Explore Screen

This screen provides an exploratory environment to play directly with the values in a ratio and get immediate feedback in the illustrated ratio.

Necklace Scene

CHOOSE a scene to explore different contexts

PLAY with the values in the ratio

VIEW one or two ratios

COMPARE the necklace patterns (reduced ratios)

REFRESH ratios

Pattern

Proportion Playground · Explore · Predict · PhET

Paint Scene

CHANGE the colors of the paint balloons

COMPARE the paint colors on a gradient

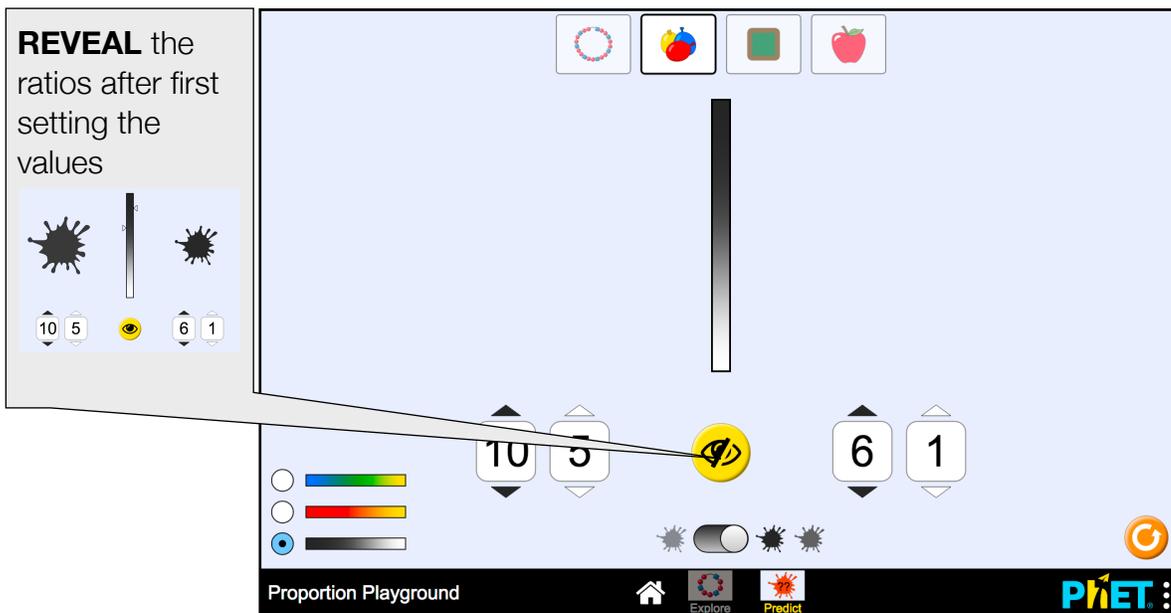**Billiards Scene**

COMPARE the patterns on two tables

Apple Scene

SHOW the cost per apple

COMPARE the unit cost for two sets of apples

Predict Screen

This screen has one additional control that allows students to make predictions before viewing their ratios.

Insights into Student Use

Each context provides a unique but rich environment for exploring ratios. Students naturally want to investigate each context and may settle on one that they like best until prompted to focus on a specific one.

Suggestions for Use

Sample Challenge Prompts
- Create two paint splotches that are the same shade but different sizes.
- Create as many necklaces as possible with the same bead pattern. Record your findings in a ratio table, then plot the values on a graph. Compare your graph with your classmates' graphs.
- Use the spinners to create the same ratio on every scene. What does your ratio mean when talking about necklaces? Paint colors? Billiards tables? Apple prices?

Customization Options

Query parameters allow for customization of the simulation, and can be added by appending a `?` to the sim URL, and separating each query parameter with a '`&`'. The general URL pattern is:

`…html?queryParameter1&queryParameter2&queryParameter3`

For example, in Proportion Playground, if you want to change the screen order (`screens=2,1`), with the 2nd screen open by default (`initialScreen=2`) use:

https://phet.colorado.edu/sims/html/proportion-playground/latest/proportion-playground_all.html?screens=2,1&initialScreen=2

To run this in Spanish (`locale=es`), the URL would become:

https://phet.colorado.edu/sims/html/proportion-playground/latest/proportion-playground_all.html?locale=es&screens=2,1&initialScreen=2

Query Parameter and Description	Example Links

`screens` - specifies which screens are included in the sim and their order. Each screen should be separated by a comma. For more information, visit the Help Center.	`screens=1`
	
	`screens=2,1`

`initialScreen` - opens the sim directly to the specified screen, bypassing the home screen.	`initialScreen=1` `initialScreen=2`
`locale` - specify the language of the simulation using ISO 639-1 codes. Available locales can be found on the simulation page on the Translations tab. Note: this only works if the simulation URL ends in "_all.html".	`locale=es` (Spanish) `locale=fr` (French)
`allowLinks` - when `false`, disables links that take students to an external URL. Default is `true`.	`allowLinks=false`

See all published activities for Proportion Playground here.

For more tips on using PhET sims with your students, see Tips for Using PhET.