

### Special Features for Math Items

*Audience: This document is intended for users who know the basics of how to create items and tests in Schoolnet.*

Several available features facilitate the creation of rigorous math items:

- Gridded items (refer to *Gridded Item Quick Reference Card*)
- Formula sheets
- Equation editor
- Subscript and superscript
- Online rulers, protractor and calculators— known collectively as ‘tools and manipulatives’

For details on the fundamentals of creating items, including standards alignment, refer to the *Basics of Item Creation Quick Reference Card*.

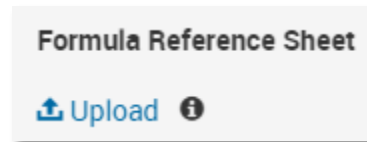
### Add a Formula Sheet to an Item

To make a reference document available to students on an online test, attach a formula sheet when creating or editing an item. You do not need to enable any additional test or item settings, since the button for formula sheets in test items will always appear where they are attached. There is not a global option to attach a document to a test: the attachment is made at the item level.

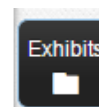
*To attach a file to an item:*

1. Create or save as the file where you will be able to browse for it when creating the item.  
One PDF, PNG, GIF and JPG file up to 1 MB in size is supported. If you have two files, merge the content into one document.
2. Create or edit an item, either within a test or as a standalone, and complete required fields

3. Under Formula Reference Sheet, click **Upload**



4. Navigate to and select the desired file
5. Click **Open** and be sure to save the item change



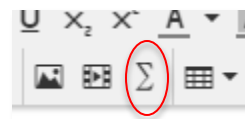
The file is attached and will be available to students in TestNav on the right on the item.

### Use the Equation Editor to Build Items

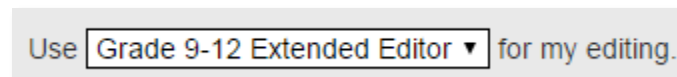
When creating items, use the equation editor to add equations.

*To create a math equation:*

1. Click inside a content box to make the content editor appear
2. Enter desired text and place the cursor where you want the equation to appear
3. Click the Sigma ( $\Sigma$ ) icon in the content editing window



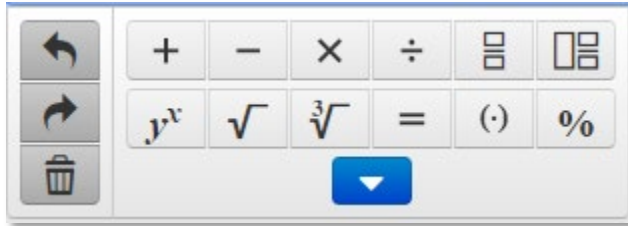
4. Choose an equation set for editing



Different functions appear depending on your selection.

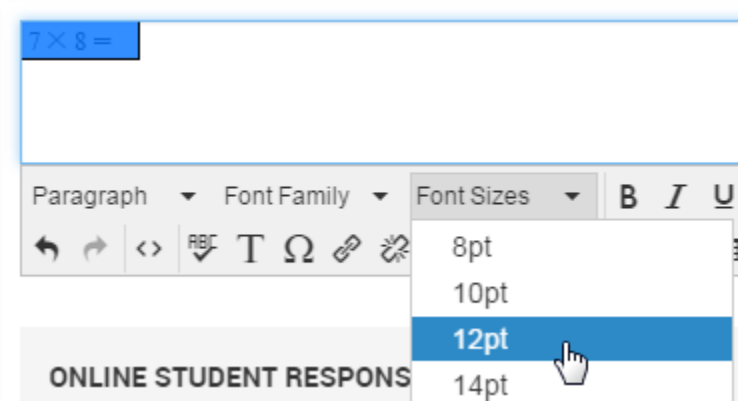
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5. Select a function



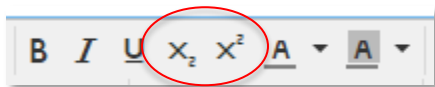
You can type numbers or letters in the placeholder squares.

