1:01 Fractions

Content strand: Number and Algebra
Substrand: Fractions and Decimals 2
Content statements:
- Investigate equivalent fractions used in contexts.

Outcomes: MA2-1WM, MA2-7NA

Teaching Suggestions

- Have students answer Questions 11 to 16 on **ID Card 2**, p. 189.
- Make fraction cards to demonstrate simple fractions in halves, quarters, eighths, thirds, sixths and fifths.
- Revise these terms:
  - *denominator*, the bottom number of a fraction that represents the number of equal parts into which the whole has been divided. The **d**enominator is **d**own on the bottom of the fraction.
  - *numerator*, the top number of a fraction that represents the number of equal fraction parts.
- Provide frequent opportunities for students to find fractions of wholes and groups in everyday contexts, e.g. '$\frac{1}{8}$ of the cake has been eaten'.
- Remind students that fractions are used in two ways. One way is to describe equal parts of a whole, and the other is to describe equal parts of a collection of objects. Note that each part must be equal, whether it is of a whole or a collection of objects.
- Use the example questions on the IWB DVD.

Extension Work

- Have students use clothes pegs to order fraction cards along a string line from zero to one.
- Have students complete **BLW 7** Comparing Fractions, p. 232.

Language

fraction, numerator, denominator, whole, group, half, quarter, eighth, third, sixth, fifth, part, equal parts, is equal to

Resources

- fraction cards
- clothes pegs
- prepared fraction cards
- string
- **ID Card 2**, p. 189
- **BLW 7** Comparing Fractions, p. 232
- IWB DVD 4

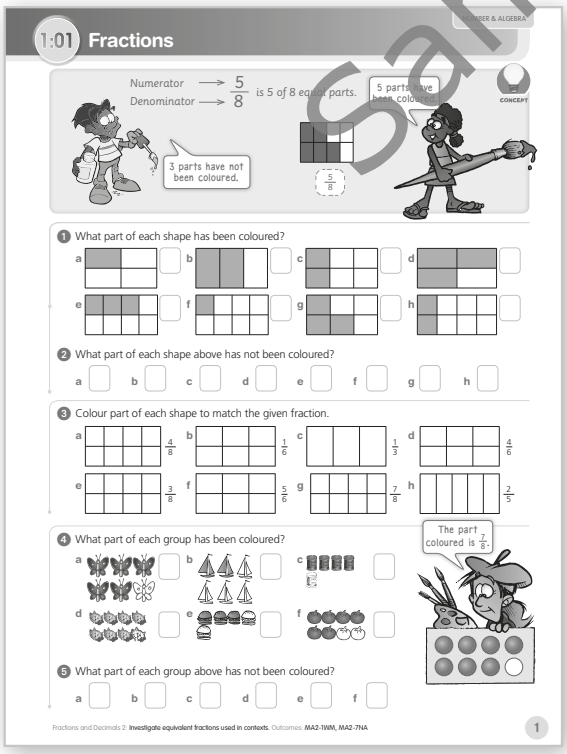
Cross-reference

See also pp. 2, 3, 9, 10, 11, 12, 13, 14, 18, 19, 20, 21, 26
Year 3 p. 22
Year 5 p. 5

Evaluation

Is the student able to do the following?
- model, compare and represent commonly used fractions

Sample Pages


1:01 Fractions

Numerator → 5
Denominator → 8
is 5 of 8 equal parts.

5 parts have been coloured.

3 parts have not been coloured.

1 What part of each shape has been coloured?

2 What part of each shape above has not been coloured?

3 Colour part of each shape to match the given fraction.

4 What part of each group has been coloured?

The part coloured is $\frac{7}{8}$.

5 What part of each group above has not been coloured?

Fractions and Decimals 2: Investigate equivalent fractions used in contexts. Outcomes: MA2-1WM, MA2-7NA

1

Answers

1 a $\frac{1}{4}$ b $\frac{2}{3}$ c $\frac{2}{6}$ d $\frac{3}{4}$ e $\frac{3}{8}$
f $\frac{1}{8}$ g $\frac{3}{6}$ h $\frac{2}{8}$

2 a $\frac{3}{4}$ b $\frac{1}{3}$ c $\frac{4}{6}$ d $\frac{1}{4}$ e $\frac{5}{8}$
f $\frac{7}{8}$ g $\frac{3}{6}$ h $\frac{6}{8}$

3 a b c d
e f g h

4 a $\frac{5}{6}$ b $\frac{2}{6}$ c $\frac{4}{5}$ d $\frac{7}{8}$ e $\frac{3}{5}$ f $\frac{6}{8}$

5 a $\frac{1}{6}$ b $\frac{4}{6}$ c $\frac{1}{5}$ d $\frac{1}{8}$ e $\frac{2}{5}$ f $\frac{2}{8}$

1:02 Hundredths

Content strand: Number and Algebra

Substrand: Fractions and Decimals 2

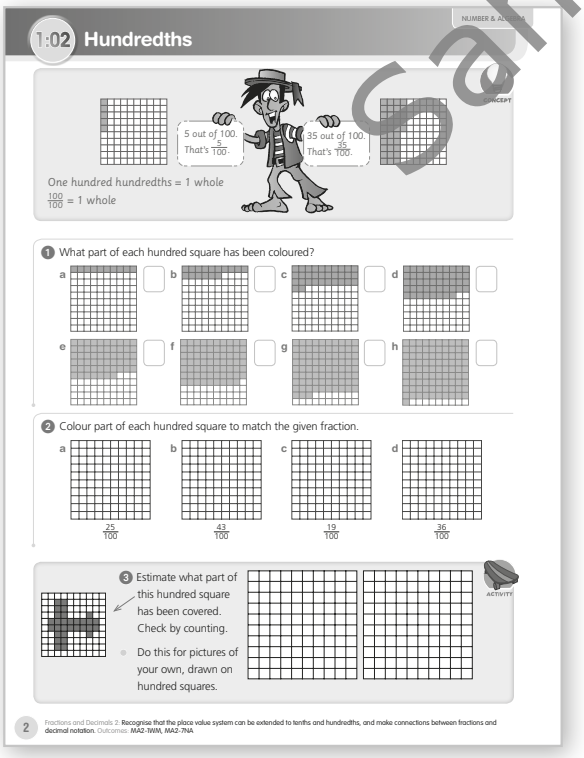
Content statements:

- Recognise that the place value system can be extended to tenths and hundredths, and make connections between fractions and decimal notation.

