

Tutorial Two: Introducing geometry using pattern blocks

In this lesson you will create a new project using the Kidspiration Pattern Blocks® Math Tool. In the context of building designs with line symmetry, identifying and counting shapes, and modeling operations, you will learn to do the following:

- Start Kidspiration
- Start a new Kidspiration Pattern Blocks project
- Add your name to a project
- Save your work
- Use a Math Text Box
- Delete an object from the workspace
- Undo and redo your work
- Lock an item
- Create a password for the Teacher menu
- Move pattern blocks onto the workspace
- Use the Rotation tools
- Create a line of symmetry
- Resize manipulatives on the workspace
- Select multiple items on the workspace
- Add pages to your project
- Work with Math SuperGroupers
- Change the color of pattern blocks
- Duplicating items on the workspace
- Use the Cross-Out Stamp
- Lock a page
- 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.



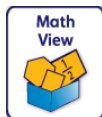
The Kidspiration Starter opens.

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 Pattern Blocks project

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



A new blank workspace opens in the Kidspiration Pattern Blocks 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.

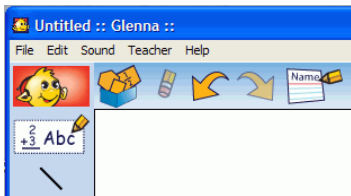
For the examples in this tutorial we will use the name “Glenna.”

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, positioning toward the top center.
2. Click inside the text box and write **Line Symmetry**, but follow the steps below so it looks like this:

Line Symmetry


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 undo by clicking the **Redo** button  on the **Math** toolbar.

3. Enlarge the text size by clicking the **Resize Text** button  on the **Bottom** toolbar once.
4. Click outside the text box and then back on it to select it. When a text box is selected, it has corner handles .
5. Bold the text by clicking the **Bold** button  on the **Bottom** toolbar.
6. Resize the text box by dragging on one or more of its corner handles so that all of the text fits on one line.
7. 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.

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 the 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**.
4. The Set Password dialog box appears.
5. Type the password you want to use in the **Enter Password** box.
6. 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.

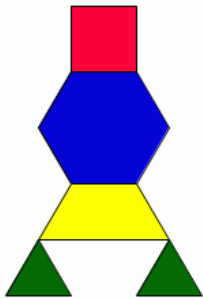
Note: If you forget your password, you can access the Teacher menu by using the password “Kidspiration3.”

Moving pattern blocks onto the workspace

Now you'll bring out some pattern blocks to create a design with line symmetry.

1. Click on the blue hexagon on the **Math palette** and drag it onto the workspace. Do the same with the red square and the yellow trapezoid.


2. Click twice on the green triangle on the **Math palette** to add two of them to the workspace.
3. Click and drag each pattern block into a pattern that looks like this:



Notice that the blocks “snap” together into position.

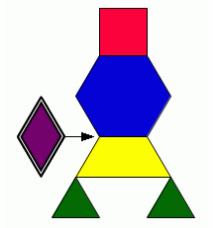
Using the Rotation tools

Use the Rotation tools on the Math toolbar to rotate blocks on the workspace when building patterns, models and designs.

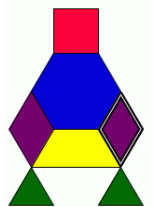
1. Drag two of the large purple rhombuses onto the workspace, one on either side of your pattern.
2. Click the rhombus on the left to select it, then click the **Rotate Block Clockwise** button  on the **Bottom** toolbar twice.

Note: You can also rotate shapes on the workspace by selecting them and then clicking your spacebar to rotate them clockwise, or by holding the **Shift** key down and clicking your spacebar to rotate them counter-clockwise.

3. Drag your rhombus into position so that it “snaps” into place against the hexagon and the trapezoid.




4. Now select the rhombus on the right and repeat step number 3 above.
Your pattern should now look like this:



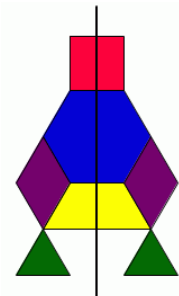
Creating a line of symmetry

You can use a line from the **Math palette** to reinforce the concept of symmetry in the Kidspiration Pattern Blocks Math Tool.

1. Click and drag a line  from the **Math palette** onto the workspace.
2. With the line selected, drag on one of its handles while you hold down the **Shift** key, and move the line into a vertical position. (When you hold down the Shift key, you can drag a line sideways in 45 degree increments.)
3. Drag the line over the middle of the pattern so it bisects it.

4. You may need to lengthen the line so it extends a little beyond the top and bottom of the pattern.

To lengthen the line, drag on one of its handles. Your pattern should now look something like this:



Resizing manipulatives on the workspace

You can easily resize manipulatives on the workspace to give your project more visual power. When you resize manipulatives, any lines on the workspace are also resized.

1. Click the **Resize Manipulatives** button  on the **Bottom** toolbar once to enlarge your pattern on the workspace.

Selecting multiple items on the workspace

After you resize items, you may need to adjust their location on the workspace.

- Multi-select the pattern by clicking an area of open workspace and dragging your cursor over them.

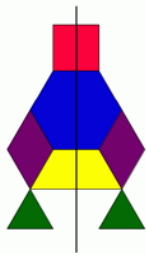
–or–

- 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.

