

Percents with Cuisenaire Rods

Start with 100%. Find the part.

<p>Unit Fractions:</p> <p>Options to find 50%: Dark Green (teal) is 100% Brown is 100% Orange is 100% Light Green is 100%</p> <p>Options to find 25%: Brown is 100% Purple is 100%</p> <p>Options to find 20% Yellow is 100% Orange is 100%</p> <p>Options to find 10%: Orange is 100%</p> <p>Options to find $33\frac{1}{3}\%$ Dark Green (teal) is 100% Blue is 100% Light Green is 100%</p>	<p>Non-unit fractions:</p> <p>Options for 75% Brown is 100% Purple is 100%</p> <p>Options for 40%, 60% or 80% Yellow is 100% Orange is 100%</p> <p>Options for 30%, 70%, or 90% Orange is 100%</p> <p>Options for $66\frac{2}{3}\%$ Dark Green (teal) is 100% Blue is 100% Light Green is 100%</p>
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Start with the part, find 100% *Many more options if 100% is made from more than one rod.

<p>Unit Fractions:</p> <p>Light Green is 50% Purple is 50% Yellow is 50% White is 50%</p> <p>Red is 25% White is 25%</p> <p>White is 20% Red is 20%</p> <p>White is 10%</p> <p>Red is $33\frac{1}{3}\%$ Light Green is $33\frac{1}{3}\%$ White is $33\frac{1}{3}\%$</p>	<p>Non-Unit Fractions:</p> <p>Dark Green (teal) is 75% Light Green is 75%</p> <p>Purple is 80% Brown is 80%</p> <p>Light Green is 60% Dark Green (teal) is 60%</p> <p>Red is 40% Purple is 40%</p> <p>Blue is 90%</p> <p>Black is 70%</p> <p>Light Green is 30%</p> <p>Purple is $66\frac{2}{3}\%$ Dark Green (teal) is $66\frac{2}{3}\%$ Red is $66\frac{2}{3}\%$</p>
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From part to part.

Unit Fraction to Non-Unit Fraction	Non-Unit Fraction to Non-Unit Fraction
Find 50% or 75% Red is 25% White is 25%	Find 25% or 50% Dark Green (teal) is 75% Light Green is 75%
Find 40%, 60% or 80% Red is 20% White is 20%	Find 20%, 40% or 60% Purple is 80% Dark Green (teal) is 80%
Find any multiple of 10% Red is 10% White is 10%	Find 20%, 40%, or 80% Light green is 60% Dark Green (teal) is 60%
	Find 20%, 60%, or 80% Red is 40% Purple is 40%
	Find any other multiple of of 10% Blue is 90% Brown is 80% Black is 70% Dark Green (teal) is 60% Yellow is 50% Purple is 40% Light green is 30% Red is 30%

Percent of a number

The rods in all of the scenarios above can be given a value along with the percentage.

Start with 100%

Example: The brown rod equals 12. It is 100%. Find the rod that equals 50%. What is it's value?

Start with the part, find 100%

Example: The purple rod is 40% and has a value of 24. Which rod represents 100%? What is it's value?

From part to part.

Example: The black rod is 70% and has a value of 45. Which rod represents 40%? What is it's value?

Find the percent

In the scenarios above, replace the percent needed with the value.

Start with 100%

Example: The yellow rod is 100% and has a value of 35. Which rod has a value of 7? What percent of the whole does it represent?

Start with the part, find 100%

Example: The brown rod is 80% and has a value of 32. Which rod has a value of 40? What percent of the whole does it represent?

From part to part.

Example: The red rod is 40% and has a value of 16. Which rod has a value of 24? What percent of the whole does it represent?

Connect to double number line.

Cuisenaire rods get students thinking about fractions and percentages as measurements. Connecting cuisenaire rods to a double number line as a way to move from concrete to representational. Or more specifically, since double number lines are used in class, cuisenaire rods are a good way to make it more concrete for students who may not connect with the visual representation.