Outcomes: MA2-1WM, MA2-7NA

Teaching Suggestions

- Discuss the Concept box. Use place-value materials (**BLM 2**, p. 195, if extra material is required) and 1 cm grid paper (**BLM 24**, p. 217) to demonstrate 5 out of 100 ($\frac{5}{100}$), 35 out of 100 ($\frac{35}{100}$), etc.
- Encourage students to represent and write decimals, up to two decimal places, by using place-value materials and a hundred grid. Vary the decimals that students should demonstrate. Emphasise that the zero in decimals up to 0·09 is a place holder.
- Be aware of confusion that might occur from the term 'place'.
- Emphasise the fraction $\frac{35}{100}$ means '35 out of 100 equal parts'.
- Emphasise the point in the Concept box, i.e. 100 hundredths equals 1 whole or $\frac{100}{100} = 1$ whole.
- Use labels to name the fractions in as many different ways as possible (**BLM 6**, p. 199).
- Relate the use of hundredths to the use of fifths and tenths.



Activity

- Encourage students to estimate before counting the squares. Remind students that at this stage it doesn't really matter if their estimates are wrong. The more they practise, the better their skills will become.

Extension Work

- Ask what part of each hundred square in Question 1 has not been coloured.
- Remind students that in Question 1, the total of the coloured part and the part not coloured has to equal 100. The shape is made up of 100 equal square parts.
- Use the example questions on the IWB DVD.

Language

whole, fraction, hundredth, 35 out of 100, $\frac{35}{100}$, numerator, denominator, one hundredth, two hundredths…
one hundred hundredths is equal to

Resources

- place-value materials (or **BLM 2**, p. 195)
- fraction labels (**BLM 6**, p. 199)
- 1 cm grid paper (**BLM 24**, p. 217)
- IWB DVD 4

Cross-reference

See also: pp. 3, 20, 21, 22, 23, 24, 25, 26
Year 5 p. 4

Evaluation

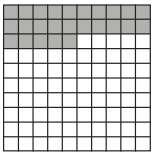
Is the student able to do the following?

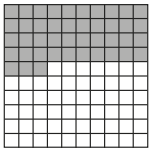
- model, compare and represent fractions with a denominator of 100

Answers

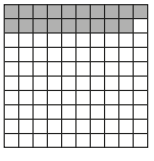
1 a $\frac{10}{100}$ b $\frac{16}{100}$ c $\frac{32}{100}$ d $\frac{48}{100}$
e $\frac{57}{100}$ f $\frac{69}{100}$ g $\frac{83}{100}$ h $\frac{91}{100}$

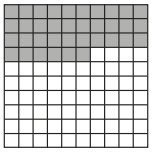
2 a b





c d





Activity

Estimates will vary.
$\frac{30}{100}$ has been covered. Pictures will vary.

Sample pages

1:03 Decimals

Content strand: Number and Algebra

Substrand: Fractions and Decimals 2

Content statements:

- Recognise that the place value system can be extended to tenths and hundredths, and make connections between fractions and decimal notation.

Outcomes: MA2-1WM, MA2-7NA

Teaching Suggestions

- Discuss the Concept box, i.e. the equivalence of 37 out of 100 to 0·37 and $\frac{37}{100}$. They can be used freely as alternatives when naming a fraction.
- Discuss the use of the decimal point and its position above the line (although there is a tendency in printing to place it on the line).
- Discuss the use of the zero as a place holder before the decimal point. (It indicates that there are no whole numbers being used.)
- Use fraction labels (**BLM 6**, p. 199) to name the fractions in as many ways as possible. Display on a chart.
- Write and locate decimals on a number line. Students could use additional number lines (**BLM 19**, p. 212) to plot and order decimals.
- Encourage students to practise counting using decimals.
- Remind students of the correct reading of a decimal, e.g. 1·35 is read as one point three five, not one point thirty-five.

Extension Work

- Have students use place-value materials (or **BLM 2**, p. 195, if extra material is required) to model each fraction shown in Question 4.
- Ask students to name each fraction using different labels shown in Question 4.

Language

whole, fraction, tenth, hundredth, 37 out of 100, $\frac{37}{100}$, 0·37, decimal, decimal point, numerator, denominator, one hundredth, two hundredths … one hundred hundredths, place-value blocks, is equal to

Resources

- place-value materials (or **BLM 2**, p. 195)
- fraction labels (**BLM 6**, p. 198)
- number lines (**BLM 19**, p. 212)
- IWB DVD 4

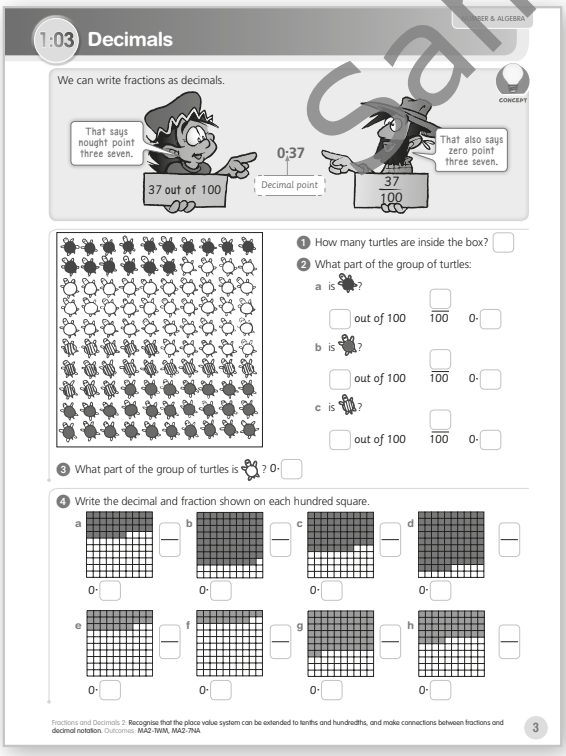
Cross-reference

See also: pp. 2, 20, 21, 22, 23, 24, 25, 26
Year 5 p. 4

Evaluation

Is the student able to do the following?

