

Widget & Properties Help Guide

SOUTH DAKOTA ASSESSMENT PORTAL

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1. INTRODUCTION

1.1. PURPOSE

This document is intended to provide instruction for item authors to successfully use the Authoring component (previously referred to as TestBuilder) to create powerful items utilizing widgets and tools.

1.2. WHAT ARE WIDGETS?

Widgets are tools provided in the Authoring component to create test items. Item authors place widgets in the What You See Is What You Get (WYSIWYG) whitespace to create their items. Multiple widgets can be used in a single item, enabling the creation of a wide array of items.

The widgets available include:

Text

- [Text](#)

Response

- Selected Response
 - [Multiple Choice](#)
 - [Multiple Choice with Stem](#)
 - [Connections](#)
 - [Hot Spot](#)
 - [Select From Drop-down](#)
- Draggable Response
 - [Draggable](#)
 - [Tile](#)
 - [Goal](#)
 - [Rearrange](#)
- Text Entry
 - [Rich Text Response](#)
 - [Selectable Text](#)
- Graphing
 - [Bar Chart](#)
 - [Grapher](#)
 - [Partition Number Line](#)
 - [Selection Number Line](#)

Media

Stimulus

1.3. WIDGET INTERACTIONS

Multiple widgets can be used in the creation of a single item. In fact, there are some widgets that must be used together.

Example: Drag and Drop

A drag and drop item type is an exercise in which a student is asked to drag an object (either text or image) into a specific area (or box). In SDAP, the objects that can be dragged are created using a Draggable widget or a Tile widget and the box that accepts these objects is created using a Goal widget.

Example: Hotspot

A hotspot item type is one in which the student can select one or more answer choices. To create a hotspot item, the author may choose to use a text widget to enter the question and the hotspot widget for each answer choice selection.

2. WIDGET TOOLS

There are a number of “universal” tools that are available for all widget types.

- Rename the widget by typing in the space next to “ID:”.
-  will delete the widget from the whitespace.
-  will duplicate the widget as many times as it is clicked.
-  will lock the widget on the canvas. This enables the user to grab a widget behind the locked widget. To unlock a widget, click the  button below the widget menu.
-  will add a preformatted style based on options available.
- Clicking in the lower right hand corner of the widget allows the item author to resize the widget.
- Authors can click on a widget and drag it to the desired position within the item canvas.

2.1. TEXT

A. TEXT



Text

DESCRIPTION

This widget allows users to insert a text box into the item canvas. This box can be used to enter instructions or other information related to the item and is not editable by the student.

DIRECTIONS



1. Click on the  icon in the widget menu.
2. Double click on the text box to view the text editor and enter text.
3. Use the formatting functions available in the editor to enter the text into the text box.
4. Click on the  to exit the editor and save the text that has been entered using the text widget.

2.2. RESPONSE MENU

A. MULTIPLE CHOICE



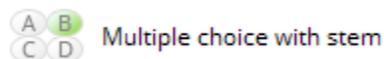
DESCRIPTION

This widget allows the user to create multiple choice answer choices.

DIRECTIONS

1. Click on  in the **Selected Response** tab in the list of widgets.
2. Double click the answer choices to edit the content.
3. The  button provides a menu of additional properties:
 - a. **Add answer choice:** allows user to add up to 26 answer choices (A-Z).
 - b. **Delete answer choice:** allows user to delete specified answer choices.
 - c. **Number of columns:** allows user to add columns to widget.
 - d. **Line Spacing:** allows user to specify line spacing.
 - e. **Max number of answer choices that can be selected:** allows the student to select more than one answer.
 - f. **Min number of answer choices that should be selected:** forces the student to select at least one answer.
 - g. **Randomize the order of choices:** scrambles the answer choices
 - h. **Display hints for wrong attempts:** allows user to create hints for the system to display if the student selects an incorrect answer
 - i. **Display hints for answer choices:** allows user to create hints for the system to display for all answer choices

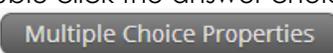
B. MULTIPLE CHOICE WITH STEM



DESCRIPTION

This widget allows the user to create a widget that includes a stem and multiple choice answer choices.