2. Drag the pattern into position on the workspace so that your project looks like this:

Line Symmetry

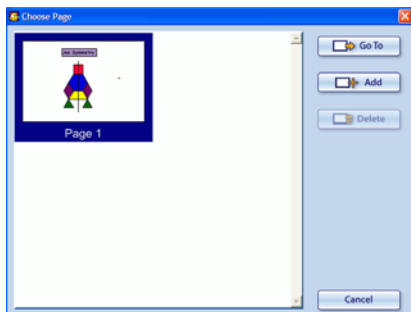



Adding pages to your project


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 Pattern Blocks.

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.

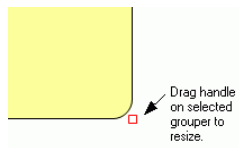
3. Choose **Pattern Blocks** from the **Math Tool Starter**, and repeat the process to add a third page also using Kidspiration Pattern Blocks.
4. Navigate back to page 2 by clicking the **Go to Previous Page** button  on the **Math** toolbar.

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.

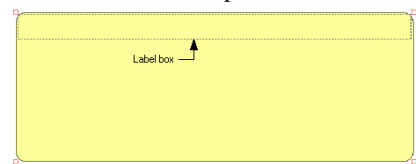
Working with Math SuperGroupers

Math SuperGroupers are similar to the SuperGroupers in Picture View. They are used for grouping, sorting, categorizing and counting activities. Here you will use Math SuperGroupers for shape identification and counting.

1. Click and drag 2 rectangular **Math SuperGroupers** from the **Math palette** onto the blank workspace on page 2, placing the first one toward the top center, and the second one toward the bottom center.
2. Click to select each one and drag on one or more of their corner handles to make them wide across the page.



3. Notice that when you have a grouper selected, a label box appears in dotted lines at the top.



4. Double-click inside the label boxes one at a time to select them and a cursor will appear.

Type **5 blue hexagons** into the first one and **4 green triangles** into the second one.

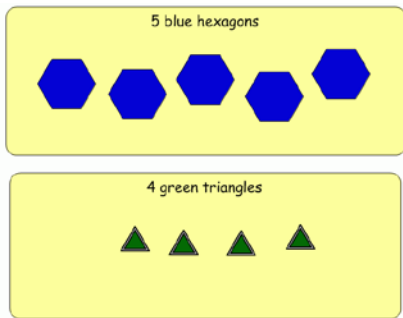
5. Change the background color of one of the groupers to give your document visual interest.

Select the 4 green triangles grouper and choose red from the **Color** buttons on the **Bottom** toolbar.




6. Now that your groupers are ready, use pattern blocks to represent the labeled quantities. Drag 5 blue hexagons from the **Math palette** into the first grouper, and 4 green triangles into the second grouper.




Your project should look like this:



Note: Once manipulatives are placed inside a grouper, they will remain there until you remove them. Drag one of the groupers around the workspace and notice that the tiles move with it.

Changing the color of pattern blocks

1. Go to page 3 of your project by clicking the **Go to Next Page** button  on the **Math** toolbar.
2. Represent six times four by placing four hexagons on page 3's blank workspace. Do so by clicking the blue hexagon in the **Math palette** four successive times.
3. Click and drag each hexagon into a horizontal row across the workspace.

- Multi-select them and change their color to purple by clicking the purple **Color** button on the **Bottom** toolbar.
- Click the **Math Text Box**  in the **Math palette** and drag it onto your workspace below the row of hexagons.
- Click inside the text box and write **6 sides times 4 hexagons equals 24 total sides**, using the **Multiplication** button  and the **Equals** button  on the **Bottom** toolbar for the math operators.
- Click outside the box and then back on it. Resize the text box by dragging on one or more of its corner handles so that all of the text fits on one line.

Your text box should now look like this:



$$6 \text{ sides} \times 4 \text{ hexagons} = 24 \text{ total sides}$$

Duplicating items on the workspace

You can use Copy and Paste options to create another row of hexagons to represent a second math problem.

- Multi-select the row of pattern blocks on the workspace and select **Copy** from the **Edit** menu. Place your cursor below the text box and click **Paste**.
- Drag the new row into position so your project now looks something like this:




$$6 \text{ sides} \times 4 \text{ hexagons} = 24 \text{ total sides}$$



Using the Cross-Out Stamp

Use the Cross-Out Stamp to mark blocks and represent the subtraction expression, four minus two.

1. Click away from the second row of hexagons and then multi-select the first two on the left.
2. Click the **Cross-Out Stamp**  on the **Bottom** toolbar to mark them for subtraction.

The 2nd row of hexagons should look like this:




3. Add another text box below the second row of hexagons.

Write **4 hexagons minus 2 hexagons equals 2 hexagons**, by typing text and clicking the corresponding math operators on the **Bottom** toolbar.

Locking a page

The ability to lock pages in a document allows you to set up an example within an activity and prevent students from altering any of the items on the workspace, or adding to the page. Try locking page 3 to see how this works.

- While you are on page 3, 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.

Page 3 of your project should now look something like this:

3



6 sides \times 4 hexagons = 24 total sides



4 hexagons - 2 hexagons = 2 hexagons

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:

1. On the **File** menu, click **Page Setup**.
2. 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 Two: Introducing geometry using pattern blocks*. 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.