- model, compare and represent fractions with a denominator of 100
- model, compare and represent decimals to two decimal places


1:03 Decimals

We can write fractions as decimals.

CONCEPT

That says nought point three seven.

37 out of 100

0·37

Decimal point

That also says zero point three seven.

$\frac{37}{100}$

1 How many turtles are inside the box?

2 What part of the group of turtles:

a is ? out of 100 $\frac{\quad}{100}$ 0·

b is ? out of 100 $\frac{\quad}{100}$ 0·

c is ? out of 100 $\frac{\quad}{100}$ 0·

3 What part of the group of turtles is ? 0·

4 Write the decimal and fraction shown on each hundred square.

a 0· — b 0· — c 0· — d 0· —

e 0· — f 0· — g 0· — h 0· —

Fractions and Decimals 2: Recognise that the place value system can be extended to tenths and hundredths, and make connections between fractions and decimal notation. Outcomes: MA2-1WM, MA2-7NA

3

Answers

1. 100
2. **a** 16 out of 100 $\frac{16}{100}$ 0·16
   b 27 out of 100 $\frac{27}{100}$ 0·27
   c 18 out of 100 $\frac{18}{100}$ 0·18
3. 0·39
4. **a** 0·36, $\frac{36}{100}$ **b** 0·79, $\frac{79}{100}$ **c** 0·57, $\frac{57}{100}$ **d** 0·85, $\frac{85}{100}$
   e 0·27, $\frac{27}{100}$ **f** 0·18, $\frac{18}{100}$ **g** 0·62, $\frac{62}{100}$ **h** 0·44, $\frac{44}{100}$

sample pages

1:04 Numbers to 9999

Content strand: Number and Algebra

Substrand: Whole Numbers 2

Content statements:

- Recognise, represent and order numbers to at least tens of thousands.

Outcomes: MA2-1WM, MA2-4NA

Teaching Suggestions

- 1:04 (p. 4) and 1:05 (p. 5) could be treated in the same lesson to deal with the concept of numbers to 9999.
- Use place-value blocks (or **BLM 2**, p. 195, if extra material is required) to model 4-digit numbers.
- Record numbers on numeral expanders (**BLM 3**, p. 196) to demonstrate place value. Fold the expanders to show the number of hundreds, tens and ones in a four-digit number. You could use the numeral expander tool on the IWB DVD.
- Give plenty of practice in reading and writing numerals in words. Note the use of the hyphen when writing numbers.
- Remind students that, when writing numbers of more than 4 digits, a space is required. In business however, commas are used to separate thousands and millions.
- Remind students that place value is built on the multiplication and division of tens.
- Revise the use of the term 'digit' and count the number of digits used to make various numbers. Note that, when looking at digits, each numeral can be broken into its place-value parts, e.g. 3 692 can be broken into 3000 + 600 + 90 + 2. There are 4 digits.

Extension Work

- In small groups, students deal four numeral cards (**BLM 1**, p. 194) to each player. Each player arranges the cards to make the smallest possible 4-digit number.
- Ask students to order the numbers from smallest to largest. The person with the smallest number wins the game.
- Play the drag-and-drop game on the IWB DVD.

Language

units, ones, tens, hundreds, thousands, zero, place value, digit, column, largest number, smallest number

Resources

- numeral cards (**BLM 1**, p. 194)
- place-value blocks (or **BLM 2**, p. 195)
- numeral expanders (**BLM 3**, p. 196)
- IWB DVD 4

Cross-reference

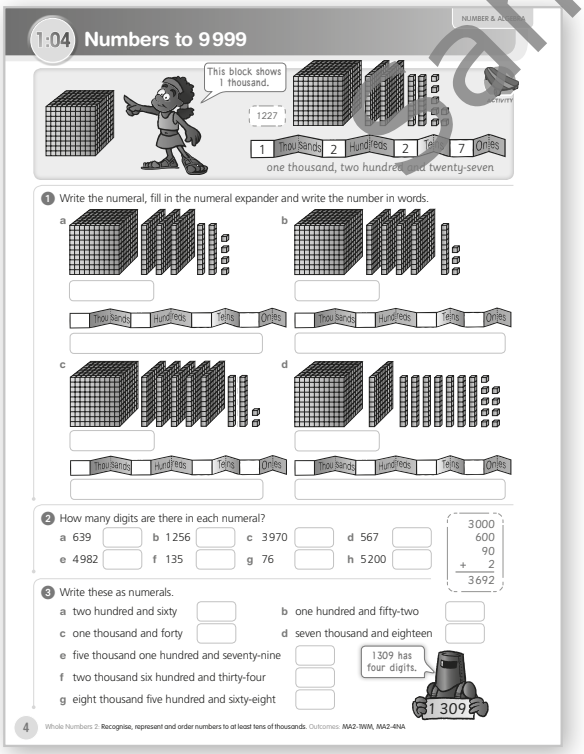
See also pp. 5, 6, 7, 8, 15, 16, 17, 27, 28, 29
Year 3 p. 136
Year 5 p. 1

Evaluation

Is the student able to do the following?

- use place value to read, represent and order numbers up to four digits

Sample Pages


1:04 Numbers to 9999

This block shows 1 thousand.

1 Thousands 2 Hundreds 2 Tens 7 Ones

one thousand, two hundred and twenty-seven

1 Write the numeral, fill in the numeral expander and write the number in words.

2 How many digits are there in each numeral?

a 639 b 1256 c 3970 d 567
e 4982 f 135 g 76 h 5200

3000 + 600 + 90 + 2 = 3692

3 Write these as numerals.

a two hundred and sixty
b one hundred and fifty-two
c one thousand and forty
d seven thousand and eighteen
e five thousand one hundred and seventy-nine
f two thousand six hundred and thirty-four
g eight thousand five hundred and sixty-eight

1309 has four digits.