DIRECTIONS

1. Click on  in the **Selected Response** tab in the list of widgets.
2. Double click the stem to edit the content.
3. Double click the answer choices to edit the content.
4. The  button provides a menu of additional properties:
 - a. **Add answer choice:** allows user to add up to 26 answer choices (A-Z).
 - b. **Delete answer choice:** allows user to delete specified answer choices.
 - c. **Number of columns:** allows user to add columns to widget.
 - d. **Line Spacing:** allows user to specify line spacing.
 - e. **Max number of answer choices that can be selected:** allows the student to select more than one answer.

- f. **Min number of answer choices that should be selected:** forces the student to select at least one answer.
- g. **Randomize the order of choices:** scrambles the answer choices
- h. **Display hints for wrong attempts:** allows user to create hints for the system to display if the student selects an incorrect answer
- i. **Display hints for answer choices:** allows user to create hints for the system to display for all answer choices

C. CONNECTIONS

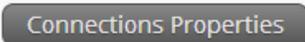


DESCRIPTION

This widget allows users to create a table of items in separate columns that can have multiple connections to one another.

DIRECTIONS



1. Click on  in the **Selected Response** tab in the list of widgets.
2. Double click on the connections boxes to edit the content.
3. The  button provides a menu of additional properties:
 - a. Basic Settings
 - i. **Vertical Connections:** this checkbox allows connections to be made vertically rather than horizontally.
 - ii. **Randomize the order of connections items:** scrambles the order of connection boxes within their groups
 - iii. **Number of Groups:** this drop-down menu allows users to specify the number of columns that they want included in the widget.
 - iv. **Line Color:** this allows users to change the color of the connection line.
 - v. **Use the radio button type:** this checkbox allows the user to create a table containing radio buttons for the student to interact with.
 - b. Group Settings (this is dependent upon the number of groups specified in the Basic Settings tab)
 - i. : This button allows the user to add connection options to a group.
 - ii. : This button allows the user to remove connection options from a group.
 - iii. **Maximum associations for each item in Group X:** This textbox allows users to specify how many times a connection can be made from each box.

D. HOTSPOT



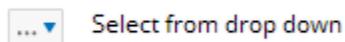
DESCRIPTION

This widget allows the user to create selectable answer options. The student will be able to select one or more of the answer selections provided. Hotspot widgets can be text, an image, or a video.

DIRECTIONS

1. Click on  in the **Selected Response** tab in the list of widgets.
2. Double click on the hot spot boxes to edit the content or upload an image.
3. The  button provides a menu of additional properties:
 - a. **Color of all hot spots when selected:** this allows the user to change the color of a selected hot spot.
 - b. **Make all hot spots the same color when selected:** if this checkbox is selected, all of the hot spot widgets in the item will be the same color when selected. If the checkbox is not selected, different colors can be assigned to each hot spot widget.
 - c. **Limit the number of hot spots selected by student:** if this checkbox is selected, users will be given a text box in which they can specify the number of hot spots that a student should be allowed to select. If the checkbox is not selected, there is no limit to the number of hot spot widgets that the student can select.

E. SELECT FROM DROP-DOWN



DESCRIPTION

This widget allows users to insert a drop-down menu containing a series of possible selections into a body of text. When answering the select from drop-down question, students will simply select the correct answer from the choices provided in the drop-down menu.

DIRECTIONS

1. Click on  in the **Selected Response** tab in the list of widgets.
2. Double click on the drop-down widget box to view the text editor and enter text.
3. To create a select from drop-down menu within the text, enclose the answer choices with curly brackets and separate them with a "/".
Example: {answer 1/answer 2/answer 3}.
4. The  button provides a menu of additional properties:
 - a. **Randomize drop-down options:** scrambles the order of the drop-down options.

F. DRAGGABLE



DESCRIPTION

This widget allows users to insert an object (text or image) that can be dragged one time into a Goal box.

