

Tutorial Four: Visualizing fractions with fraction tiles

In this lesson you will create a new project using the Kidspiration Fraction Tiles™ Math Tool. In the context of finding equivalent fractions, subtracting fractions and multiplying fractions, you will learn to do the following:

- Start Kidspiration
- Start a new Kidspiration Fraction Tiles project
- Add your name to a project
- Save your work
- Use a Math Text Box
- Lock an item on the workspace
- Create a password for the Teacher menu
- Use a whole tray
- Move fraction tiles onto the workspace
- Add pages to your project
- Resize manipulatives on the workspace
- Select multiple items on the workspace
- Duplicate items on the workspace
- Change the color of fraction tiles
- Use the Cross-Out Stamp
- Lock a page
- Use a line
- Hide fraction labels and use a pattern with fraction tiles
- Print your project
- Close your project and return to the Kidspiration Starter

Starting Kidspiration

To start Kidspiration on a Macintosh:

- Open the **Kidspiration 3** folder and double-click the **Kidspiration** icon.



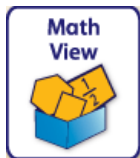
The Kidspiration Starter opens.

To start Kidspiration in Windows:

- Click the **Start** button, point to **Programs** and click **Kidspiration 3**.

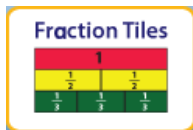
The Kidspiration Starter opens.

The Kidspiration Starter is the place where you start new projects, open existing projects and use the many different Kidspiration activities. You will begin by clicking the **Math View** button to open the Math Tool Starter.




Starting a new Kidspiration Fraction Tiles project

To start a new Kidspiration Fraction Tiles project, click the **Fraction Tiles** button on the **Math Tool Starter**.



A new blank workspace opens in the Kidspiration Fraction Tiles Math Tool.

Adding your name to a project

1. On the **Math** toolbar, click the **Student Name** button .

2. Type your name in the box where indicated.

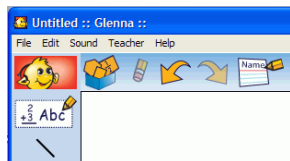
For the examples in this tutorial we will use the name “Glenna.”

3. To choose where you want the name to appear on the page, select **Left**, **Center** or **Right**.

A preview of how the name will appear on the page is displayed in the box on the right side of the dialog box.

4. Click **OK**.

The student name appears in the title bar of the document.



Saving your work

1. On the **File** menu, click **Save**.


2. In the folder list, click the folder where you want to save the project.

3. Type a name for the project, and then click **Save**.

Kidspiration suggests the name “Glenna” based on the student name, but you can use a different name.

Using a Math Text Box









Math Text Boxes allow students to describe their work with words, numbers and math notation, including structured frames for writing fractions, division problems and vertical math notations. Math Text Boxes also allow teachers to place instructions and helpful text in projects.

1. Click the **Math Text Box**  in the **Math palette** and drag it onto your workspace.

2. Click inside the text box and write **Find three fractions that are**



equivalent to one-half, but follow the steps below so it looks like this:


Find three fractions that are equivalent to $\frac{1}{2}$

3. Click the arrow  to the right of the **Open Math Frame** button  in order to see all of the **Bottom** toolbar.
4. Click the **Fraction Frame** button  at the end of the toolbar to create the fraction.
5. Enlarge the text size by clicking the **Resize Text** button  on the **Bottom** toolbar once.
6. Click outside the box and then back on it to select it. When a text box is selected, it has corner handles .
7. Resize the text box by dragging on one or more of its corner handles so that all of the text fits on one line.
8. Click and drag the box up so it is positioned at the top of the workspace.
9. Click back inside the box and drag your cursor over the word “equivalent.” Italicize it by clicking the **Italic** button  on the **Bottom** toolbar.
10. Click outside the text box and then back on it to select it. Add a border and a background color to the text box by clicking the **Border** button  on the **Bottom** toolbar, and then the **Background Color** button  next to it.

Choose a background color from the palette.

Note: If you make a mistake in your work, you have several options on the Math toolbar:

- You can delete an item by selecting it and clicking the **Clear** button  on the **Math** toolbar.
–or–
- You can undo up to the last eight changes in your project by clicking the **Undo** button  on the **Math** toolbar.
–or–
- You can redo up to the last eight changes you used the **Undo** button to

- You can redo up to the last eight changes you used the **Undo** button to undo by clicking the **Redo** button  on the **Math** toolbar.

Locking an item on the workspace

Now that your Math Text Box is set up, you can lock it so that it cannot be moved or deleted.

- With text box selected, click **Locked Item** on the **Teacher** menu.

A checkmark appears next to *Locked Item* when the text box is locked, and the corner handles change on the box.

Note: The Teacher menu must be enabled for the *Locked Item* option to appear. To turn the Teacher menu on or off, click **Enable Teacher Menu** on the **Teacher** menu.

