

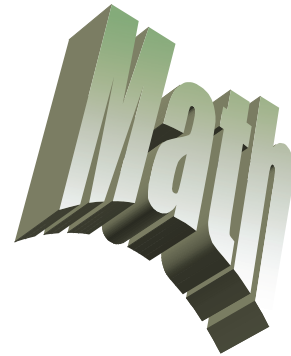
Algebra/Geometry Institute Summer 2005

Lesson Plan Two: Equivalent Pals (Fractions)

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School: Carver Upper Elementary School
Indianola, MS

Grade Level: 5th



- 1 Teaching objective(s): Student will be able to model, identify and write equivalent fractions.
- 2 Instructional Activities:
 - a. Teacher will have a student review the definition for a fraction.
Teacher will ask a student to define what is meant by equivalent fractions.
(The question may be phrased as such, when we say a fraction is equivalent to another fraction what do we mean or what does it mean to have fractions that are equivalent.)
 - b. Students are to be arranged in groups of four. Give each group four sheets of paper. Allow each person to receive a sheet of paper. Have a person in each group to keep one sheet of paper as is. Instruct the students, one person will tear his/her sheet into two equal parts, another will tear his/her sheet into four equal parts, and another will tear his/her sheet into 8 equal parts.
(Demonstrate how to tear the sheet of paper if necessary)
Allow the students to discuss with each other which parts of the paper are equal to each other.

Examples:

$$\frac{2}{2} = 1, \quad \frac{4}{4} = 1, \quad \frac{1}{2} = \frac{4}{8}, \quad \frac{2}{4} = \frac{4}{8}$$

Ask students to name some things that are equivalent or equal to each other.
Using money, for example, students can name the equivalence of the dollar to its coin equivalent.

Teacher may ask the students how many nickels are in a dollar and then write the coin equivalent for the dollar.

20 nickels = \$1.00
10 dimes = \$1.00
4 quarters = \$1.00
2 half-dollars = \$1.00
100 pennies = \$1.00

Students may name other things that are equal, for example:

12 inches = 1 foot

3 feet = 1 yard

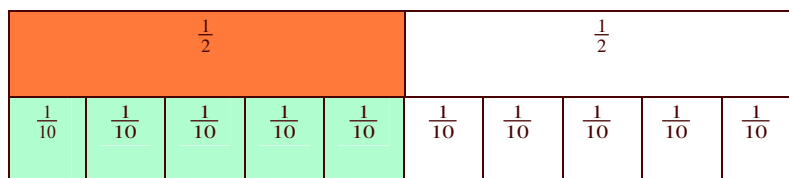
24 hours = 1 day

This activity should help the student to understand what is meant when a fraction is equivalent to another fraction.

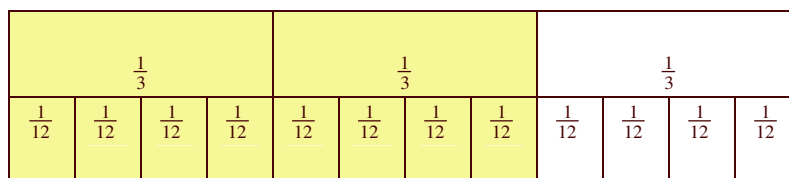
c. Modeling and identifying equivalent fractions using fraction bars

Teacher will use fraction bars and model the following examples of equivalent fractions.

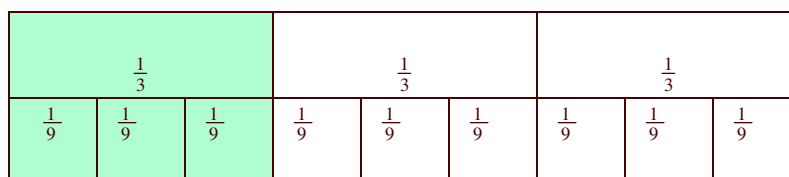
$$\frac{1}{2} = \frac{5}{10}$$



$$\frac{2}{3} = \frac{8}{12}$$



$$\frac{1}{3} = \frac{3}{9}$$



Read the following problems. Allow each student to model each pair of fractions using his/her fraction bars.

