

Virginia

Standards of Learning Guided Practice Suggestions

For use with the Grade 4 Mathematics
Practice Items in TestNav™ 8

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Change Log

Updates to this document will be reflected in the table.

Change Log		
Version	Date	Description
V.4	10/21/2016	General information updated.
V.3	09/16/2016	Update Available Tools
V.2	07/19/2016	Updated page 4 to include information about computer adaptive testing. Moved the highlighter practice from Sample A to Section 1, Question 4. Updated information for Section 1, Question 3. Moved the zoom practice from Sample A to Section 2, Question 16. Removed the <i>Review</i> and <i>Bookmark</i> practice from Section 1, Question 1. Moved the MC eliminator tool practice from Section 1, Question 2 to Section 1, Question 1. Removed the zoom practice from Section 2, Question 2. Removed <i>Introduction to TestNav 8</i> page number references in this document, and reformatted table information.
V.1	03/30/2016	Original Document Posted

Introduction to TestNav™ 8 Document

The [Introduction to TestNav 8: MC/TEI](#) document serves as an introduction to the new online navigation, online tools, accessibility features, and overall functionality and appearance of TestNav 8. It is highly recommended that teachers (or other adults) read the *Introduction to TestNav 8* document prior to reading this guide, the *Guided Practice Suggestions* for the Grade 4 Mathematics practice item set.

Reading the *Introduction to TestNav 8* document will give teachers an understanding of the features of TestNav 8 prior to working with students. In part, the document provides information on-

- opening the practice item sets within the required TestNav 8 Application,
- navigating through the practice item sets;
- answering technology-enhanced items (TEI) and multiple-choice items;
- using the online tools, and
- using the accessibility features available in TestNav 8.

This important information should be used in conjunction with the information found in this guide.

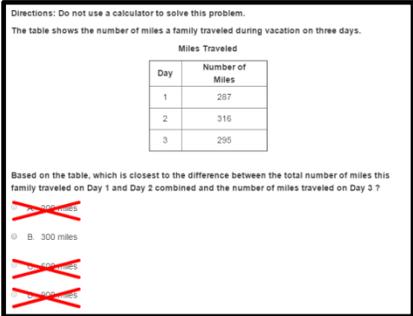
Guided Practice Suggestions

This guide provides specific item information for each question in the Grade 4 Mathematics practice item set, in table format. Along with the item information in the table, there is a column titled “Guided Practice Suggestions.” This column contains information for teachers as they guide students through the practice items. For instance, guided practice suggestions can state, “Use the eliminator tool to place a red ‘X’ on the answers that are not correct,” or, “Make sure students know how to select draggers and place them in the empty boxes using their mouse, keypad, or touchscreen.” Following the suggestions in the table will ensure that students are exposed to all of the different tools within TestNav 8, the different functionality features of TEI, and common messages that may appear as students complete TEI.

Grade 4 Mathematics Practice Item Information and Recommended Guided Practice Suggestions

General Note about the Grade 4 Mathematics Practice Items: Since grade 4 students will be taking a computer adaptive version of the mathematics Standards of Learning test, there is no mention of using the *Bookmark* button to review items and no reference to the *Review* button to determine the status of questions. However, information about when a TEI will be considered “Answered” is provided in the table since this determines when the *forward arrow* button becomes active in the computer adaptive test (CAT).

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
Section 1 (Questions 1-10)				
The questions in first section of the test are numbered sequentially from 1 to 10.				
Complete without the use of a calculator.				
				<p>Throughout the practice item set, navigate forward and backward by selecting an arrow in the top left corner of the screen. The forward arrow will navigate to the <i>Next</i> screen, and the backward arrow will navigate to the <i>Previous</i> screen. An arrow with a blue background indicates the button is active and can be selected. (On the actual computer adaptive test, only the forward arrow will be active.)</p> 

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
1	1	MC	B 300 miles	<p>Have students select the eliminator tool located in the toolbar and then place a red “X” on the answers that are not correct.</p>  <p>To remove an “X” keep the eliminator tool active and select the “X” to remove it. Have students practice removing an “X.”</p>  <p>Tell students: Multiple-choice items must be answered in TestNav 8 by selecting the letter of the answer option or the option itself using the mouse, keypad, or touchscreen. On multiple-choice items, once an answer is selected, the item cannot be returned to an unanswered state (no answer selected) unless the student uses the eliminator tool to place an “X” over the selected answer and then deselects the “X”.</p> <p>Remind students that placing an “X” on the incorrect answer choices does not complete the item. A selection must be made with the pointer tool in order for the item to be considered “Answered.”</p>