DIRECTIONS

1. Click on  **Draggable** in the **Draggable Response** tab in the list of widgets.
2. Double click on the draggable widget box to view the text editor and enter text or upload an image.
3. The  button provides a menu of additional properties:
 - a. **Allow students to drag object outside of the goal area:** allows for indication as to whether the student is allowed to drag the object anywhere on the whitespace; either in the goal box or outside of the goal box.
 - b. **Randomize the order of draggables:** scrambles the draggable objects within the item.

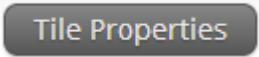
G. TILE



DESCRIPTION

This widget allows users to insert an object (text or image) that can be dragged multiple times into a Goal box.

DIRECTIONS

1. Click on  **Tile** in the **Draggable Response** tab in the list of widgets.
2. Double click on the tile widget box to view the text editor and enter text or upload an image.
3. The  button provides a menu of additional properties:
 - a. **Max Tiles:** allows the user to specify the maximum number of times a tile can be dragged into the goal boxes provided.
 - b. **Set image center point as (default/custom):** allows for customization of image alignment within a tile widget.
 - c. **Allow students to drag object outside of the goal area:** this checkbox allows the user to specify whether the student should be able to drag the tile widget to areas on the canvas other than the goal box.
 - d. **Randomize the order of tiles:** scrambles the tile widgets within the item.

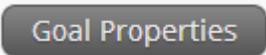
H. GOAL



DESCRIPTION

This widget allows users to insert a box in which either draggable widgets or tile widgets can be dragged into. Multiple Goal boxes can be included in one item.

DIRECTIONS

1. Click on  in the **Draggable Response** tab in the list of widgets.
2. The  button provides a menu of additional properties:
 - a. **Max number of objects accepted by goal area:** allows the user to specify the number of draggable or tile widgets the goal box can hold.
 - b. **Allow duplicate objects to be dragged into goal area:** whether to allow the student to drag the same tile widget into the same goal box more than one time.
 - c. **Pack objects tightly in goal area:** allows user to specify if objects should be packed tightly in the goal box.

I. REARRANGE



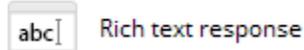
DESCRIPTION

This widget allows the user to create a list of moveable answer choices that can be rearranged. The moveable answer choices are displaced and are rearranged into their correct order by the student.

DIRECTIONS

1. Click on  in the **Draggable Response** tab in the list of widgets.
2. Double click on the rearrange box to edit the content.
3. The  button provides a menu of additional properties:
 - a. **Add an item:** allows the user to add additional rearrange boxes to the list.
 - b. **Remove Item:** allows the user to remove a specified rearrange box from the list.
 - c. **Randomize rearrange items:** scrambles the rearrange boxes.
 - d. **Rearrange items horizontally:** creates a horizontal rearrange list rather than a vertical rearrange list.

J. RICH TEXT RESPONSE



DESCRIPTION

This widget allows the user to create a rich text box for student's to enter a constructed response answer that requires rich text formatting. Students will have access to the following tools in a rich text response widget:

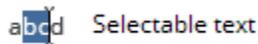
- Cut
- Copy
- Paste
- Undo
- Redo
- Bold
- Italics
- Underline

Note: Rich text response widgets will automatically be set to Human scoring. Automatic scoring is not available for items that include rich text response widgets.

DIRECTIONS

1. Click on  **Rich text response** in the **Text Entry** tab in the list of widgets.
2. The  **Rich Text Response Properties** button provides a menu of additional properties:
 - a. **Word Count:** if this checkbox is selected, a word count will appear to the student at the bottom of the rich text response widget.
 - b. **Max number of strings:** this textbox allows the user to specify the maximum number of words that a student should be allowed to enter into the rich text response widget. This will be shown to the student during testing and will update as the student types. Once the limit has been reached, students will not be able to type a new word.
 - c. **Min number of strings:** this textbox allows the user to specify the minimum number of words that a student should enter into the rich text response widget. This will be shown to the student during testing.
 - d. **Expected number of lines:** this textbox allows the user to specify the expected number of lines that a student should type into the rich text response widget. This will be shown to the student during testing.

K. SELECTABLE TEXT



DESCRIPTION

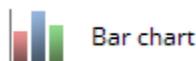
This widget allows users to create a body of text, portions of which are selectable. The student selects a portion of text by clicking on it when answering a selectable text question.