6. Click **Save**
7. You have the option to highlight the equation to change the font size, font color or return to the editor.



## Subscript and Superscript

Subscript and superscript buttons are available in the content editor to aid in creating chemistry and mathematics content.



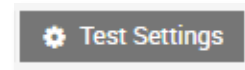
## Include Tools and Manipulatives for Students

You can make any combination of tools and manipulatives—rulers, calculators, protractor and equation editor—available to students who take an assessment online. You can make the tools and manipulatives available per item or for an entire test.

When enabled on a test, images will not be scaled to a different size by the system; they will display at the same as they were inserted into the test. This ensures that measurements are accurate.

Test creators are responsible for making sure images are scaled correctly on printed tests for which students will use their own tools.

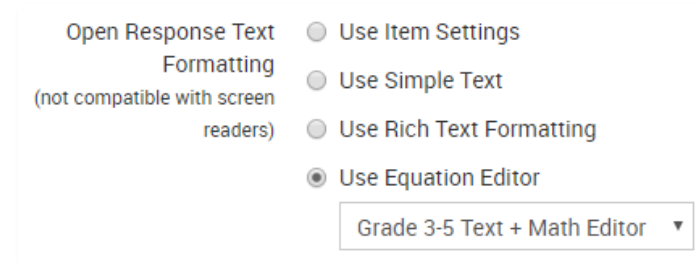
## Enable or Disable Tools for an Entire Test



You can set up a test to include or disable tools and manipulatives for all items. By doing so, you will override any item-level settings. You can make this test-level setting either while creating a test or by modifying the settings of an existing test in Test Settings.

To adjust item settings during the test creation process:

1. On the create test page, click **Test Item Defaults**
2. To override the setting for the equation editor on open response items, in the Open Response Text Formatting section, choose Use Equation Editor to enable for all items  
Also specify which set of equations to provide.



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3. For Enable Tools & Manipulatives, select 'Yes' to enable tools and manipulatives for all items regardless of item settings. If you select Yes, choose the features to make available to students.

Enable Tools & Manipulatives  Use Item Settings  Yes  No

**Rulers**

- Centimeter
- 1/8 Inch Unit
- 1/4 Inch Unit

**Calculators**

- Basic Four Function
- Five Function
- Scientific

**Tools**

- Protractor

Three Texas Instrument calculators are available for State, District, Region and School Benchmark test category assessments only. They can only be enabled during the assessment creation process and cannot be associated with individual items in the Item Bank.

## Enable Tools for Individual Items on a Test

Tools and Manipulatives

Basic Four Function ▾

**Calculators**

- Basic Four Function
- Five Function
- Scientific

**Rulers**

- 1/4 Inch Unit
- 1/8 Inch Unit
- Centimeter

**Tools**

- Protractor

If only some items should have manipulatives, enable them at the item level as needed. When creating a test with these items, select **Use Item Settings** on the Create page. Only the tools enabled for each item will be available to students.

## Previewing Items and Tests with Manipulatives

When you preview individual items in TestNav, all tools and accommodations will be shown, not just those selected; preview a test with the item in TestNav to view the test as students will see it.

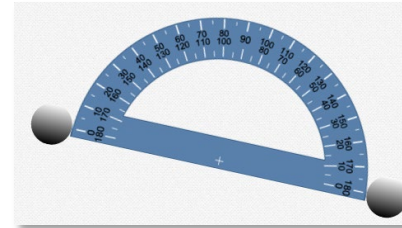
## Student Online Experience

Students will have access to enabled tools when testing online. In TestNav, the equation editor appears automatically where enabled.



### Rulers and Protractor

Students can drag and drop a ruler or protractor around the screen and rotate them with the circle on either end.



### Calculators

Note that if you make a calculator available for one item, students could navigate to the item to use it for other items for which it is not enabled.

If you want only some items to have access to a calculator, consider the following options:

- Split content into two tests with only one enabled for calculators
- Have students complete online response items on paper to turn in before they log into the test; score manually online