Creating a password for the Teacher menu

You can create a password for the Teacher menu to prevent students from using it and changing teacher preferences.

1. On the **Teacher** menu, click **Application Options**.
2. Select the **Password Enabled** check box.
3. Click **Set Password**.

The Set Password dialog box appears.

4. Type the password you want to use in the **Enter Password** box.
5. Type the password again in the **Confirm Password** box, and then click **OK**.

When you enable the Teacher menu, you will be prompted to enter your password.

Note: If you forget your password, you can access the Teacher menu by using the password “Kidspiration3.”

Using whole trays

Whole trays can be used as a container to hold fraction tiles. A whole tray represents 1 (or whole) when filled with tiles, and is the same size as the tile from the Math palette representing 1 (or whole).

1. Click on the whole tray in the **Math palette** and drag it onto the workspace.
2. Either drag three more out or click on the whole tray in the **Math palette** three more times successively to create three more trays.
3. Align them top-to-bottom vertically on the workspace. Notice how the whole trays “snap” together as you line them up.

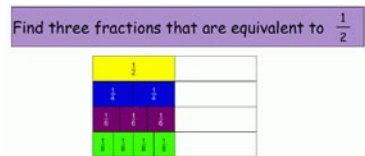
Moving fraction tiles onto the workspace

Now that the whole trays are ready, use fraction tiles to represent one-half and its equivalent fractions.

1. Click and drag a $\frac{1}{2}$ tile from the **Math palette** into the first whole tray.
2. Drag fraction tiles out into the trays below to represent fractions that are equivalent to $\frac{1}{2}$, beginning with $\frac{1}{4}$ and ending with $\frac{1}{8}$. Notice how the tiles “snap” into position.

Note: After the first tile is dragged into each whole tray, successive clicks on the tile in the **Math palette** will “snap” the next tile into place.

Your project should now look something like this:

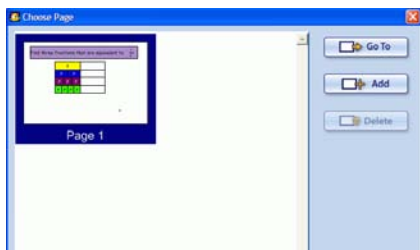




Adding pages to your project

Math View allows for the creation of multiple pages within a single document, giving teachers the opportunity to create an extended activity with multiple parts, or students the opportunity to show their thinking using one or more tools.

Now you’ll learn how to add two new pages to your project so you can continue working with Kidspiration Fraction Tiles.

1. Click the **Go To Page** button  on the **Math** toolbar to open the **Choose Page** dialog.




2. Click the **Add Page** button  to add a new page.
3. Choose **Fraction Tiles** from the **Math Tool Starter**, and repeat the process to add a third page also using Kidspiration Fraction Tiles.
4. Navigate back to page 2 by clicking the **Go to Previous Page** button  on the **Math** toolbar.

Note: When you have more than one page in a project, a page number for the page you are working on appears in the upper-left corner of the workspace.

Resizing manipulatives on the workspace

When you resize manipulatives, all manipulatives on the workspace (in this case, fraction tiles) resize at once.

1. Drag a whole tray onto the workspace, and use fraction tiles to represent $\frac{5}{6}$ inside it (drag $\frac{1}{6}$ into the whole tray first and then click $\frac{1}{6}$ in the **Math palette** successively four more times).
2. Click the **Resize Manipulatives** button  on the **Bottom** toolbar once to make the fraction tiles and whole tray larger.

Selecting multiple items on the workspace

- Multi-select the tiles and the tray together on the workspace by placing your cursor over an open area and dragging it over them.

—or—

Hold down the **Shift** key and click each item you want to select.

Tip: You can also turn Shift-select on, which allows you to select

multiple items on the workspace without holding down the Shift key. Click the **Shift-select** button on the **Bottom** toolbar to turn Shift-select on or off. The Shift-select button appears on Math View's **Bottom** toolbar when **Stylus Mode** is checked in **Application Options** on the **Teacher** menu.

Duplicating items on the workspace



Use Copy and Paste options to create a duplicate whole tray in which you'll create a second representation of $\frac{5}{6}$.

1. Select **Copy** from the **Edit** menu and then click on an area of open workspace below the whole tray.
2. Click **Paste** on the **Edit** menu.
3. Align the new tray below the first one vertically on the workspace. Notice how they “snap” into alignment when you have them in the right position.

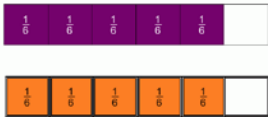
Note: To move multi-selected items, click and hold your cursor on one of the items and drag them all into position.

Changing the color of fraction tiles

To help distinguish between the two fractions on the workspace, you can change the color of the tiles in the second tray.


- With the tiles in the second tray multi-selected, click one of the Color buttons  on the **Bottom** toolbar. To select a color from the expanded palette, click the **More Colors** button .