1 309

4 Whole Numbers 2: Recognise, represent and order numbers to at least tens of thousands. Outcomes: MA2-1WM, MA2-4NA

Answers

1 **a** 1324 one thousand three hundred and twenty-four

1 Thousands 3 Hundreds 2 Tens 4 Ones

b 1413 one thousand four hundred and thirteen

1 Thousands 4 Hundreds 1 Tens 3 Ones

c 1522 one thousand five hundred and twenty-two

1 Thousands 5 Hundreds 2 Tens 2 Ones

d 1179 one thousand one hundred and seventy-nine

1 Thousands 1 Hundreds 7 Tens 9 Ones

2 **a** 3 **b** 4 **c** 4 **d** 3
e 4 **f** 3 **g** 2 **h** 4

3 **a** 260 **b** 152 **c** 1040 **d** 7018
e 5179 **f** 2634 **g** 8568

1:05 Numbers to 9999

Content strand: Number and Algebra

Substrand: Whole Numbers 2

Content statements:

- Recognise, represent and order numbers to at least tens of thousands.

Outcomes: MA2-1WM, MA2-4NA

Teaching Suggestions

- Give plenty of practice in counting forwards or backwards from any 4-digit number. Count by ones, twos, tens, etc., on and off the decade, e.g. 1347, 1357, 1367, …
- *Buzz*: Each student in turn counts on from a given number. Players are 'buzzed' on the hundreds and for any errors.
- Give plenty of practice in reading and writing numerals in words using numeral cards (**BLM 1**, p. 194).
- Revise the use of the term 'digit' and count the number of digits used to make various numbers.
- Remind students that, when we write numbers, we often use hyphens, e.g. twenty-seven.
- Also emphasise the inclusion of the word 'and' between the hundreds and the tens when we say and write numbers, e.g. five thousand seven hundred and thirty-nine.

Extension Work

- Order the numbers in Question 5 into ascending and then descending order. Discuss the terms 'ascending order' (increasing in size) and 'descending order' (descending in size).

Language

units, ones, tens, hundreds, thousands, zero, place value, digit, column, more than, less than, larger, smaller, number pattern, largest number, smallest number

Resources

- numeral cards (**BLM 1**, p. 194)
- IWB DVD 4

Cross-reference

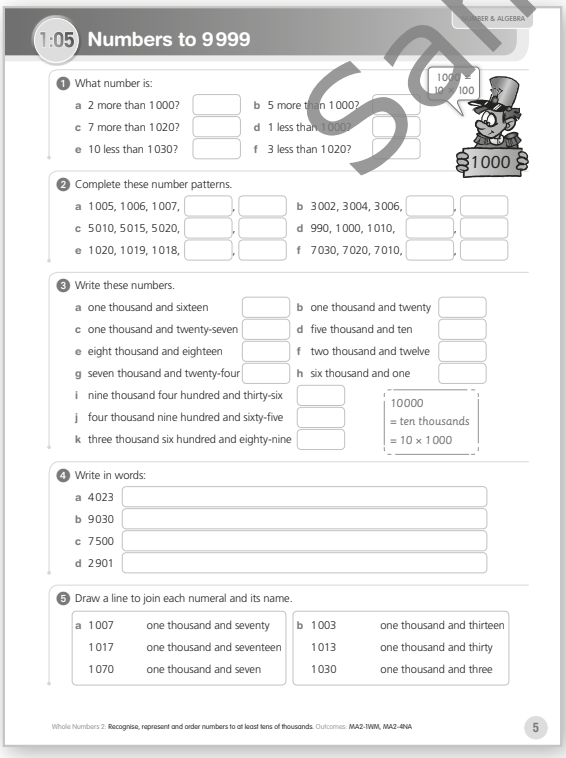
See also: pp. 4, 6, 7, 8, 15, 16, 17, 27, 28, 29
Year 3 p. 136
Year 5 p. 1

Evaluation

Is the student able to do the following?

- use place value to read, represent and order numbers up to four digits
- count forwards and backwards by tens or hundreds, on and off the decade

Sample Pages



1:05 Numbers to 9999

NUMBER & ALGEBRA

1 What number is:

a 2 more than 1000? b 5 more than 1000?
c 7 more than 1020? d 1 less than 1000?
e 10 less than 1030? f 3 less than 1020?

1000

2 Complete these number patterns.

a 1005, 1006, 1007, , b 3002, 3004, 3006, ,
c 5010, 5015, 5020, , d 990, 1000, 1010, ,
e 1020, 1019, 1018, , f 7030, 7020, 7010, ,

3 Write these numbers.

a one thousand and sixteen b one thousand and twenty
c one thousand and twenty-seven d five thousand and ten
e eight thousand and eighteen f two thousand and twelve
g seven thousand and twenty-four h six thousand and one
i nine thousand four hundred and thirty-six
j four thousand nine hundred and sixty-five
k three thousand six hundred and eighty-nine

10000
= ten thousands
= 10 × 1000

4 Write in words:

a 4023
b 9030
c 7500
d 2901

5 Draw a line to join each numeral and its name.

a	1007	one thousand and seventy	b	1003	one thousand and thirteen
	1017	one thousand and seventeen		1013	one thousand and thirty
	1070	one thousand and seven		1030	one thousand and three

Whole Numbers 2: Recognise, represent and order numbers to at least tens of thousands. Outcomes: MA2-1WM, MA2-4NA

5

Answers

1 a 1002 b 1005
c 1027 d 999
e 1020 f 1017

2 a 1008, 1009 b 3008, 3010 c 5025, 5030
d 1020, 1030 e 1017, 1016 f 7000, 6990

3 a 1016 b 1020 c 1027 d 5010
e 8018 f 2012 g 7024 h 6001
i 9436 j 4965 k 3689

4 a four thousand and twenty-three
b nine thousand and thirty
c seven thousand and five hundred
d two thousand nine hundred and one

5 a 1007 — one thousand and seventy
1017 — one thousand and seventeen
1070 — one thousand and seven
b 1003 — one thousand and thirteen
1013 — one thousand and thirty
1030 — one thousand and three

1:06 Place Value to 10 000

Content strand: Number and Algebra

Substrand: Whole Numbers 2

Content statements:

- Recognise, represent and order numbers to at least tens of thousands.