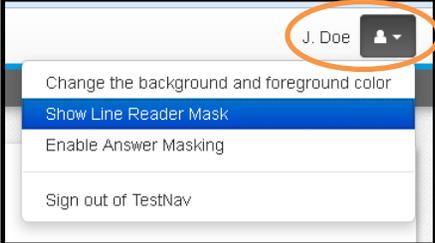
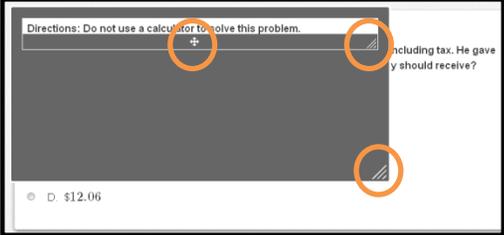
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
1	2	MC	D 70,070	
1	3	TEI Fill-in-the- blank	49R5 or 49r5	<p>Have students attempt to enter a character that cannot be used as part of the answer. A message will appear that states:</p> <p style="text-align: center;">You cannot use that character.</p> <p>This message will remain on the screen for approximately three seconds.</p> <p>Tell students that the answer does not need to be as long as the response box. Make sure students understand that a blank space is never an allowable character, so a blank space cannot be entered between the characters in the dividend (i.e., 49 R 5 cannot be entered).</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
1	4	MC	D 108	<p>Have students use the highlighter tool to highlight the key words “how many more pizzas.”</p> <p>To highlight using a keyboard, place the pointer next to the words, left click, hold down, and drag over the phrase. Then select the highlighter color.* To remove the highlight, left click, hold down, and drag over the phrase. Then select the white box on the left with the red line.</p> <p>On a touchscreen, hold down on the phrase with a finger, and adjust the area to be highlighted with the blue anchors. Then select the highlighter color.* To remove the highlight, hold down on the phrase with a finger, then select the white box on the left with the red line.</p> <div data-bbox="1108 797 1753 1079" style="border: 1px solid black; padding: 5px;"> <p>Directions: Do not use a calculator to solve this problem.</p> <p>Mr. Gary's class has a goal of selling 500 pizzas in three months. The class sold 135 pizzas in the first month and 257 pizzas in the second month. Exactly how many more pizzas does the class need to sell to reach its goal?</p> <p><input type="radio"/> A. 392</p> <p><input type="radio"/> B. 382</p> <p><input type="radio"/> C. 208</p> <p><input type="radio"/> D. 108</p> </div> <p>On a touchscreen, the following message may appear when students highlight text.</p> <div data-bbox="1293 1182 1549 1247" style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Copy Define Share...</p> </div> <p>In the practice items, selecting one of the options listed will open a new window and direct students to the internet. This will not occur in the actual testing environment; selecting an option will not direct the students to another screen.</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
1	4 (Cont.)			*Pink and blue are the two highlighter colors available when the foreground and background settings are set to the default (black text on white background). These colors may change when the foreground and background setting is changed. Practice with changing the foreground and background colors is included on a later question in this practice item set.
1	5	MC	D 3,456	

