

ASSESSMENT

Fractions on a Number Line

Fractions and Decimals 10

We have included the starred Levels with a logical basis to the grade Level, in this assessment, allowing children to demonstrate their highest Level of understanding. If children are familiar with models other than these, they may demonstrate their understanding using those.

FD 1 Halve shapes

FD 2 Halve groups

half of 7 = 3 r 1
 $\frac{1}{2}$ of 7 = 3 r 1

FD 3 Quarter shapes

FD 4 Quarter groups

quarter of 9 = 2 r 1
 $\frac{1}{4}$ of 9 = 2 r 1

FD 7 Meaning of denominator as the number we divided by
FD 8 Multiplicative relationships between fractions

1			
half	$\frac{1}{4}$		$\frac{1}{2}$
quarter	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{4}$
eighth	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

$\frac{1}{4}$ is $\frac{1}{4}$ of 1 $\frac{1}{8}$ is $\frac{1}{8}$ of 1

$\frac{1}{4}$ is $\frac{1}{2}$ of $\frac{1}{2}$ $\frac{1}{8}$ is $\frac{1}{2}$ of $\frac{1}{4}$

$\frac{1}{8}$ is $\frac{1}{4}$ of $\frac{1}{2}$

FD 9 Meaning of numerator as the number of parts we are concerned with
FD 10 Unit and non-unit fractions on a number line

FD 13 Equivalent fractions and the relationship between numerator and denominator

$\frac{1}{2} = \frac{2}{4} = \frac{4}{8} = \frac{6}{12}$

$\frac{2}{3} = \frac{8}{12} = \frac{4}{6} = \frac{10}{18}$

FD 14 Equivalent fractions on a number line

FD 20 Role of the vinculum as meaning divided by

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

FD 23 Add fractions with the same denominator

$2\frac{2}{4} + 1\frac{3}{4} = 4\frac{1}{4}$

FD 23 Subtract fractions with the same denominator

$2\frac{2}{4} - 1\frac{3}{4} = 1\frac{1}{4}$

FD 28 Fractions in their simplest form

$\frac{4}{12} \div \frac{4}{4} = \frac{1}{3}$

FD 29 Percentages as Hundredths, related to fractions and decimals

ones tenths hundredths thou

one $\frac{1}{100}$ hundredth

1% one hundredth

FD 33 Add fractions with related denominators

$\frac{3}{5} + \frac{7}{10} = \frac{3 \times 2}{5 \times 2} = \frac{6}{10}$

$\frac{6}{10} + \frac{7}{10} = \frac{13}{10}$

$\frac{6}{10} + \frac{7}{10} = \frac{13}{10} = 1\frac{3}{10}$

FD 33 Subtract fractions with related denominators

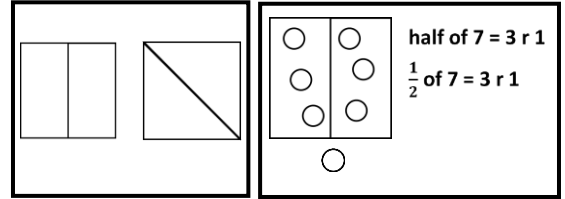
$\frac{7}{10} - \frac{2}{5} = \frac{2 \times 2}{5 \times 2} = \frac{4}{10}$

$\frac{7}{10} - \frac{4}{10} = \frac{3}{10}$

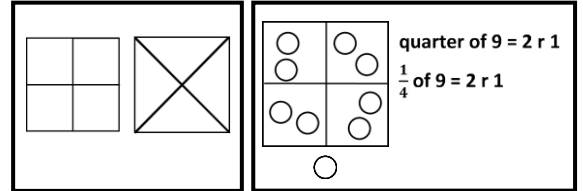
$\frac{7}{10} - \frac{2}{5} = \frac{3}{10}$

Halves and Quarters of Shapes and Groups

1. Divide a shape in half.
2. Collect some counters.
3. Place half of the counters onto each half of the shape.
4. Record a fraction number sentence.



1. Divide a shape in quarters.
2. Collect some counters.
3. Place quarter of the counters onto each quarter of the shape.
4. Record a fraction number sentence.



Multiplicative Relationships Between Fractions

1. Divide a strip of paper in half.
2. Describe the fraction of 1.
3. Divide a strip of paper in quarters.
4. Describe the fraction of 1.
5. Describe the fraction of a half.
6. Continue building the fraction wall, describing the multiplicative relationships between fractions.

1							
half				$\frac{1}{2}$			
quarter	$\frac{1}{4}$			$\frac{1}{4}$	$\frac{1}{4}$		
eighth	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{4}$ is	$\frac{1}{4}$	of 1		$\frac{1}{8}$ is	$\frac{1}{8}$	of 1	
$\frac{1}{4}$ is	$\frac{1}{2}$	of $\frac{1}{2}$		$\frac{1}{8}$ is	$\frac{1}{2}$	of $\frac{1}{4}$	
				$\frac{1}{8}$ is	$\frac{1}{4}$	of $\frac{1}{2}$	

Halves and Quarters of Shapes and Groups

1. Divide a shape in half.
2. Collect some counters.
3. Place half of the counters onto each half of the shape.
4. Record a fraction number sentence.

half of 7 = 3 r 1
 $\frac{1}{2}$ of 7 = 3 r 1

5. Divide a shape in quarters.
6. Collect some counters.
7. Place quarter of the counters onto each quarter of the shape.
8. Record a fraction number sentence.

quarter of 9 = 2 r 1
 $\frac{1}{4}$ of 9 = 2 r 1

Multiplicative Relationships Between Fractions

1. Divide a strip of paper in half.
2. Describe the fraction of 1.
3. Divide a strip of paper in quarters.
4. Describe the fraction of 1.
5. Describe the fraction of a half.
6. Continue building the fraction wall, describing the multiplicative relationships between fractions.

1							
half				$\frac{1}{2}$			
quarter		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$	
eighth	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

$\frac{1}{4}$ is $\frac{1}{4}$ of 1 $\frac{1}{8}$ is $\frac{1}{8}$ of 1
 $\frac{1}{4}$ is $\frac{1}{2}$ of $\frac{1}{2}$ $\frac{1}{8}$ is $\frac{1}{2}$ of $\frac{1}{4}$
 $\frac{1}{8}$ is $\frac{1}{4}$ of $\frac{1}{2}$

Fractions on a Number Line

Place fractions on a number line between 0 and 1.

