

**Standards of Learning  
Guided Practice Suggestions**

**For use with the Earth Science**

**Practice Items in TestNavTM 8**

**January 2023**

Table of

Contents

[Change Log 2](#_Toc459096464)

[*Introduction to TestNavTM 8: MC/TEI* Document 3](#_Toc459096465)

[Guided Practice Suggestions 3](#_Toc459096466)

[Earth Science Practice Item Information and Recommended Guided Practice Suggestions 4](#_Toc459096467)

# Change Log

Updates to this document will be reflected in the table.

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| **Change Log** | | |
| **Version** | **Date** | **Description** |
| V.4 | 1/2023 | General information updated. |
| V.3 | 9/2022 | General information updated. |
| V.2 | 10/21/2016 | General information updated. |
| V.1 | 09/02/2016 | Original Document Posted. |

# *Introduction to TestNavTM 8: MC/TEI* Document

The *Introduction to TestNav 8: Multiple-Choice/Technology-Enhanced Item Tests* document located on the Virginia Department of Education SOL Practice Items [webpage](https://www.doe.virginia.gov/teaching-learning-assessment/student-assessment/sol-practice-items-all-subjects)serves as an introduction to the online navigation, 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: MC/TEI*document prior to reading this guide, the *Guided Practice Suggestions* for the Earth Science practice item set.

Reading the *Introduction to TestNav 8: MC/TEI*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 (MC) 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 Earth Science 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 the common messages that may appear as students complete TEI.

