

Welcome to Fractions-ville:
Population, you, he he.

Learning Goal:

By the end of today, I will be able to recognize and create equivalent fractions.

Equivalent Fractions

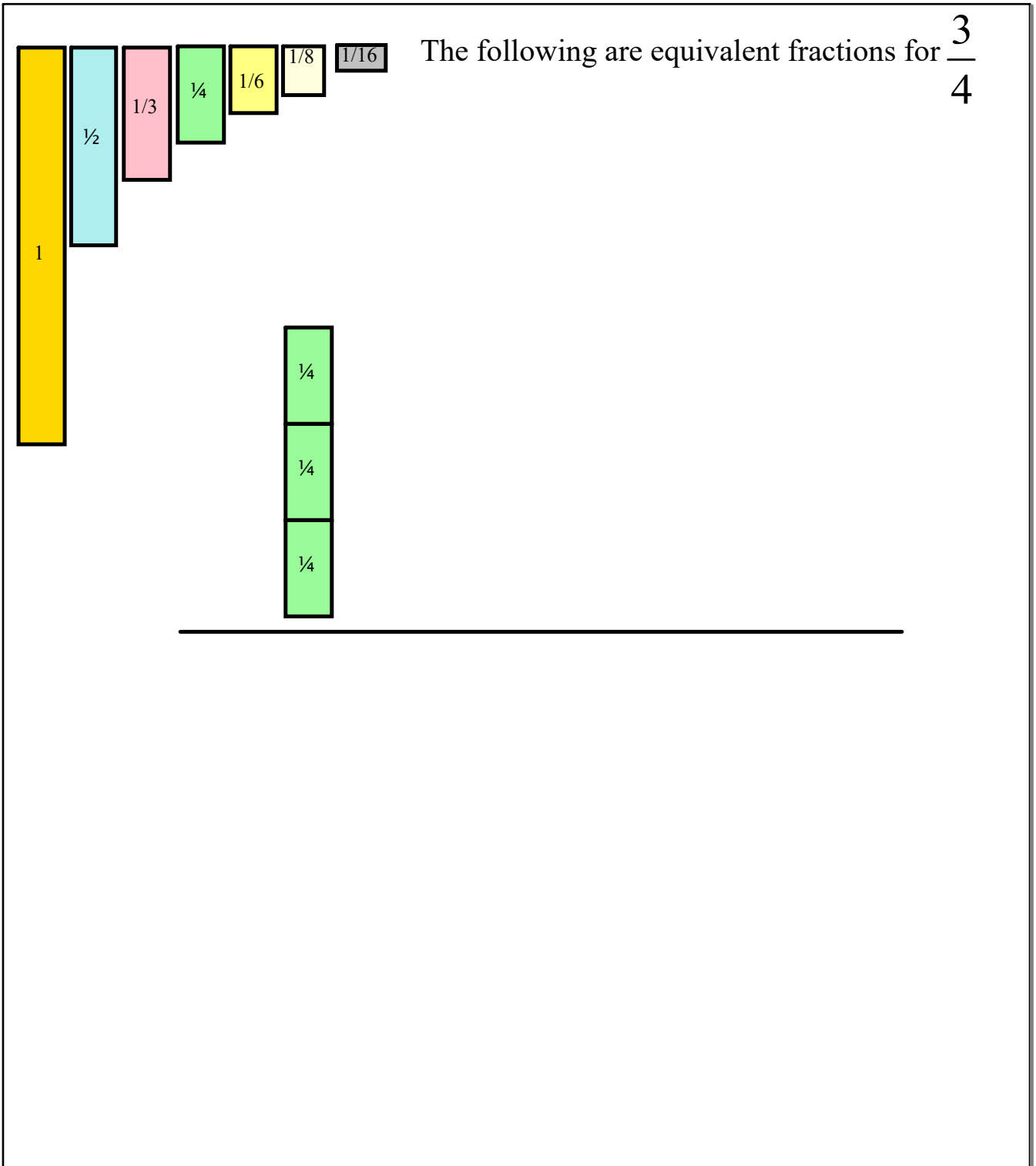
- the root word in Equivalent is "equal"
- in mathematics expressions can have different appearances but the same value
- examples can be fractions, equations, square roots, exponents, etc.