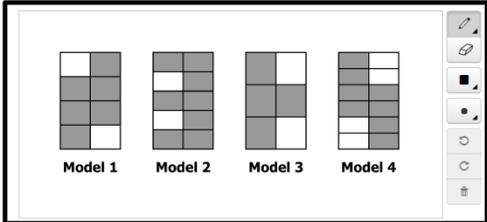
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
1	6	TEI Hot Spot	All of these numbers and only these numbers should be selected: 1, 2, 4, and 8	<p>This is a type of hot spot technology-enhanced item. To answer this question correctly, all correct answers in the gray box must be selected. A blue box outlines the answer choice when it is selected, indicating a student has chosen that response as an answer. In order to deselect an answer and remove the blue box, the answer choice must be selected again.</p> <div data-bbox="1150 495 1633 634" style="border: 1px solid black; padding: 5px;"> <p>Directions: Select all the correct answers. Identify the numbers that are common factors of 16 and 24.</p> <div style="border: 1px solid gray; padding: 2px; display: flex; justify-content: space-around;"> 1 2 3 4 6 8 10 16 24 </div> </div> <p>In order to deselect an answer and remove the blue box, the answer choice must be selected again. Have students practice selecting and deselecting an answer.</p> <p>The answer eliminator may also be used on this item to eliminate answer options. Have students select the eliminator tool located in the toolbar and then place a red “X” on the answers that are not correct.</p> <div data-bbox="1150 982 1633 1112" style="border: 1px solid black; padding: 5px;"> <p>Directions: Select all the correct answers. Do not use a calculator to solve this problem. Identify the numbers that are common factors of 16 and 24.</p> <div style="border: 1px solid gray; padding: 2px; display: flex; justify-content: space-around;"> 1 2 X 4 X 8 10 16 24 </div> </div> <p>To remove an “X” keep the eliminator tool active and select the “X” to remove it. Have students practice removing an “X.”</p> <p>The eliminator tool may also be used to eliminate an answer that was selected with the pointer tool.</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
1	6 (Cont.)			Tell students that when there are an unspecified number of answers, the question will be considered “Answered” when one answer has been selected. This is so no clue or hint is given as to how many answers are correct.
1	7	MC	D 72	
1	8	TEI Fill-in-the-blank	8.72	<p>Tell students that if a fill-in-the-blank question has an answer with four or more digits, it will be scored as correct with or without the use of commas. If a comma is used, it must be in the correct location within the number.</p> <p>Information for teachers: Answers with leading zeros or trailing zeros would be scored as correct (e.g., 08.72, 8.720, 08.720, etc.).</p>
1	9	TEI Fill-in-the-blank	$\frac{1}{4}$ (entered as 1/4)	Make sure students know how to enter the fraction key (the “forward slash” key).

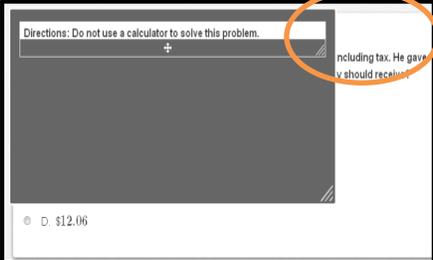
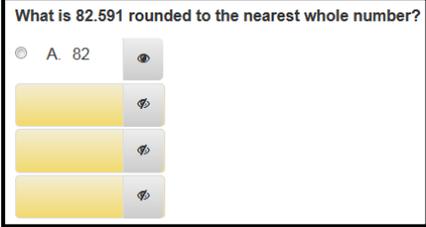
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
1	10	MC	A \$2.94	<p data-bbox="1024 240 1759 345">Have students practice using the Line Reader Mask accessibility feature with this item. Select the user drop-down menu and <i>Show Line Reader Mask</i> from the menu.</p>  <p data-bbox="1024 630 1801 889">The Line Reader Mask will appear over the item. Have students use the diagonal line areas to practice resizing the area covered by the line reader and the window through which content can be seen. Have students use the cross to move just the window through which content can be seen. Hold down on any part of the gray area and drag the tool to move the entire tool.</p>  <p data-bbox="1024 1174 1812 1320">To turn off the Line Reader Mask, select the drop-down menu and select <i>Hide Line Reader Mask</i>. If the student does not turn off the Line Reader Mask, it will automatically turn off when the student navigates away from the item.</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
<p>Section Break</p> <p>Guide students through the End of Section 1 screen and into the second section of the test (see the <i>Introduction to TestNav 8</i> document).</p> <p>Section 2 (Questions 1-20)</p> <p>The questions in the second section of the test are numbered sequentially from 1 to 20.</p> <p>A calculator may be used to complete these questions.</p>				

