

My mathematical journey

What do I need to remember from before?

Number lines (NP1, 2, 3, and 6)

Decimals (NP1, 2, and 3)

Fractions (NP7)

Finding a fraction of a number (NP7)

*Mathswatch clips in brackets

What will I learn about in this unit at CEC?

Equivalent fractions, decimals and percentages

(MW N32)

Terminating and recurring decimals

(MW N1b)

Working with percentages

(MW N24a, N24b, N39a, R9a)

Where does this lead?

Proportional reasoning (NP10)

Contextual graphs (A9)

Percentage change (NP10, NP13)

Recurring decimals to fractions (NP14)

Key words and symbols: what I need to say and write accurately

32% means $\frac{32}{100}$
 "percent" means "out of 100"

A **terminating decimal** has a finite (fixed) number of decimal places, e.g. 0.215
 e.g. 0.3

A **recurring decimal** has an infinite number of decimal places and its digits have a repeating pattern. The **repetend** is the repeating part. We use dots to show the start and end of the repetend.
 e.g. 0.333333333 ... = 0.3̄
 e.g. 0.804804804 ... = 0.804̄

Fingertip facts: what I need to learn by heart

Tenths and fifths:

Fraction	$\frac{1}{10}$	$\frac{2}{10} = \frac{1}{5}$	$\frac{3}{10}$	$\frac{4}{10} = \frac{2}{5}$	$\frac{5}{10} = \frac{1}{2}$	$\frac{6}{10} = \frac{3}{5}$	$\frac{7}{10}$	$\frac{8}{10} = \frac{4}{5}$	$\frac{9}{10}$	$\frac{10}{10} = 1$
Decimal	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Percentage	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

Eighths and quarters:

Fraction	$\frac{1}{8}$	$\frac{2}{8} = \frac{1}{4}$	$\frac{3}{8}$	$\frac{4}{8} = \frac{2}{4} = \frac{1}{2}$	$\frac{5}{8}$	$\frac{6}{8} = \frac{3}{4}$	$\frac{7}{8}$	$\frac{8}{8} = \frac{4}{4} = \frac{2}{2} = 1$
Decimal	0.125	0.25	0.375	0.5	0.625	0.75	0.875	1
Percentage	12.5%	25%	37.5%	50%	62.5%	75%	87.5%	100%

Ninths and thirds:

Fraction	$\frac{1}{9}$	$\frac{2}{9}$	$\frac{3}{9} = \frac{1}{3}$	$\frac{4}{9}$	$\frac{5}{9}$	$\frac{6}{9} = \frac{2}{3}$	$\frac{7}{9}$	$\frac{8}{9}$	$\frac{9}{9} = 1$
Decimal	0.1̄	0.2̄	0.3̄	0.4̄	0.5̄	0.6̄	0.7̄	0.8̄	0.9̄ = 1
Percentage	11.1̄%	22.2̄%	33.3̄%	44.4̄%	55.5̄%	66.6̄%	77.7̄%	88.8̄%	99.9̄% = 100%