DIRECTIONS

1. Click on  **Selectable text** in the **Text Entry** tab in the list of widgets.
2. Double click on the selectable text widget box to view the text editor and enter text or upload an image.

3. To make portions of the text selectable, enclose those portions in curly brackets. If there is a string of words that should be selectable individually, enclose the string in curly brackets and separate the words with a "/".
Example: {answer 1/answer 2/answer 3}.
4. The  button provides a menu of additional properties:
 - a. **Max number of selected texts:** users can enter a value in this text box to limit the number of selections a student can make.

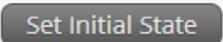
L. BAR CHART

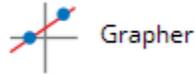


DESCRIPTION

This widget allows users to create a bar chart for students to reference or for students to complete.

DIRECTIONS

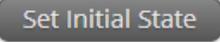
1. Click on  **Bar chart** in the **Graphing** tab in the list of widgets.
2. The  button provides a menu of additional properties:
 - a. **Basic Settings**
 - i. **Horizontal Bar Chart:** this checkbox allows the user to create a horizontal bar chart rather than a vertical bar chart.
 - ii. **Allow students to interact with initial state:** this checkbox specifies whether the bar chart widget should be used as a supplement to the question or whether the student should be able to interact with it.
 - iii. **Number of Bars:** this drop-down menu allows the user to select how many bars should be included in the bar chart (maximum = 8).
 - iv. **Vertical Axis Minimum:** this text box allows the user to specify the minimum vertical axis.
 - v. **Vertical Axis Maximum:** this text box allows the user to specify the maximum vertical axis.
 - vi. **Vertical Axis Precision:** this text box allows the user to specify the vertical axis precision.
 - vii. **Vertical Axis Partitions:** this box allows the user to specify how many partitions should be shown on the vertical axis.
 - viii. **Grids in Each Partition:** this box allows the user to specify how many grids are shown within each partition.
 - ix. **Background Color:** this allows the user to change the background color of the bar chart.
 - b. **Legend Settings:** the legend settings allow the user to specify the axis label for the bar chart, and the text and fill for each of the individual bars within the chart.
3. The  button allows for indicating what the graph should look like when first displayed to the student. Interact with the bar chart by clicking within the table. When the user is done editing the initial state, they can click the  button. To clear the graph and start over, click the  button.



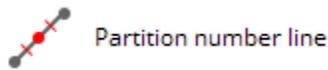
DESCRIPTION

This widget allows the user to add a graphing component for the student to manipulate when responding to a question.

DIRECTIONS

1. Click on  **Grapher** in the **Graphing** tab in the list of widgets.
2. The  button provides a menu of additional properties:
 - a. **Graphing Tools**
 - i. **Point Tool:** The point feature allows the student to draw points on the graph without connecting them.
 - ii. **Line Tool:** The line feature allows the student to plot two points on the graph to create a line.
 - iii. **Polygon Tool:** The polygon tool allows the student to create a polygon on the graph.
 - iv. **Circle Tool:** The circle feature allows the student to select the center of the circle and expand the radius out from the center to draw the correct circle on the graph.
 - v. **Fill Tool:** The fill tool allows students to shade an area of the graph.
 - b. **Scale Setting:** allows the user to specify Y-axis minimum and maximum, X-axis minimum and maximum, and X-axis and Y-axis grid increments and precisions.
 - c. **Advanced Settings**
 - i. **Display labels for the origin and axes:** this checkbox allows the user to enable and edit the labels for the origin (automatically set to 0) and the axes.
 - ii. **Display number labels on axes:** selecting this checkbox will show numbers on the X- and Y- axis.
 - iii. **Display only the first quadrant of the graph.**
 - iv. **Only allow triangles to be drawn using the polygon tool.**
 - v. **Show arrows on graphed lines.**
 - vi. **Do not display coordinates as cursor moves over points:** if this is not selected, students can hover over different points on the graph and the coordinates will be displayed.
 - vii. **Color used to display initial state of graph:** allows users to change the color of the initial state.
3. The  button will allow the user to indicate what the graph should look like when first displayed to the student. When the user is done editing the initial state, they can click the  button. To graph a function, click the  button.

