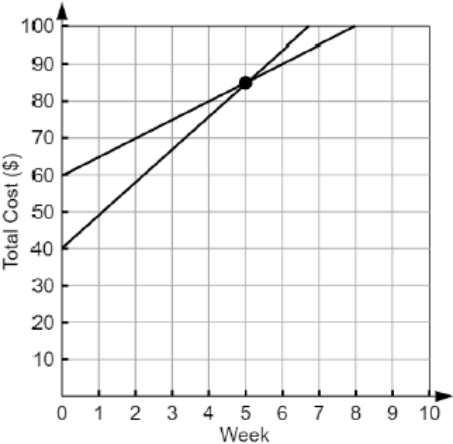
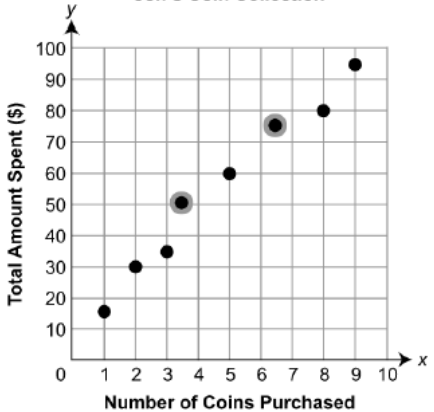
Part 1

Question	Answer Key	Alignment	DOK																
1	B	8.NS.A.1	1																
2	C	8.EE.A.1	1																
3	C	8.EE.B.5	2																
4	4	8.NS.A.2	2																
5	3	8.EE.A.2	1																
6	<table border="1"> <tr> <td></td><td>$x + 4$</td><td>$5x + 2$</td><td>$6x - 3$</td></tr> <tr> <td>$3x + 2(x + 1)$</td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr> <td>$3 + (1 - x) + 2x$</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr> <td>$3(2x - 1)$</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr> </table>		$x + 4$	$5x + 2$	$6x - 3$	$3x + 2(x + 1)$	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	$3 + (1 - x) + 2x$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	$3(2x - 1)$	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7.EE.A.1	2
	$x + 4$	$5x + 2$	$6x - 3$																
$3x + 2(x + 1)$	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																
$3 + (1 - x) + 2x$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
$3(2x - 1)$	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																

Question	Answer Key	Alignment	DOK												
7	<div><div><div>subtract 20 from x</div><div>the sum of 20 and x</div><div>20 less than x</div><div>20% increase</div><div>20% decrease</div></div><div><div>$-20x$</div><div>$0.80x$</div><div>$1.2x$</div><div>$x - 20$</div><div>$120 + x$</div><div>$20 - x$</div><div>$20 + x$</div></div></div>	7.EE.A.2	1												
8	<table><thead><tr><th>Negative</th><th>Zero</th><th>Positive</th></tr></thead><tbody><tr><td>-4.65</td><td></td><td>$-(-2)$</td></tr><tr><td>$-4 + -4$</td><td></td><td>-7</td></tr><tr><td></td><td></td><td>$-3 + 6$</td></tr></tbody></table>	Negative	Zero	Positive	-4.65		$-(-2)$	$-4 + -4$		$ -7 $			$-3 + 6$	7.NS.A.1	1
Negative	Zero	Positive													
-4.65		$-(-2)$													
$-4 + -4$		$ -7 $													
		$-3 + 6$													

Part 2

Question	Answer Key	Alignment	DOK
9	B	8.G.A.3	1
10	D	8.EE.C.8	2
11	A	8.SP.A.3	2
12	D	8.F.A.2	2
13	A	8.EE.C.7	1
14	C	8.G.A.1	2
15	C	8.F.A.3	2
16	B	8.G.A.2	2
17	B	8.SP.A.1	1
18	D	8.G.A.5	2
19	A, C	8.F.B.5	1
20	A, B, C, E	8.F.A.1	1
21	18.1 (accept answers in the range $18 \leq$ [student response] ≤ 18.1)	8.G.C.9	2