Outcomes: MA2-1WM, MA2-4NA

Teaching Suggestions

- Use numeral expanders on the IWB DVD (or **BLM 3**, p. 196) to demonstrate the number of thousands, hundreds, tens and ones in a number.
- Give students constant practice in reading and writing numbers with up to four digits. Ask students to write down nominated numbers up to 10 000. Include questions such as: 'the number before and after a specific number'. Students could also practise writing these numbers in words.
- When writing four digit numbers instruct students not to use a space to separate numbers, eg 6234 (no space or comma is used). However, when writing numbers of more than four digits, we leave a space, eg 16 234.
- Revise the use of the zero as a place holder.
- Provide students with frequent opportunities to count forwards and backwards from any 4-digit number by tens or hundreds.
- Use the interactive examples on the IWB DVD.

Extension Work

- Have students record a given 5-digit number in as many different ways as possible.
- Have students work in small groups of 3 or 4. Students take turns to say a 5-digit number. The other students have to write down the number without showing the group. Later, students reveal the number and discuss the results.

Language

units, ones, tens, hundreds, thousands, zero, place value, digit, column, numeral, numeral expander, largest number, smallest number, tens of thousands

Resources

- calculators
- numeral expanders (**BLM 3**, p. 196)
- IWB DVD 4

Cross-reference

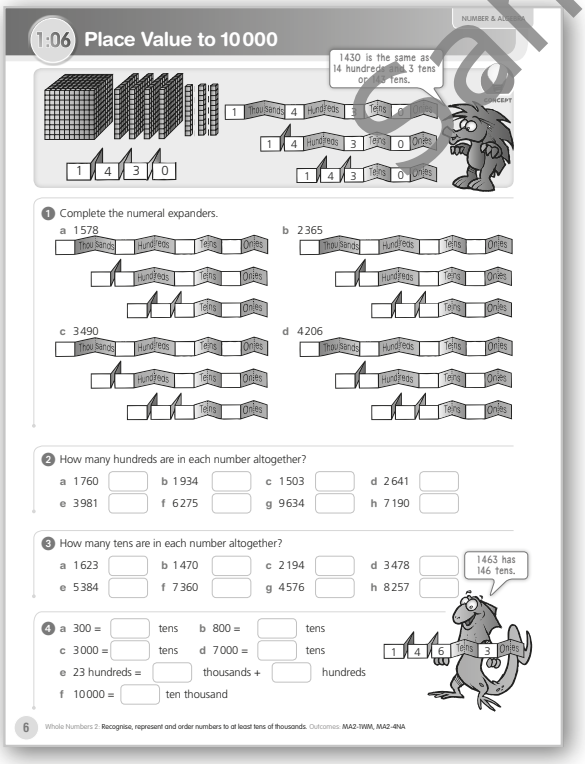
See also: pp. 4, 5, 7, 8, 15, 16, 17, 27, 28, 29
Year 3 p. 36
Year 5 p. 1

Evaluation

Is the student able to do the following?

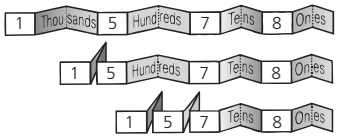
- use place value to read, represent and order numbers up to four digits

Sample Pages

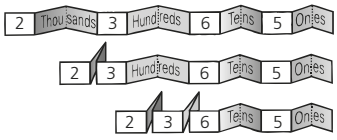


Answers

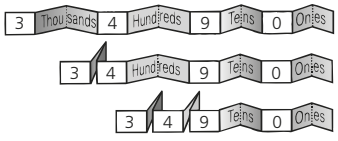
1 **a** 1578



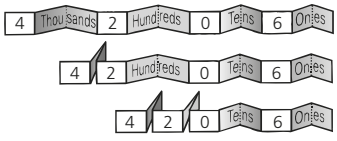
b 2365



c 3490



d 4206



2 **a** 17 **b** 19 **c** 15 **d** 26
e 39 **f** 62 **g** 96 **h** 71

3 **a** 162 **b** 147 **c** 219 **d** 347
e 538 **f** 736 **g** 457 **h** 825

4 **a** 30 tens **b** 80 tens
c 300 tens **d** 700 tens
e 2 thousands + 3 hundreds
f ten thousand

1:07 Numbers to 99 999

Content strand: Number and Algebra

Sub-strand: Whole Numbers 2

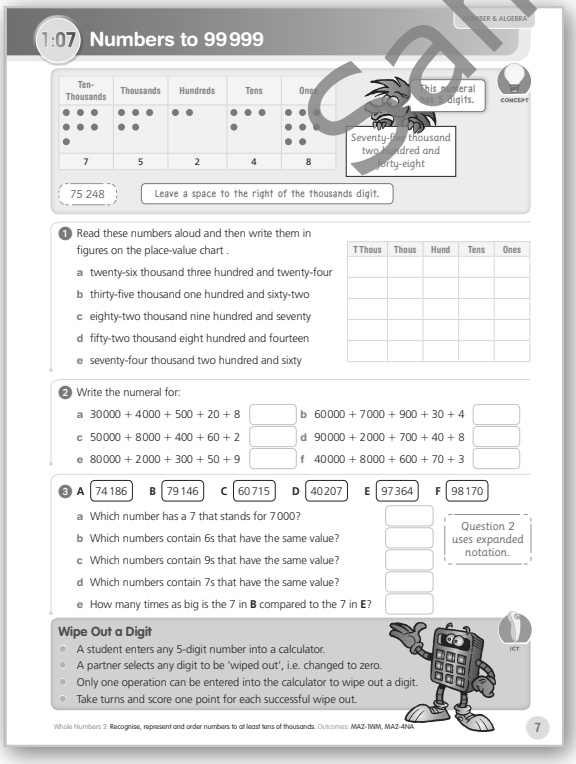
Content statements:

- Recognise, represent and order numbers to at least tens of thousands.