- 1) Show that two fourths equal one half.
- 2) How many tenths equal one half? $\frac{5}{10}$
- 3) Show that four eighths equal one half.
- 4) Show that one fifth equals two tenths.
- 5) How many eights equal a fourth? $\frac{2}{8}$

d. **Write equivalent fractions using fraction bars.**

Using the sixth and half fraction bars, student will write $\frac{3}{6} = \frac{1}{2}$

Using the fifth and tenth fraction bars, student will write $\frac{4}{5} = \frac{8}{10}$.

- e. Student will find the missing number to an equivalent fraction using fraction bars. (Student copy is attached)

Teacher's copy of student worksheet

Use the fraction bars to find the solution to each problem.

$\frac{1}{1} = 1$									
$\frac{1}{2}$					$\frac{1}{2}$				
$\frac{1}{3}$			$\frac{1}{3}$			$\frac{1}{3}$			
$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$	
$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$	
$\frac{1}{6}$		$\frac{1}{6}$		$\frac{1}{6}$		$\frac{1}{6}$		$\frac{1}{6}$	
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$

1. $\frac{1}{2} = \frac{?}{6}$
2. $\frac{2}{3} = \frac{?}{9}$
3. $\frac{2}{5} = \frac{?}{10}$
4. $\frac{2}{8} = \frac{?}{4}$
5. $\frac{2}{3} = \frac{?}{6}$

Answer : 1) 3 2) 6 3) 4 4) 1 5) 4

3 Materials and Resources

Paper

Pencil

Chalkboard/overhead projector

Fraction bars: Teacher will need a set of fraction bars for each student and an overhead set for herself.

Worksheet

4 Assessment

Oral observation

Class participation

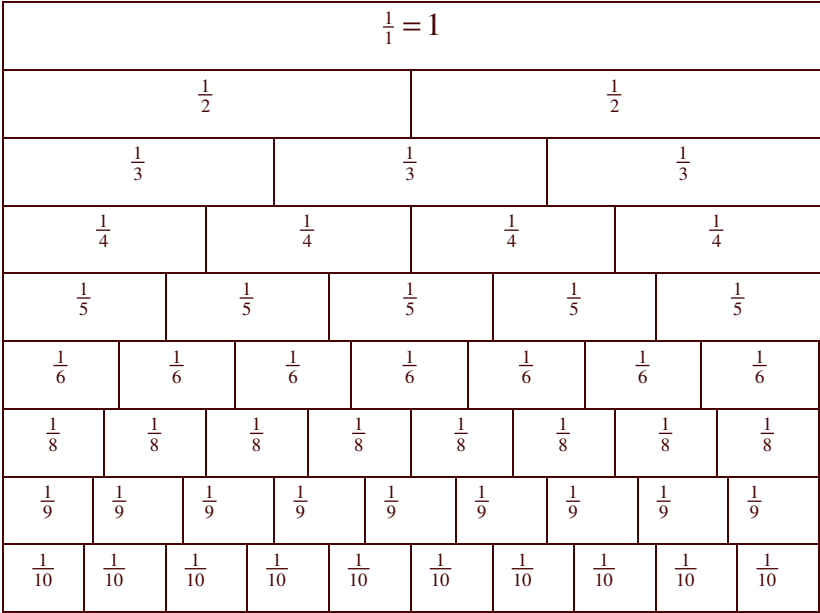
Worksheet will be graded for a daily grade.

Reference(s):

Ideas adapted from Mathematics Today 2nd Edition, Harcourt Brace Jovanovich, 1985

Name _____ Date _____

Use the fraction bars to find the solution to each problem.



1. $\frac{1}{2} = \frac{?}{6}$
2. $\frac{2}{3} = \frac{?}{9}$
3. $\frac{2}{5} = \frac{?}{10}$
4. $\frac{2}{8} = \frac{?}{4}$
5. $\frac{2}{3} = \frac{?}{6}$