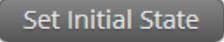
N. PARTITION NUMBER LINE



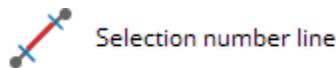
DESCRIPTION

This widget allows the user to create a partition number line that a student can interact with by adding or deleting partitions as directed by the user.

DIRECTIONS

1. Click on the  in the **Graphing** tab in the list of widgets.
2. The  button provides a menu of additional properties:
 - a. **Start Point**
 - b. **End Point**
 - c. **Mark points with:** users can specify whether students should mark points using drag or drop or select and click.
 - d. **Marker to be used:** users can specify whether the marker should be a dot, an x, or an upward pointing triangle.
 - e. **Label for partition points:** specifies labels that should be added to student created partition points. By default, no labels are selected.
 - f. **Limit number of partition points that can be created:** users can enter a value that will limit the number of partition points a student can create.
 - g. **Limit number of partition points that can be selected:** users can enter a value that will limit the number of partition points a student can select.
 - h. **Place marker on the number line.**
 - i. **Allow student to modify the initial state:** selecting this checkbox will allow the student to alter the initial state of the partition number line set by the item author.
3. The  button will allow for indicating what the number line should look like when first displayed to the student. When the user is done editing the initial state, they can click the  button.

O. SELECTION NUMBER LINE



DESCRIPTION

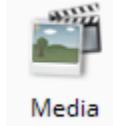
This widget allows the user to create a selection number line that a student can interact with by adding or deleting points to partitions as directed by the user.

DIRECTIONS

1. Click on the  in the **Graphing** tab in the list of widgets.
2. The  button provides a menu of additional properties:
 - a. **Start Point**
 - b. **End Point**
 - c. **Number of points to display on number line**

- d. **Mark points with:** users can specify whether students should mark points using drag or drop or select and click.
- e. **Show arrows on selection number line.**
- f. **Label added selection points:**
- g. **Limit number of sections that can be selected:** users can enter a value that will limit the number of partition points a student can select.

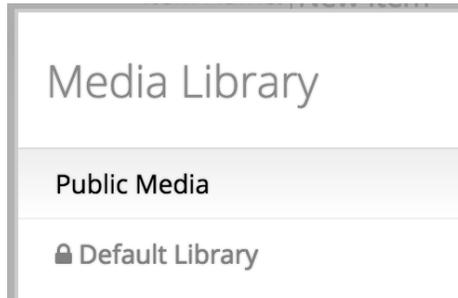
2.3. MEDIA



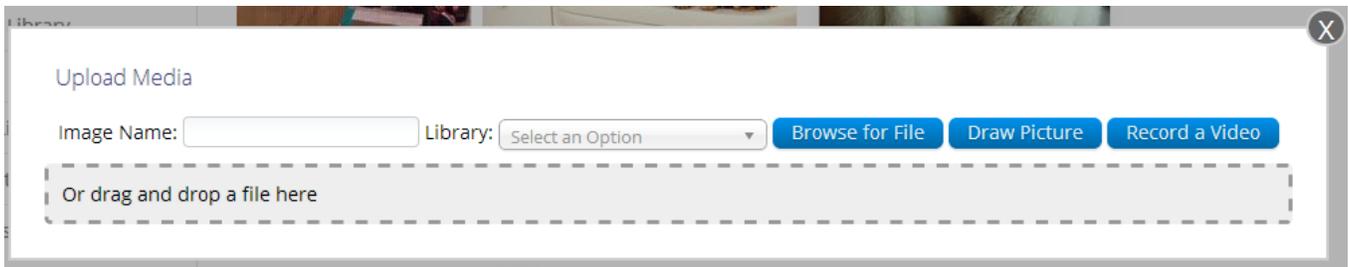
DESCRIPTION

This widget opens the media library and allows the user to add an image, video, or audio file to the item canvas.