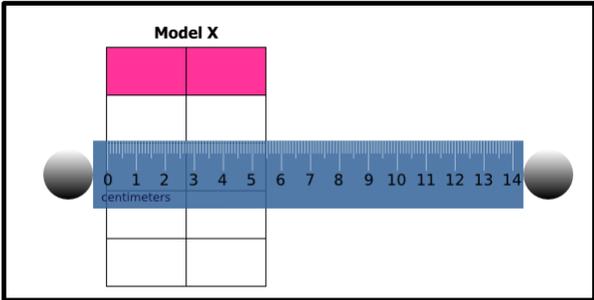
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	1	TEI Drag and Drop	Answers from top to bottom: Tenths; Thousands; Tens; Ones; Hundreds; Hundredths	<p>Have students select draggers and place them in the empty boxes using the mouse, keypad, or touchscreen.</p> <p>Selecting a dragger and moving it to an empty box causes the remaining draggers to shift location in the answer option area.</p> <p>Have students practice moving draggers back to the gray box. The gray box will expand as draggers are added back to it. Draggers will go back to their original location when returned to the gray box.</p> <p>Have students try to place one dragger “over” another dragger. This cannot be done. If a student wishes to change an answer, the dragger must be moved back to the gray box and another option must be selected and moved into the response box.</p> <p>As soon as a dragger is selected and moved, all of the boxes shade blue. This indicates that the dragger can be placed in any box - whichever location the student chooses as the correct location.</p> <p>This item will not be considered “Answered” until each box has an answer in it.</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	2	MC	D Model 3 and Model 4	<p>This question has the Drawing Interaction Tool. The Drawing Interaction Tool is a boxed area that exists on certain mathematics questions. The pencil may be used to make marks, notations, straight lines, or dots on or around artwork or graphs inside the Drawing Interaction area. The student selects the specific tool he/she wants to use, and uses it to help answer the question.</p>  <p>The top tool is the pencil or straight line tool. The arrow in the bottom right corner expands the tool so a student may select free draw or the straight line. A dot may be placed if a student uses their mouse, keypad, or touchscreen. The student would select free draw and use their mouse or keypad to click and release to place a point. If using a touchscreen, the student would use their finger to place a point.</p>  <p>The second tool is used to erase selected lines or writing.</p>  <p>The third tool allows the markings to be black or green. The arrow in the bottom right corner expands the tool so a student may select the color.</p> 

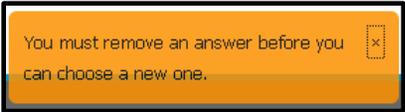
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	2 (Cont.)			<p>The fourth tool allows the students to select the thickness of the markings. The arrow in the bottom right corner expands the tool so a student may select the size. </p> <p>The fifth and sixth tools are to Undo or Redo the most recent markings. </p> <p>The last tool allows all markings to be eliminated at the same time. </p>
2	3	MC	C $\frac{4}{5}$	

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	4	MC	D 83	<p data-bbox="1024 240 1793 386">Have students practice using the Answer Masking accessibility feature with this item. Select the user drop-down menu in the top right corner of the screen and select <i>Enable Answer Masking</i> from the menu.</p>  <p data-bbox="1024 667 1751 732">The answer options will now be masked as shown in the screenshot.</p>  <p data-bbox="1024 1019 1751 1084">Students may show or hide each option by selecting the "eye."</p> 

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	4 (Cont.)			<p>Answer Masking will remain on in each multiple-choice item until it is turned off. To turn off Answer Masking, select the user drop-down menu and select <i>Disable Answer Masking</i>.</p> <p>Please make sure students practice and understand the functionality of this accessibility feature.</p>
2	5	TEI Drag and Drop	From top to bottom: 8.13; 8.149; 8.698; 8.7	All of the boxes must contain an answer for this question to be considered "Answered."

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	6	MC	D $\frac{1}{5}$ and 0.2	<p>This question does not require the use of the ruler tool, but have students practice measuring the width and height of Model X using the centimeter ruler. This provides them the opportunity to practice manipulating the tool.</p> <p>There are two ruler tools on the top of the screen (). The icon on the left should be used to access the inch ruler and the icon on the right should be used to access the centimeter ruler.</p> <p>Have students select the centimeter ruler for this measurement. To move the ruler, select and drag the ruler over to the object to be measured. To rotate the ruler, select and drag an end with the circle. Have students practice moving and rotating the ruler. Selecting the ruler tool icon again will put the ruler tool away; or, select the pointer tool to put it away.</p> <p>The width of Model X is approximately 5.5 cm and the height is approximately 8.2 cm.</p> 

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	7	MC	D 0.045 kg	
2	8	MC	A 48 ounces	

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	9	TEI Hot Spot	Both of these answers and only these answers should be selected: 4 yards and 144 inches	<p>Have students practice using the online calculator by selecting the calculator icon.</p>  <p>Once selected, the calculator will appear on the screen. Students can move the calculator across the screen by holding down inside the top of the calculator and dragging it to a new location.</p> <p>Make sure students familiarize themselves with knowing how to select and use the calculator if needed.</p>  <p>Selecting the calculator icon again will put the tool away; or, select the pointer tool to put the calculator away.</p> <p>This item specifies the number of answers a student must select. If a student tries to select more than the number of answers indicated, a message appears in the top right corner of the screen. This message will remain for approximately five seconds unless the “x” is selected to close the message. Have students try to select an additional answer so that they can see this message.</p> 