Models of fractions can be done with following:

- fraction Strips:
- grid model
- fraction circles

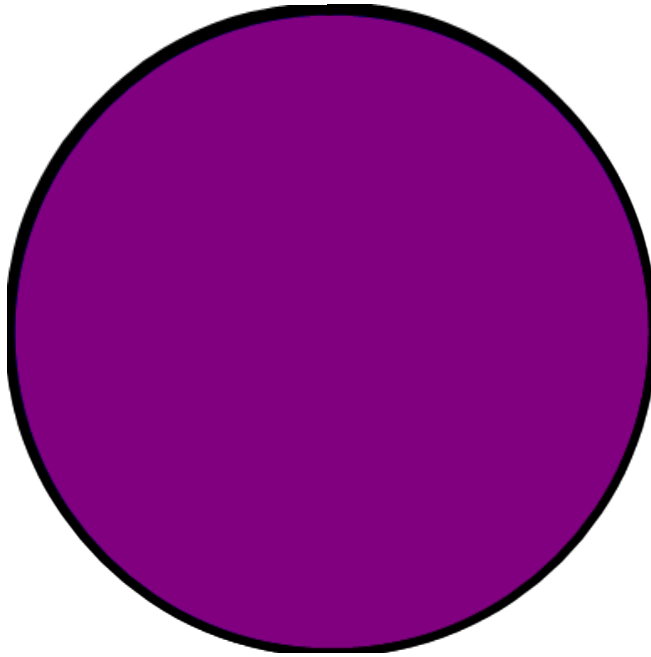
The following are equivalent fractions for $\frac{1}{2}$

The diagram illustrates equivalent fractions for $\frac{1}{2}$ using a staircase structure. The steps are labeled with the following fractions from left to right: 1, $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{6}$, $\frac{1}{8}$, and $\frac{1}{16}$. A horizontal line is drawn below the $\frac{1}{2}$ step.



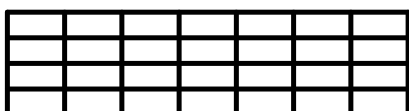
Fraction Circles

(another form of illustrating fractions - drag away)

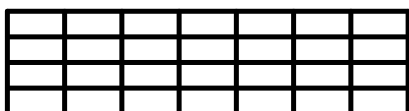
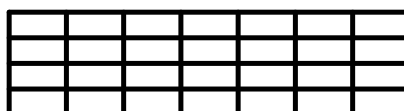


Shade in the following fraction amounts:

$$\frac{7}{28}$$



$$\frac{6}{14}$$



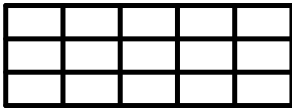
$$\frac{3}{7}$$



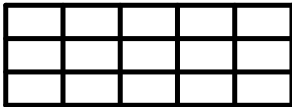
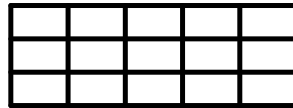
$$\frac{1}{4}$$

Shade in the following fraction amounts:

$$\frac{5}{15}$$



$$\frac{12}{15}$$

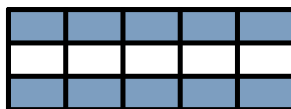
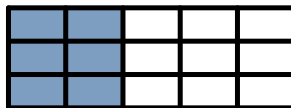
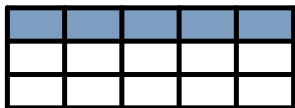


$$\frac{4}{5}$$



$$\frac{1}{3}$$

What fraction amounts do the following represent:



Algebraic Technique for Equivalent Fractions

Does multiplying by "1" change the value of number?

Can "1" be represented in more than one way?

Algebraic Technique for Equivalent Fractions

Calculator Check

$$\frac{1}{2} \times \frac{2}{2} =$$

$$\frac{1}{2} \times \frac{3}{3} =$$

Create two more equivalent fractions of your own.

$$\frac{1}{2} \times \frac{\quad}{\quad} =$$

$$\frac{1}{2} \times \frac{\quad}{\quad} =$$

Algebraic Technique for Equivalent Fractions

Find three equivalent fractions for $\frac{3}{4}$

Lowest Terms

- equivalent fractions can be created by multiplying "up" to larger values

or

- equivalent fractions can be divided "down" to smaller value

The smallest whole numbers fraction is called LOWEST Terms.

$$\frac{12}{20} =$$

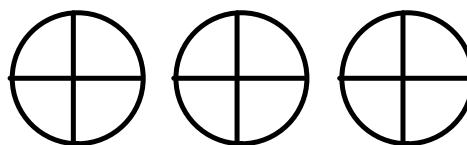
Mixed and Improper Fractions

A Mixed Fraction has a whole number in front of the fraction.

An Improper Fraction has a numerator that is larger than the denominator; this means the fraction has a value greater than One.

Example

$$2\frac{3}{4} = \frac{11}{4}$$



Convert between Mixed and Improper Forms: Include a diagram to help illustrate the connection.

Mixed Fraction

Diagram

Improper Fraction

$$3\frac{1}{4}$$

$$\frac{5}{2}$$

I am really hungry and I have been offered the following proportions of cake, but I don't know which one to take. Please Help Me!!!!

$2 / 5$

$1 / 2$

$11/20$

Mr. Fiorot comes along and offers me $14/25$ of a cake, oh no, what should I do? Aaaargh!

$$2 / 5$$

$$1 / 2$$

$$11/20$$

or

$$14/25$$

Task - Equivalent Fractions

Attachments

Math - task - equivalent fractions.doc