Outcomes: MA2-1WM, MA2-4NA

Teaching Suggestions

- Use numeral expanders on the IWB DVD (or **BLM 3**, p. 196) to demonstrate the number of thousands, hundreds, tens and ones in a number.
- Make a connection between numeral expanders and place-value blocks (or **BLM 2**, p. 195, if extra material is required). Ask students to model specific numbers.
- Note that each place-value column is ten times bigger than the column to the right of it. Discuss why this must be so. Discuss this relationship e.g. 10 ones equals 1 ten, 10 tens equals 100, etc. Ask: 'Would this pattern continue?'
- Highlight the fact that expanded notation is used in Question 2.
- Allow time for students to practise reading and writing numerals in words.
- We have a number system based on ten because we have two hands with five fingers on each. What if we had only one hand? Place-value columns would then be: 1, 5, 25 (5 × 5), 125 (5 × 5 × 5). Discuss this with students and encourage students to ask other 'What if?' questions.


1:07 Numbers to 99 999

Ten-Thousands | Thousands | Hundreds | Tens | Ones

7 5 2 4 8

75 248

Leave a space to the right of the thousands digit.

Seventy-five thousand two hundred and forty-eight

This numeral has 5 digits.

CONCEPT

1 Read these numbers aloud and then write them in figures on the place-value chart.

a twenty-six thousand three hundred and twenty-four
b thirty-five thousand one hundred and sixty-two
c eighty-two thousand nine hundred and seventy
d fifty-two thousand eight hundred and fourteen
e seventy-four thousand two hundred and sixty

T Thous | Thous | Hund | Tens | Ones

2 Write the numeral for:

a 30000 + 4000 + 500 + 20 + 8
b 60000 + 7000 + 900 + 30 + 4
c 50000 + 8000 + 400 + 60 + 2
d 90000 + 2000 + 700 + 40 + 8
e 80000 + 2000 + 300 + 50 + 9
f 40000 + 8000 + 600 + 70 + 3

3 A 74186 B 79146 C 60715 D 40207 E 97364 F 98170

a Which number has a 7 that stands for 7000?
b Which numbers contain 6s that have the same value?
c Which numbers contain 9s that have the same value?
d Which numbers contain 7s that have the same value?
e How many times as big is the 7 in **B** compared to the 7 in **E**?

Question 2 uses expanded notation.

Wipe Out a Digit

- A student enters any 5-digit number into a calculator.
- A partner selects any digit to be 'wiped out', i.e. changed to zero.
- Only one operation can be entered into the calculator to wipe out a digit.
- Take turns and score one point for each successful wipe out.

ICT

Whole Numbers 2: Recognise, represent and order numbers to at least tens of thousands. Outcomes: MA2-1WM, MA2-4NA

7

- Use the example questions on the IWB DVD.

ICT

- This activity assists in the teaching and learning of place value. By 'wiping out' a digit on a calculator, the student demonstrates a clear understanding of place value.

Extension Work

- Have students work in pairs. Instruct one student to say a 5-digit number and then ask the other student to write down the number with the digits reversed. Students have to see who will be the first to work out the difference between the two numbers.

Language

place-value blocks, numeral expander, thousands, hundreds, tens, ones, place value, compared to, larger, expanded notation, largest number, smallest number

Resources

- place-value blocks (or **BLM 2**, p. 195)
- numeral expanders (**BLM 3**, p. 196)
- IWB DVD 4

Cross-reference

See also: pp. 4, 5, 6, 8, 15, 16, 17, 27, 28, 29
Year 3 p. 36
Year 5 p. 1

Evaluation

Is the student able to do the following?

- use place value to read, represent and order numbers up to five digits

Answers

1

	T Thous	Thous	Hunds	Tens	Ones
a	2	6	3	2	4
b	3	5	1	6	2
c	8	2	9	7	0
d	5	2	8	1	4
e	7	4	2	6	0

2 a 34 528 b 67 934 c 58 462 d 92 748 e 82 359 f 48 673

3 a E b A and B c E and F d A and B e 10 times as big

Sample Pages

1:08 Rounding

Content strand: Number and Algebra

Substrand: Whole Numbers 2

Content statements:

- Recognise, represent and order numbers to at least tens of thousands.

Outcomes: MA2-1WM, MA2-4NA

Teaching Suggestions

- Revise the method of rounding:
  - Digits 5 and up are rounded upwards while digits below 5 are rounded downwards.
  - To round to hundreds, first look at the tens digit.
  - To round to thousands, look at the hundreds digit.
- Provide frequent opportunities for students to estimate answers by rounding to the nearest thousand, hundred, ten and unit. Be aware of confusion that might occur from the term 'round'. Calculators provide a quick and easy method of rounding and checking estimates.
- Use place-value cards (**BLM 4**, p. 197) and numeral expanders (**BLM 3**, p. 196) to revise place value and expanded notation.
- Play the memory match game on the IWB DVD.

Extension Work

- Suggest a series of 3- and 4-digit numbers and have students write 'up' or 'down' to round numbers to the nearest ten, hundred or thousand. Ask students to discuss their results and explain their answers.