Question	Answer Key	Alignment	DOK
22	<p style="text-align: center;">Total Cost of Gym Membership</p> 	8.EE.C.8	2
23	<p style="text-align: center;">Jeff's Coin Collection</p> 	HS.F-IF.B.5	2

Mathematics Grade 9 – Paper-Based Item Sampler

Part 1

Question	Answer Key	Alignment	DOK
1	C	HS.F-BF.A.2	2
2	C	HS.A-REI.C.7	2
3	C	HS.N-RN.A.2	2
4	D	HS.A-CED.A.4	1
5	A	HS.S-ID.B.5	2
6	B	HS.S-ID.A.2	2
7	A	HS.F-IF.A.2	2
8	A	HS.A-REI.A.1	1

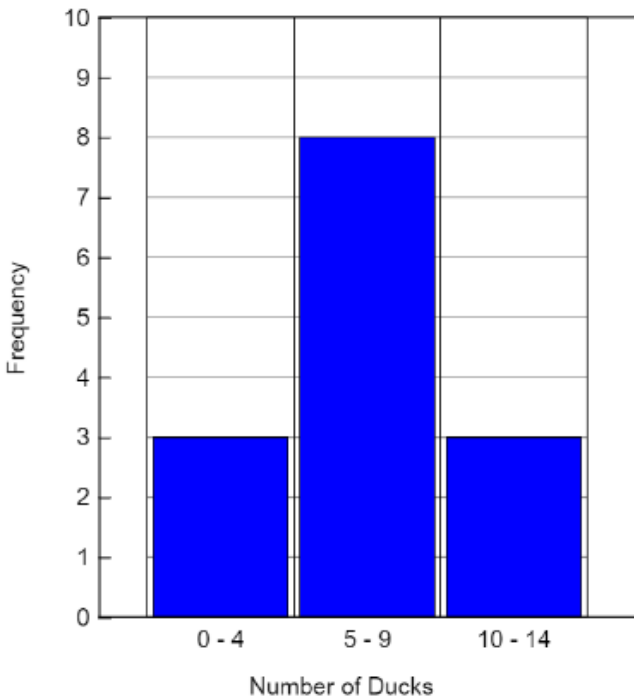
Part 2

Question	Answer Key	Alignment	DOK
9	B	HS.A-SSE.A.2	1
10	C	HS.F-IF.B.5	2
11	A	HS.F-IF.A.1	1
12	C	HS.A-CED.A.2	1
13	D	HS.F-BF.A.1	2
14	A, F	HS.N-Q.A.1	2
15	D, E	HS.A-REI.B.3	1
16	11	HS.A-REI.B.3	2
17	0.045	HS.F-LE.B.5	1

Mathematics Grade 9 – Online Tools Training

Part 1

Question	Answer Key	Alignment	DOK
1	C	HS.F-BF.A.2	2
2	C	HS.A-REI.C.7	2
3	C	HS.N-RN.A.2	2
4	D	HS.A-CED.A.4	1
5	A	HS.S-ID.B.5	2
6	B	HS.S-ID.A.2	2
7	A	HS.F-IF.A.2	2
8	A	HS.A-REI.A.1	1

Question	Answer Key	Alignment	DOK								
9	<div><div>Reset All</div><div>Ducks on the Pond</div><div><table><caption>Ducks on the Pond Data</caption><thead><tr><th>Number of Ducks</th><th>Frequency</th></tr></thead><tbody><tr><td>0 - 4</td><td>3</td></tr><tr><td>5 - 9</td><td>8</td></tr><tr><td>10 - 14</td><td>3</td></tr></tbody></table></div></div>	Number of Ducks	Frequency	0 - 4	3	5 - 9	8	10 - 14	3	6.SP.B.4	1
Number of Ducks	Frequency										
0 - 4	3										
5 - 9	8										
10 - 14	3										
10	18.1 (accept answers in the range $18 \leq [\text{student response}] \leq 18.1$)	8.G.C.9	2								
11	<div>Eggs cost <input type="text" value="\$1.80"/> each.</div> <div>Pancakes cost <input type="text" value="\$2.25"/> each.</div>	HS.A-REI.C.6	2								