# Earth Science Practice Item Information and Recommended Guided Practice Suggestions

| Question | Item Type | Answer Key | Guided Practice Suggestions |
| --- | --- | --- | --- |
| 1 | TEI  FIB | *2.7* | Image of forward and backward arrows.Throughout the practice item set, move to the next or previous screen in a section by selecting an arrow in the top left corner of the screen. A blue arrow indicates the button is active and can be selected.  Image of toolbar.Have students practice using the online calculator by selecting the calculator icon.  Once selected, the calculator will appear on the screen. Students can move the calculator on the screen by holding down inside the top of the calculator and dragging it to a new location. Make sure students familiarize themselves with knowing how to select and use the calculator if needed. Have students enter the calculations for this particular question on the calculator to help them determine the answer.  Selecting the calculator icon again will put the tool away; or, select the  pointer tool to put the calculator away. |
| 1  (cont.) |  |  | Tell students that the answer does not need to be as long as the response box.  If a student tries to enter too many numbers, this message will appear:  "You cannot use that character"message.  A question may specify that the answer must be given in a particular format. Tell students to read the question carefully so they know how to answer the question.  A question may specify that the answer must be given in a particular format.  This question specifies that the answer indicates a positive or negative electrical charge. Remind students to read the question carefully so they know how to answer the question.  Information for teachers:  Answers with leading zeros would be scored as correct (e.g., 010, 0010, 00010, or 000010). Tell students that if an answer has 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. |
| 2 | TEI  Hot Spot | *H* | 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. Have students practice selecting and deselecting an answer.  Some items will specify the number of answers to 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.  "You must remove an answer before you can choose a new one" message.  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 appear. |
| 3 | TEI Drag and Drop | In the upper box below the map title: ***L***;  In the lower box on the right, near the Atlantic Ocean: ***H***; and  In the lower box on the left: ***H****.* | Have students select draggers and place them in the empty boxes using the mouse, keypad, or touchscreen.  As soon as a dragger is selected and moved, each receptacle box turns blue and is outlined by a dotted line. This indicates that the dragger can be placed in that box. Some items have multiple receptacle boxes and sometimes a restriction is placed on where a dragger can be placed. A selected dragger, once selected and moved, can only be placed in the boxes that shade light blue.  Have students practice moving draggers back to the gray box. Draggers will go back to their original location when returned to the gray box.  This item will not be considered “Answered” until each box has an answer in it. |
| 4 | MC | A | This question has the Drawing Interaction Tool. The Drawing Interaction Tool is a boxed area that exists on certain science questions. The student selects the specific tool he or she wants to use, and uses it to help answer the question.  Image of Drawing Interaction pencil and straightedge.  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.  The second tool is used to erase selected lines or writing.  Image of Drawing Interaction eraser.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.  Image of Drawing Interaction colors.  The fourth tool allows the markings to be enlarged. The arrow in the bottom right corner expands the tool so a student may select the size.  Image of Drawing Interaction marking sizes.  The fifth and sixth tools are to Undo or Redo the most recent markings.  Image of Drawing Interaction undo and redo buttons.  The last tool allows all markings to be eliminated at the same time.  Image of Drawing Interaction trashcan that will remove all markingsl  Have students practice drawing markings and removing them to help answer the question. |
| 4 (Cont.) |  |  | When a tool in the toolbar is active, it will be dark gray. In the picture below, the pointer is active.  Have students select the eliminator tool located in the toolbar. Then have them scroll to the question and place a red “X” on the answers that are not correct.  To remove an “X,” keep the eliminator tool active and select the “X” to remove it. Have students practice removing an “X.”  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 selects the ‟X” again to remove it.  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.” |
| 5 | MC | C | Have students select the *Bookmark* button and tell them that when they select the *Bookmark* button, it will turn dark gray. This button would be used to mark a question for review at a later time.  Image of the bookmark button circled.  Then have students select the *Review* button. A drop-down menu will appear. All of the questions in the current section will be listed. The question that the student is viewing on the screen will be shaded dark gray.  This question has an orange circle next to it because it has not yet been answered. This question will also have a blue flag next to it because it was just bookmarked.  Image of the review button circled.Have students practice using the scroll bar to see the status of each question in the drop-down menu.  Have students close the *Review* drop-down menu and deselect the *Bookmark* button. Then, tell them to look at the *Review* drop-down menu again to see that the question no longer has a blue flag. |
| 6 | MC | C |  |
| 7 | TEI  Drag and Drop | Clockwise: ***NT***, ***ST***, ***NT*** and ***ST*** | This question requires draggers to be used more than one time.  Have students practice moving draggers back to the gray box. Draggers will go back to their original location when returned to the gray box.  Have students try to place one dragger “over” another dragger, to show how the top dragger will return to the gray box. 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. |
| 8 | TEI  Hot Spot | In the **Inner Planets**column, you should have selected *Mainly solid material***,** *Few or no moons*, and *Shorter orbital year*. In the **Outer Planets**column, you should have selected *Mainly gases*, *Many moons*, and *Longer orbital year*. | This question will only show as ‘Answered’ once six characteristics have been selected. While the item allows all six to be selected in one column, the stem states, “Select three characteristics that describe inner planets and three characteristics that describe outer planets.”  The eliminator tool works on some TEI items as well as Multiple-Choice items. Have students select the eliminator tool located in the toolbar and then place a red “X” on the answers that are not correct.  Image of the tool bar with the answer eliminator circled.To remove an “X,” keep the eliminator tool active and select the “X” to remove it. Have students practice removing an “X.”  Remind students that they must use the pointer tool to select the correct answers. Marking answer choices with the eliminator tool will not “Answer” the question. |