Upon clicking the Media widget, the Media Library will appear. A list of all of the libraries available to the user will show up on the left side of the page. Libraries with a lock symbol are private.

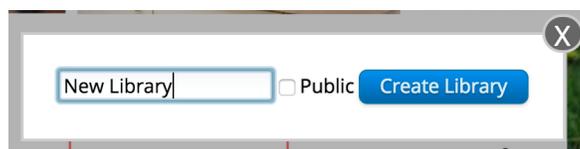


Users can upload their own media by clicking on the Media icon and clicking . Users will be presented with the following screen:



Users name their image/video/audio clip, select the library to which they wish to upload their media, and then click "Browse for File" to locate the file on their computer, "Draw Picture" to create a picture to be uploaded, or "Record a Video" to record a video using their webcam and microphone.

Users can create a new public or private library by clicking the  button.



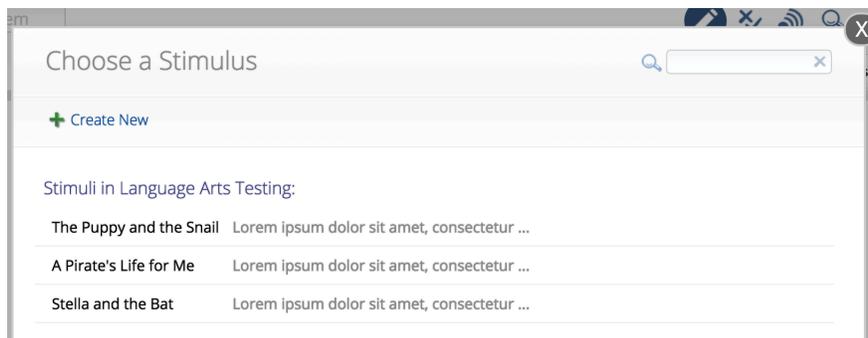
If the checkbox next to “Public” is selected for the new library, everyone in the user’s organization will have access to the media files within the library. If the “Public” checkbox is not selected, the new library will be private and only available to the user who created it.

2.4. STIMULUS



DESCRIPTION

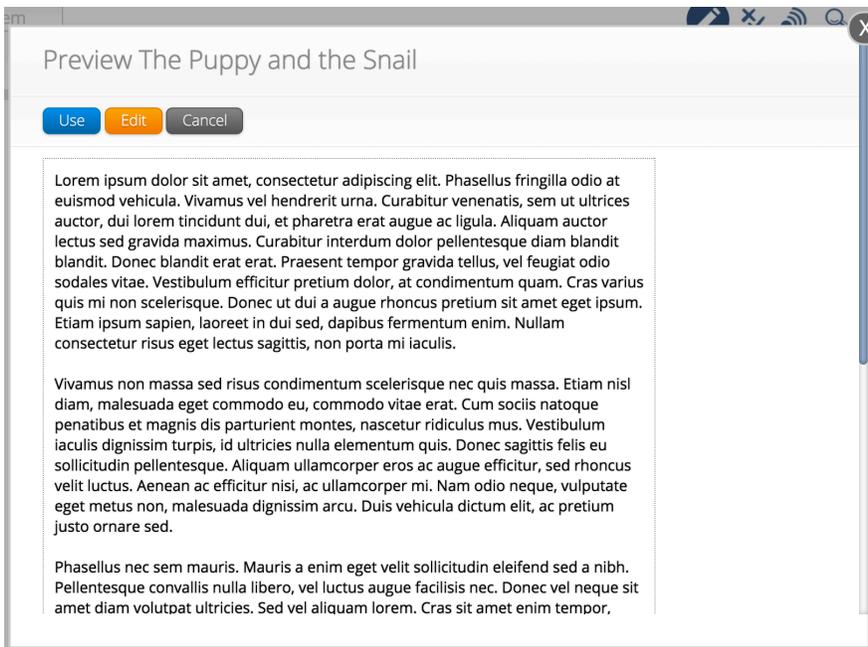
This widget allows for the addition of a stimulus (such as a reading passage) to an item. Upon clicking on the Stimulus widget, users will be presented with a list of stimuli that are available for use within the item bank.