Your project should look something like this:



Using the Cross-Out Stamp

Use the Cross-Out Stamp to mark blocks and represent $5/6 - 2/6$ and $5/6 - 4/6$.

1. Multi-select the last two color tiles in the top tray and click the **Cross-Out Stamp** button  on the **Bottom** toolbar.
2. Multi-select the last four tiles in the lower tray and click the **Cross-Out Stamp** button again.
3. You have now represented $5/6$ minus $2/6$ in the top tray, and $5/6$ minus $4/6$ in the lower tray.


Your project should look something like this:



Locking a page

Before moving on to page 3, you might want to lock page 2. Math View allows for the creation of multiple pages within a single document, giving teachers the opportunity to create an extended activity with multiple parts, or students the opportunity to show their thinking using one or more tools.


- To lock page 2, click **Locked Page** on the **Teacher** menu.

A checkmark appears next to *Locked Page* when the page is locked, and a **Locked Page** indicator  appears next to the page number.

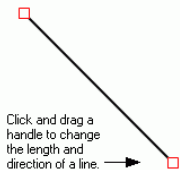
Note: The Teacher menu must be enabled for the *Locked Page* option to appear. To turn the Teacher menu on or off, click **Enable Teacher Menu** on the **Teacher** menu.

Using a line

A line is available in the **Math palette** and is helpful for visually organizing your project. On the next page, you will use a line to separate two multiplication problems.

1. Go to page 3 of your project by clicking the **Go to Next Page** button  on the **Math** toolbar.

- Click and drag a line from the **Math palette** onto the workspace.
- With the line selected, hold down the **Shift** key and drag on one of the line's handles to both lengthen it and move it into a horizontal position. (When you hold down the Shift key, you can drag a line sideways in 45 degree increments.)



- Drag the line into position across the middle of the workspace.
- Drag two **Math Text Boxes** onto the workspace, one above the line and one below it, on the left side of the workspace.
- Create the expressions **1/2 times 2/3** in the first one, and **1/3 times 6/9** in the second one. Use the **Fraction Frame** and the **Multiplication Sign** buttons on the **Bottom** toolbar



Your project should look something like this:



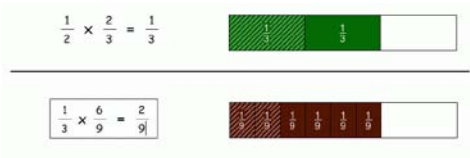
Hiding fraction labels and using a pattern with fraction tiles

You can add a pattern to fraction tiles just like you can change a color. Adding a pattern to colored tiles can help in representing multiplication of fractions.

- Drag a whole tray into the area above the line.
- Represent $2/3$ by dragging two $1/3$ tiles into the tray, positioning them so that they “snap” together.

- Hide the fraction labels by clicking the **Hide Fraction Labels** button  on the **Bottom** toolbar.
- To represent “taking half of” $2/3$, click the first fraction tile to select it and click on one of the **Pattern** buttons  on the **Bottom** toolbar.
- Add the answer to the first multiplication problem in the upper text box. Represent **equals $1/3$** using the **Fraction Frame** and **Equals Sign** buttons on the **Bottom** toolbar.
- Repeat steps above to complete the second problem, using a new whole tray with six $1/9$ tiles, adding a pattern to two of them and adding the answer to the lower text box.

Your project should look something like this:



The image shows two examples of fraction multiplication projects. The top example shows the equation $\frac{1}{2} \times \frac{2}{3} = \frac{1}{3}$ with a fraction frame containing two $\frac{1}{3}$ tiles. The bottom example shows the equation $\frac{1}{3} \times \frac{6}{9} = \frac{2}{9}$ with a fraction frame containing six $\frac{1}{9}$ tiles, two of which are shaded with a red pattern.

Printing your project

To print a project, click **Print** on the **File** menu.

You can also choose from the following options before printing:

Selecting page orientation

In Math View, landscape orientation is the default. To switch to portrait orientation before printing a project:

- On the **File** menu, click **Page Setup**.
- Next to **Orientation**, click the **Portrait** or **Landscape** icon (Macintosh).

–or–

Under **Orientation**, select **Portrait** or **Landscape** (Windows).

Selecting paper size

Letter is the default paper size in Kidspiration. To select a

different paper size:

1. On the **File** menu, click **Page Setup**.
2. In the **Paper** list, select the paper size you want (Macintosh).
–or–
3. Under **Paper**, select the paper size you want in the **Size** list (Windows).

Printing page numbers

If you choose to print page numbers, they will appear at the bottom of the page. To print page numbers:

1. Click the **Student Name** button.
2. Select the check box where indicated.

Closing your project and returning to the Kidspiration Starter

Congratulations! You have completed *Tutorial Four: Visualizing fractions with fraction tiles*. To close your project and return to the **Kidspiration Starter**, click the **Go to Starter** button.



When you return to the Kidspiration Starter, you are prompted to save the open project. Click **Yes** if you want to save the project.