| 9 | MC | B | 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 *Enable Answer Masking* from the menu.  Image of the dropdown menu with Enable Answer Masking circled.  The answer options on multiple-choice items will now be masked as shown in the screenshot.  Image of answer masking.Students may show or hide each option by selecting the “eye.” |
| 10 | TEI  Hot Spot | Only *Talc*, *Gypsum*, *Calcite*, *Fluorite*, *Apatite*, and *Feldspar* | 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. |
| 11 | TEI  Hot Spot | *Hardness*, *Density*, *Streak*, and *Reactivity with acid* | Have students practice using the Line Reader Mask accessibility feature with this item. Select the user drop-down menu and *Show Line Reader Mask* from the menu*.*  Image of the dropdown menu with Show Line Reader Mask circled.  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.  Image of the line reader mask.To turn off the Line Reader Mask, select the drop-down menu and select *Hide Line Reader Mask*. If the student does not turn off the Line Reader Mask, it will automatically turn off when the student navigates away from the item. |
| 12 | MC | B | Notice that the Answer Masking tool 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 *Disable Answer Masking*. |
| 13 | TEI  Drag and Drop | **Intrusive:**  *Granite*  **Extrusive:**  *Pumice, Basalt,* and *Obsidian,* in any order. | Selecting a dragger and moving it to the empty box may cause the remaining draggers to shift location in the answer option area.  On some items the gray box will decrease in size when a dragger is removed. However, the gray box will expand to accept the dragger once the dragger is placed back over it.  The gray box will decrease in size after two draggers are removed, and then again after another two draggers are removed. However, the gray box will expand to accept a dragger once the dragger is placed back over it.  Have students practice moving draggers back to the gray box. Draggers will go back to their original location when returned to the gray box. |
| 14 | MC | C |  |
| 15 | MC | D |  |
| 16 | TEI  Hot Spot | *Oceanic trenches*, *Folded mountains*, and *Continental rifts* | Have students practice using the accessibility feature that allows them to change the background and foreground color. Select the user drop-down menu and *Change the background and foreground color* from the menu*.*  Image of the dropdown menu with Change background and foreground color highlighted.There are six different options other than black on white, which is the default setting. Have students select a contrast setting and then the *Continue* 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.  Notice that only the background around text is changed. Art and graphics will not be changed.  This setting will remain enabled until turned off. To turn off this setting, select the user drop-down menu, select *Change the background and foreground color,* and then select the button next to the default setting. Then select the *Continue* button. |
| 17 | TEI  Hot Spot | *Ridge is developing*, *Magma is released*, *Crust is separating*, and *Rift zone* |  |
| 18 | MC | B | To highlight using a keyboard, have students place the cursor next to the direction sentence, left click, hold down, and drag the cursor over the sentences. Then have students select the highlighter color from the pop-up box.\*  Image of the highlighter tool.  To remove the highlight, left click, hold down, and drag over the sentences. Then select the white box with the red line on the left side of the pop-up box.  On a touchscreen, have students hold down on the sentences with a finger, and adjust the area to be highlighted with the blue anchors. Then have students select the highlighter color from the pop-up box.\* To remove the highlight, hold down on the text with a finger, adjust the anchors so that they are at the ends of the highlighted sentences, then select the white box with the red line on the left side of the pop-up box.  Tell students that the highlighter tool will only work on text. It will not work on art (images/pictures).  On a touchscreen, the following message may appear when students highlight text.  Image of a message that may appear on an Ipad.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.  \*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. |
| 19 | TEI  Bar graph | Moving from left to right:  The height of the *Bottom of Zone of Aeration* bar should be at *200m*;  The height of the *Top of the Water Table* bar should be at *200m*; and  The height of the *Top of the Confining Layer* should be at *300m*. | This item requires students to complete a bar graph. Have students practice dragging each bar to the desired height. If a student is using a touchscreen device, it is important that they practice selecting a bar (the bar will flash/blink) before moving it.  Have students practice changing the height of the bars.  Once one bar has been moved, the item will appear as “Answered” even if all of the bars are returned to the original heights. |
| 20 | MC | D | Have students practice zooming in to look at the question on the screen, and then have them zoom out.  Use the Zoom-In and Zoom-Out feature to enlarge or shrink text or images on the screen. Selecting “+” increases the zoom. Selecting “–” decreases the zoom. Other methods can activate Zoom depending on the device (keyboard shortcuts, pinch to zoom, etc.). Once zoom is set, this setting applies to all test items until it is changed.  This feature appears in the user dropdown menu only when using the TestNav8 app on a laptop or desktop. It will not appear in the browser version of the practice items and it will not appear on an iPad in the TestNav8 app.  The shortcut keys may also be used to zoom. |
| 21 | TEI  Drag and Drop | In the top box on the left, *runoff*;  In the top box on the right, *habitats*;  In the bottom box on the left, *flooding*; and  In the bottom box on the right, *extinction.* | This item will not be considered “Answered” until each box has an answer in it.  Have students practice with the Enable Magnifier. This feature will magnify an area. The Magnifier retains the previously magnified value until the magnifier is moved again. When selected, a square box appears on the screen that can be moved anywhere to magnify the text/art within the box. This tool can be selected for each test item as needed. To remove the tool from the screen, select *Disable Magnifier* in the user dropdown menu. |
| 22 | MC | C | Practice using the ruler tool as a straight edge to familiarize students with this tool.  There are two ruler tools on the top of the screen ( Image of the ruler tool.). The icon on the left should be used to access the eighth inch ruler and the icon on the right should be used to access the centimeter ruler. Students should select the appropriate ruler for each question.  Image of an earth science item with the ruler tool.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. |
| 23 | TEI  Hot Spot | *2 Half-Lives* |  |
| 24 | MC | D |  |
| 25 | MC | D |  |
| 26 | TEI  Hot Spot | *Sea Breeze* and *Daytime* | The wording of the stem informs students of the number of answers to select. This question will be considered “Answered” when two answers have been selected. |
| 27 | MC | *Red Supergiant*, *Neutron Star*, and *Black Hole* | Information for Teachers:  This is the end of the practice item set. See the *Introduction to TestNav 8: MC/TEI* document for information on closing TestNav. |