

## Directions for the *Comparing Mixtures* Apps

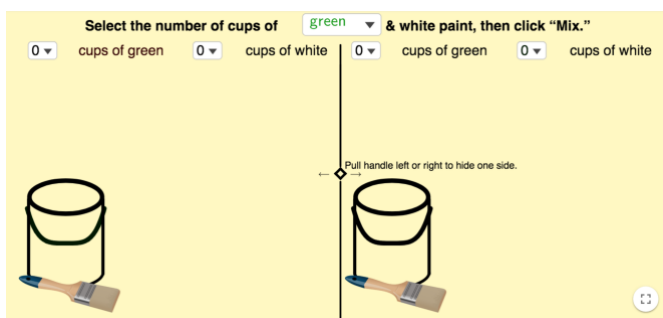
The *Comparing Mixtures (12 cups)* app is available at: [geogebra.org/m/skqDWFbm](https://www.geogebra.org/m/skqDWFbm)

A version with up to 24 cups of each color is available at: [geogebra.org/m/nHZZr3wd](https://www.geogebra.org/m/nHZZr3wd)

Use this app to mix cups of green and white paint virtually.

Compare two mixtures with different ratios to find out which one makes a darker shade of green.

### 1. Here is the opening screen of the app:

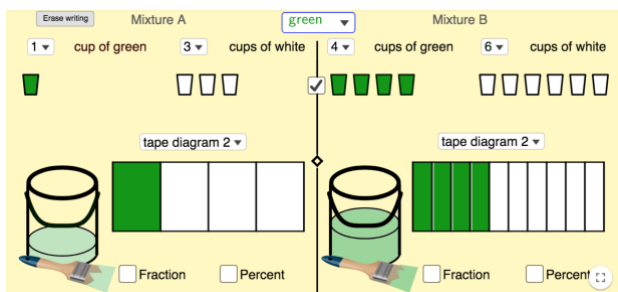


### 2. To make a mixture of paint, select the number of cups of green paint and white paint by using the pull-down menu. Choose from **0 to 12 cups**. Then, mix the paints by selecting the **Mix** button.

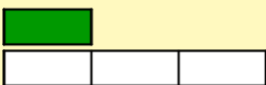
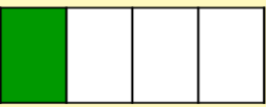
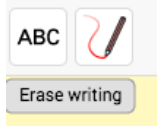
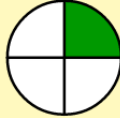
Select the number of cups of paint	Select Mix to combine the paints	After you select Mix

See the color of the mixture in the paint can and a visual of the ratio of green and white.

### 3. Compare two mixtures of paint by using different representations. In the example below, the **tape diagrams** show the proportion of green paint to white paint in each mixture.



4. Choose different visual representations by using the drop-down menu.

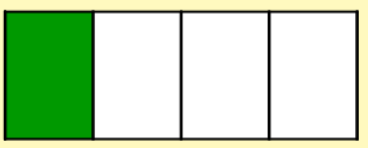
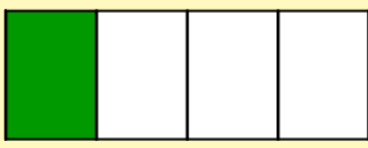
Drop-Down Menu	Visual Representations	
<p>select a visual</p> <p>tape diagram 1 ▼</p> <p>tape diagram 1</p> <p>tape diagram 2</p> <p>circle model</p> <p>draw my own visual</p>	<p>select a visual</p> <p>tape diagram 1 ▼</p> 	<p>Draw my own visual</p>
	<p>tape diagram 2 ▼</p> 	
	<p>circle model ▼</p> 	<p>Select the <b>pen tool</b> to draw and the <b>ABC</b> tool to type. These tools are on the upper left corner of the app. Select the <b>Erase Writing</b> button to erase your work.</p>

5. Choose different numerical representations.

Select **Fraction** to see what fraction of the paint mixture is green and what fraction is white.

Select **Percent** to see what percentage of the paint mixture is green and what percentage is white.

Fraction     Percent

 <p><input checked="" type="checkbox"/> Fraction</p> <p>the mixed paint is <math>\frac{1}{4}</math> green    the mixed paint is <math>\frac{3}{4}</math> white</p>	 <p><input checked="" type="checkbox"/> Percent</p> <p>the mixed paint is 25% green    the mixed paint is 75% white</p>
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6. To **undo** an action, select the left-pointing arrow icon in the upper right corner.



To **redo** an action, select the right-pointing arrow icon in the upper right corner.