Part 2

Question	Answer Key	Alignment	DOK
12	B	HS.A-SSE.A.2	1
13	C	HS.F-IF.B.5	2
14	A	HS.F-IF.A.1	1
15	C	HS.A-CED.A.2	1
16	D	HS.F-BF.A.1	2
17	A, F	HS.N-Q.A.1	2
18	D, E	HS.A-REI.B.3	1
19	11	HS.A-REI.B.3	2
20	0.045	HS.F-LE.B.5	1

Question	Answer Key	Alignment	DOK																				
21	<p style="text-align: center;">Jeff's Coin Collection</p>	HS.F-IF.B.5	2																				
22	<p style="text-align: center;">Total Cost of Gym Membership</p>	8.EE.C.8	2																				
23		HS.S-ID.A.1	1																				
24	<table border="1"> <thead> <tr> <th></th><th>Exponential Growth</th><th>Exponential Decay</th><th>Neither</th></tr> </thead> <tbody> <tr> <td>$y = 10(0.75)^x$</td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr> <td>$y = 10(1.25)^x$</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr> <td>$y = 10(1.25)^{x/2}$</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr> <td>$y = 10(x + 0.75)$</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr> </tbody> </table>		Exponential Growth	Exponential Decay	Neither	$y = 10(0.75)^x$	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	$y = 10(1.25)^x$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	$y = 10(1.25)^{x/2}$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	$y = 10(x + 0.75)$	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	HS.F-IF.C.8.b	1
	Exponential Growth	Exponential Decay	Neither																				
$y = 10(0.75)^x$	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																				
$y = 10(1.25)^x$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																				
$y = 10(1.25)^{x/2}$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																				
$y = 10(x + 0.75)$	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																				

Appendix E: Science Summary Tables

The summary tables on the following pages include answer keys, standards alignment, and depth of knowledge levels for each item included in the Science Paper-Based Item Samplers and Science OTT. These summary tables are also available separately on the [PEAKS webpage](#).

Science Grade 4

Question	Answer Key	Alignment	DOK
1	D	C.3.2	2
2	A	C.2.1	1
3	C	A.1.1	2
4	A	D.2.2	3
5	C	A.1.1	2
6	Constructed Response	A.1.2	2
7	C	B.3.1	3
8	A	C.3.2	3
9	C	D.3.1	3
10	D	A.1.1	3
11	C	C.3.1	3
12	B	D.4.2	2
13	C	E.3.1	3
14	B	D.1.2	2
15	B	A.1.1	2

Science Grade 8

Question	Answer Key	Alignment	DOK
1	C	D.4.2	2
2	D	C.2.2	2
3	D	A.1.1	2
4	B	B.1.1	2
5	A	A.2.1	3
6	Constructed Response	A.1.1	2
7	Constructed Response	D.3.1	2
8	D	C.3.2	2
9	D	A.2.1	2
10	A	C.1.1	1
11	A	B.4.2	2
12	A	A.1.1	2
13	B	C.2.3	2
14	A	D.3.2	2
15	C	B.2.1	2

Science Grade 10

Question	Answer Key	Alignment	DOK
1	A	A.1.1	2
2	D	D.4.1	1
3	D	G.1.1	2
4	Constructed Response	C.2.1	3
5	B	B.1.1	2
6	A	G.3.1	3
7	Constructed Response	A.1.1	3
8	C	G.3.1	3
9	A	B.3.1	2
10	B	C.2.2	2
11	A	D.1.1	2
12	C	D.1.2	2
13	A	C.2.4	2
14	B	D.2.2	2
15	B	B.4.2	2