Language

round, round to, place value, numeral, digits, tens of thousands, thousands, hundreds, tens, units, nearest ten, nearest hundred, nearest thousand, Hindu-Arabic numeral

Resources

- calculators
- numeral expanders (**BLM 3**, p. 196)
- place-value cards (**BLM 4**, p. 197)
- IWB DVD 4

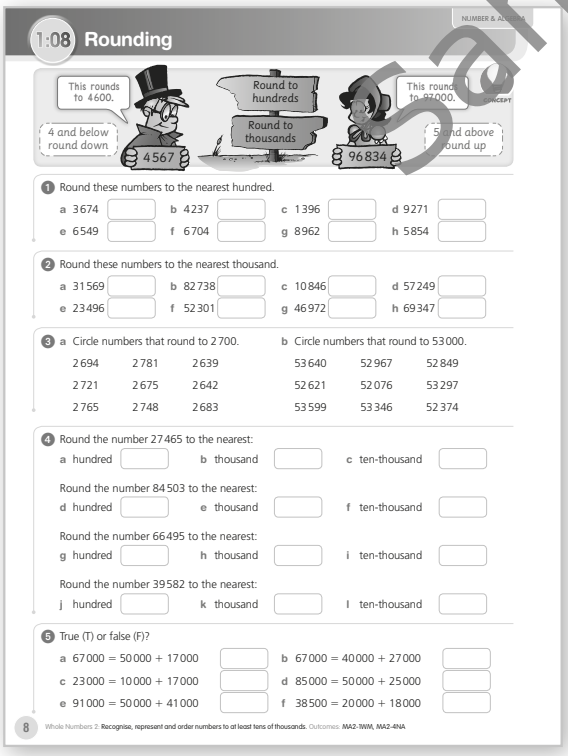
Cross-reference

See also: pp. 4, 5, 6, 7, 15, 16, 17, 27, 28, 29
Year 3 p. 38
Year 5 p. 28

Evaluation

Is the student able to do the following?

- read, write and order numbers using place value
- identify differences between Hindu-Arabic numerals and Roman numerals



1:08 Rounding

This rounds to 4600.
4 and below round down
4567
Round to hundreds
Round to thousands
This rounds to 97000.
5 and above round up
96834

1 Round these numbers to the nearest hundred.
a 3674 b 4237 c 1396 d 9271
e 6549 f 6704 g 8962 h 5854

2 Round these numbers to the nearest thousand.
a 31569 b 82738 c 10846 d 57249
e 23496 f 52301 g 46972 h 69347

3 a Circle numbers that round to 2700. b Circle numbers that round to 53000.
2694 2781 2639 53640 52967 52849
2721 2675 2642 52621 52076 53297
2765 2748 2683 53599 53346 52374

4 Round the number 27465 to the nearest:
a hundred b thousand c ten-thousand
Round the number 84503 to the nearest:
d hundred e thousand f ten-thousand
Round the number 66495 to the nearest:
g hundred h thousand i ten-thousand
Round the number 39582 to the nearest:
j hundred k thousand l ten-thousand

5 True (T) or false (F)?
a 67000 = 50000 + 17000 b 67000 = 40000 + 27000
c 23000 = 10000 + 17000 d 85000 = 50000 + 25000
e 91000 = 50000 + 41000 f 38500 = 20000 + 18000

8 Whole Numbers 2: Recognise, represent and order numbers to at least tens of thousands. Outcomes: MA2-1WM, MA2-4NA

Answers

1 a 3700 b 4200 c 1400 d 9300
e 6500 f 6700 g 9000 h 5900

2 a 32000 b 83000 c 11000 d 57000
e 23000 f 52000 g 47000 h 69000

3 a (2694) 2781 2639
(2721) (2675) 2642
2765 (2748) (2683)

b 53640 (52967) (52849)
(52621) 52076 (53297)
53599 (53346) 52374

4 a 27500 b 27000 c 30000 d 84500
e 85000 f 80000 g 66500 h 66000
i 70000 j 39600 k 40000 l 40000

5 a T b T c F
d F e T f F

Sample Pages

1:09 Comparing Fractions

Content strand: Number and Algebra
Substrand: Fractions and Decimals 2
Content statements:
- Investigate equivalent fractions used in contexts.

Outcomes: MA2-1WM, MA2-7NA

Teaching Suggestions

- Revise the concept of a fraction, e.g. $\frac{1}{2}$ is one out of two equal parts.
- When comparing fractions, first look at the denominator, i.e. the bigger the denominator, the smaller the fraction.
- Discuss the symbols $>$ (is greater than) and $<$ (is less than). Note that the smaller (pointy) end of each symbol points to the small number.
- Discuss the concept of a whole, e.g. 'Eight out of eight equal parts gives us the whole'.
- Ask each student to say a fraction. Then invite another student to suggest a fraction less than (or greater than) that fraction.
- Have students compare fractions using a 'fraction wall', as this will provide visual clues to assist with the understanding of fractions and make comparing fractions easier.
- Fractions are also used to denote numbers, e.g. $\frac{1}{2}$ is midway between 0 and 1 on the number line.
- Play the drag-and-drop game on the IWB DVD.

Extension Work

- Ask students to fold a paper square into four equal parts and label each part, then fold another square into ten equal parts and label each part.
- Discuss the relationship between the number of parts (that the whole is divided into) and the size of each part.
- Have students complete **BLW 7** Comparing Fractions, p. 232.

Language

fraction, part, whole, half, quarter, eighth, fifth, tenth, numerator, denominator, smaller, larger

Resources

- fraction boards
- paper squares and rectangles
- **BLW 7** Comparing Fractions, p. 232
- IWB DVD 4

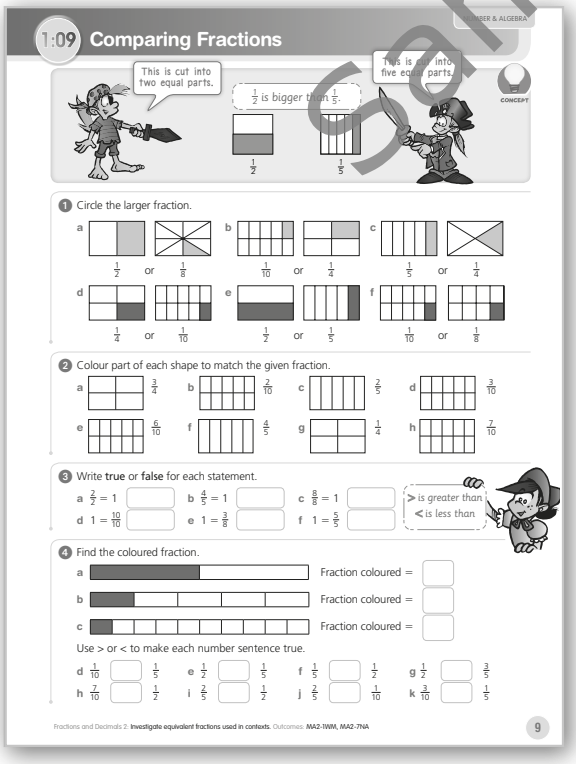
Cross-reference

See also: pp. 1, 2, 3, 10, 11, 12, 13, 14, 18, 19, 20, 21, 26
Year 3 p. 22
Year 5 p. 5