USING A PREVIOUSLY CREATED STIMULUS

Users can click on a stimulus that has already been created and is available in the stimulus menu to use it in the item they are creating. If a stimulus is already being used in the item, it will be grayed out in the stimulus menu.

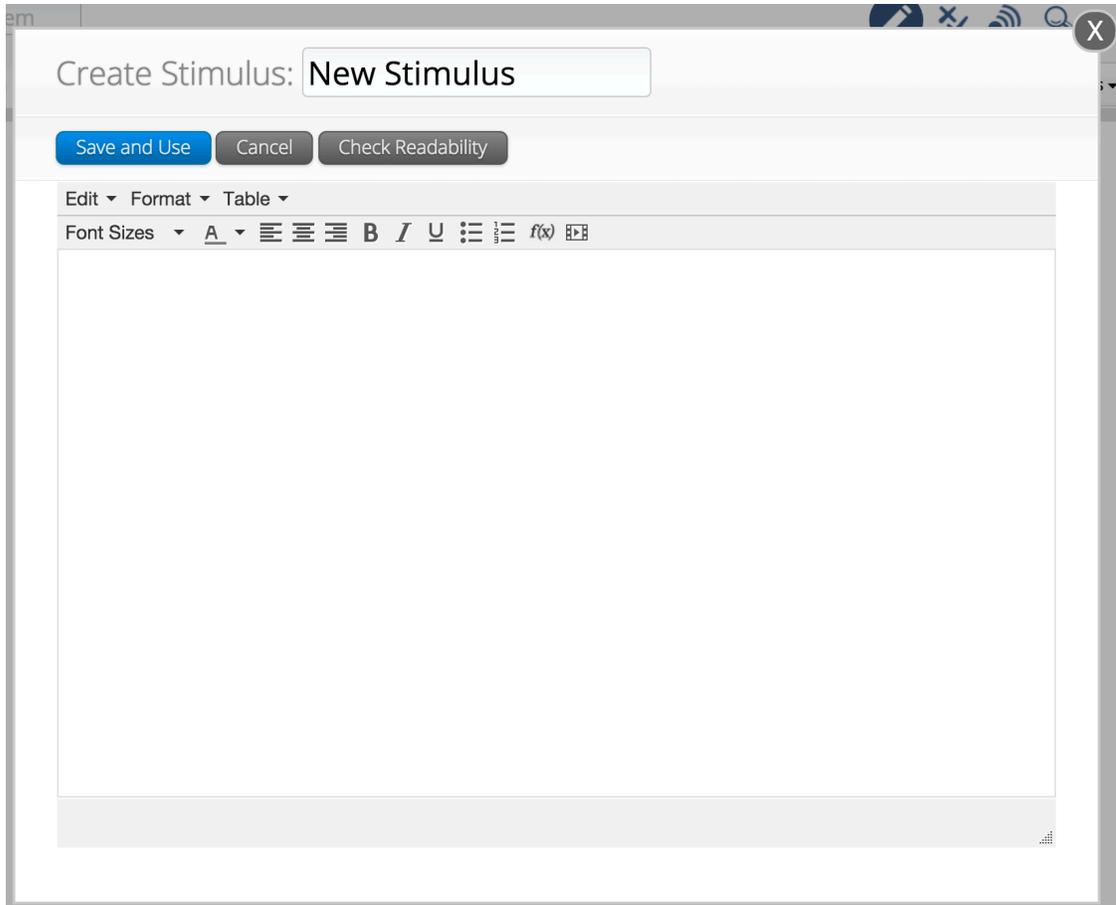
Clicking on the stimulus name will pull up a preview similar to the following:



Users can select to **Use**, **Edit**, or **Cancel** the selection using the buttons at the top of the page.

CREATING A NEW STIMULUS

To create a new stimulus, click the **+ Create New** button.



Users can use the formatting tools available to create a new stimulus. To enter an equation, click the $f(x)$ button. To enter media, click the  button.

Once the stimulus is complete, users can check the readability by clicking the **Check Readability** button or can click the **Save and Use** button to save the stimulus in the stimulus bank and use the stimulus in the current item.