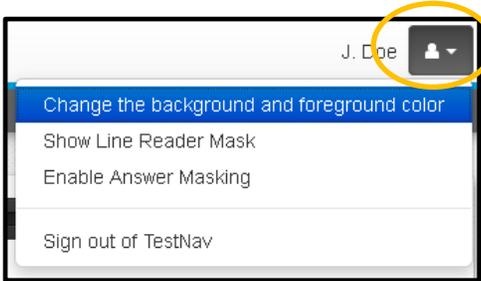
Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	10	MC	B 2:20 P. M.	<p>Have the students use the highlighter functionality to highlight “2 hours and 35 minutes later” in the question.</p> <div data-bbox="1119 332 1701 711" style="border: 1px solid black; padding: 5px;"> <p>A game started at the time shown on the clock.</p>  <p>The game ended 2 hours and 35 minutes later. The game ended at —</p> </div> <p>Have students try to highlight the clock. They will not be able to. Tell students that the highlighter tool will only work on text. It will not work on art (images/pictures).</p>
2	11	MC	C 3 hours 55 minutes	

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	12	TEI Hot Spot	<p>All of these answers and only these answers should be selected:</p> <ul style="list-style-type: none"> • There are exactly four sides. • All sides must be congruent. • Both pairs of opposite sides must be parallel. 	Remind students that this is a hot spot technology-enhanced item and the number of correct responses is not indicated in the directions or in the question; therefore, the item will be considered “Answered” once the student selects one answer.
2	13	MC	A letter W	
2	14	MC	A the number line with the arrow pointing to $\frac{1}{2}$	

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	15	TEI Bar Graph	<ul style="list-style-type: none"> • The purple bar should reach the interval labeled 6. • The orange bar should reach halfway between intervals 10 and 12. • The green bar should reach halfway between intervals 6 and 8. • The pink bar should reach the interval labeled 4. • The yellow bar should reach halfway between intervals 12 and 14. 	<p>Have students practice dragging each bar to the desired height.</p> <p>Once one bar has been moved, the item will appear as “Answered” even if all of the bars are returned to the original heights.</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	16	MC	C Year 4 and Year 5	<p>Have students practice zooming in to look at the question on the screen, and then have them zoom out.</p> <p>On a PC or Chromebook, press the CTRL and + keys at the same time to zoom in. Press the CTRL and – keys at the same time to zoom out. Press the CTRL and 0 (zero) keys at the same time to return to the default screen setting.</p> <p>On a Mac, press the COMMAND and + keys at the same time to zoom in. Press the COMMAND and – keys at the same time to zoom out. Press the COMMAND and 0 (zero) keys at the same time to return to the default screen setting.</p> <p>On a touchscreen, have students touch two points on the screen and then move their fingers away from each other to zoom in. Touch two points on the screen and then move those fingers toward each other to zoom out.</p> <p>As students are practicing how to zoom in and out, make sure they are doing so within reason. If students zoom in too far, they may not be able to see all of the information necessary to answer the question. If students zoom out too far, they may not be able to clearly see details of the question on the screen. It should also be noted that zooming in and out on the screen may cause the text wrapping to change. Remind students that they should only use this feature when necessary.</p>

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	16 (Cont.)			<p>If students are using a touchscreen and the item has a Drawing Interaction tool, they must touch two points located outside the Drawing Interaction window in order to zoom in or out. To drag the screen to the right or to the left, the student must be touching the screen outside the Drawing Interaction window.</p> <p>Before students go to the next question, make sure return to the default screen.</p>
2	17	TEI Bar Graph	Both Brock's bar and Gwen's bar should have a bar height of 15.	
2	18	MC	B 68	
2	19	MC	A 19	

Section	Question	Item Type	Answer Key	Guided Practice Suggestions
2	20	MC	B $12 \times (7 \times 13) = (12 \times 7) \times 13$	<p data-bbox="1018 235 1820 386">Have students practice with the accessibility feature that allows them to change the background and foreground color. Select the user drop-down menu and <i>Change the background and foreground color</i> from the menu.</p>  <p data-bbox="1018 703 1808 889">There are six different options other than black on white, which is the default setting. Have students select a contrast setting and then the <i>Continue</i> button to enable this feature. This feature could be used by students who would benefit from the use of color contrasting to make text more distinct.</p> <p data-bbox="1018 937 1801 1123">This setting will remain enabled until turned off. To turn off this setting, select the user drop-down menu, select <i>Change the background and foreground color</i>, and then select the button next to the default setting. Then select the <i>Continue</i> button.</p> <p data-bbox="1018 1170 1806 1274">Information for Teachers: This is the end of the practice item set. See the <i>Introduction to TestNav 8</i> document for information on closing TestNav.</p>