Evaluation

Is the student able to do the following?
- model, compare and represent fractions with denominators 2, 4, 8, 5 and 10

Sample Pages



Answers

1 a $\frac{1}{2}$ b $\frac{1}{4}$ c $\frac{1}{4}$
d $\frac{1}{4}$ e $\frac{1}{2}$ f $\frac{1}{8}$

2 a b c d
e f g h

3 a true b false c true
d true e false f true

4 a $\frac{1}{2}$ b $\frac{1}{5}$ c $\frac{1}{10}$
d $<$ e $>$ f $<$ g $<$
h $>$ i $<$ j $>$ k $>$

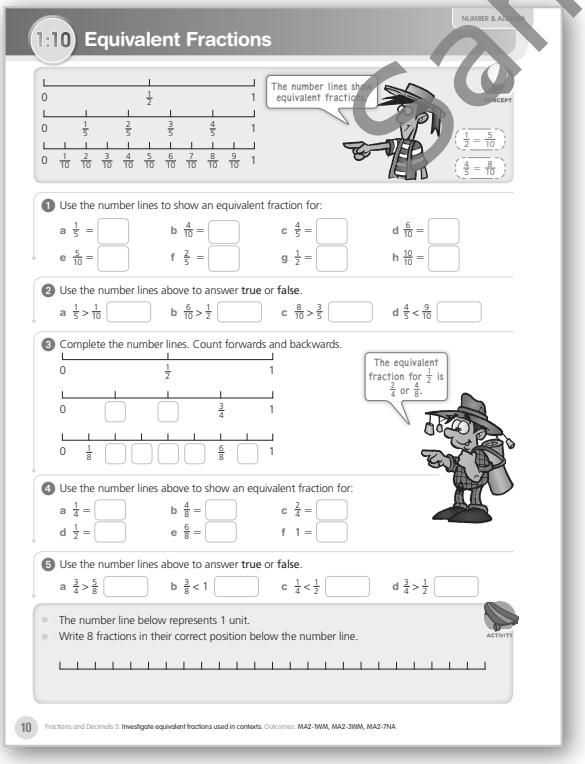
1:10 Equivalent Fractions

Content strand: Number and Algebra
Substrand: Fractions and Decimals 2
Content statements:
- Investigate equivalent fractions used in contexts.

Outcomes: MA2-1WM, MA2-3WM, MA2-7NA

Teaching Suggestions

- Remind students that the number line can be used to represent fractions as well as whole numbers. Point out that the number line is particularly useful to compare fractions.
- Discuss the meaning of equivalent fractions.
- Make fraction cards to demonstrate equivalent fractions in halves, fifths and tenths.
- Use the diagram at the top of the page to demonstrate equivalent fractions. Discuss the relationships between equivalent fractions, e.g. $\frac{1}{5}$ and $\frac{2}{10}$, $\frac{4}{5}$ and $\frac{8}{10}$.
- Provide frequent opportunities for students to state how they know that two fractions are equivalent, e.g. '$\frac{1}{2}$ is equivalent to $\frac{2}{4}$ because 1 out of 2 is the same as 2 out of 4'.
- Provide frequent opportunities for students to use models to compare and order two fractions. Cuisenaire rods are a very useful tool to demonstrate equivalent fractions.
- Revise the use of $>$ (is greater than) and $<$ (is less than).



Activity

- Discuss how a ruler is like a number line. It has equal divisions and can be divided into parts. In this activity students have to label the divisions on a number line.

Extension Work

- On 1 cm grid paper (**BLM 24**, p. 217) have students colour ten squares in a row. Have students write fraction labels from zero (in tenths) for the line of squares. Have students repeat the exercise with a different colour and label in fifths. Again, with a third colour, and label in halves. Discuss the equivalent fractions.

Language

fraction, equivalent fraction, numerator, denominator, half, fifth, tenth, factor, compare, order, greater than, less than

Resources

- fraction cards
- fraction boards
- Cuisenaire rods
- place-value blocks
- 1 cm grid paper (**BLM 24**, p. 217)
- IWB DVD 4

Cross reference

See also: pp. 1, 2, 3, 9, 11, 12, 13, 14, 18, 19, 20, 21, 26
Year 3 p. 21
Year 5 p. 21

Evaluation

Is the student able to do the following?

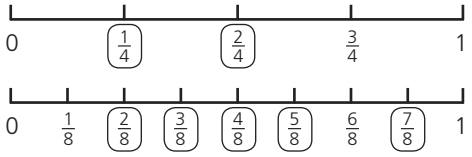
- understand fraction notation and compare simple common fractions

Answers

1 **a** $\frac{2}{10}$ **b** $\frac{2}{5}$ **c** $\frac{8}{10}$ **d** $\frac{3}{5}$
e $\frac{1}{2}$ **f** $\frac{4}{10}$ **g** $\frac{5}{10}$ **h** 1

2 **a** true **b** true **c** true **d** true

3



4 **a** $\frac{2}{8}$ **b** $\frac{2}{4}$ or $\frac{1}{2}$ **c** $\frac{1}{2}$ or $\frac{4}{8}$
d $\frac{2}{4}$ or $\frac{4}{8}$ **e** $\frac{3}{4}$ **f** $\frac{2}{2}$ or $\frac{4}{4}$ or $\frac{8}{8}$

5 **a** true **b** true **c** true **d** true

Activity

Answers will vary.

Sample Pages