

Mathletics

Series



Teacher



32 831 12 300

3 588 15502

# Whole Numbers and Place Value

300 300 300 300 300 300 300 300 300 300

32 831 12 300 32 831 12 300 32 831 12 300 32 831 12 300



# Series F – Whole Numbers and Place Value

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# Series F – Whole Numbers and Place Value

## Pages 1–3

1a 4,362

b 324

c 8,903

d 4,841

e 703

f 5,402

2a five thousand eight hundred sixteen

b nine hundred fifteen

c eight thousand four hundred sixty-six

d two hundred fifty-four

e seven thousand six hundred fifteen

f two thousand five hundred ninety-eight

3

4,639	→	one thousand and three
2,709	→	two thousand seven hundred and nine
8,341	→	four thousand six hundred and thirty-nine
1,003	→	eight thousand three hundred and forty-one
6,790	→	six thousand seven hundred and ninety

4a 32,401

b 90,012

c 658,917

d 33,333

e 202,175

f 730,002

5a eighty-four thousand two hundred and ninety-six

b two hundred and sixty-one thousand four hundred and ninety-one

c forty-nine thousand and seven

d nine hundred and one thousand three hundred and sixty-six

e five hundred and fifty-two thousand and sixty-eight

6

30,529	→	three hundred and fifty-nine thousand two hundred and five
305,920	→	thirty thousand five hundred and twenty-nine
35,290	→	three hundred and twenty thousand five hundred and ninety
359,205	→	thirty-five thousand two hundred and ninety
320,590	→	three hundred and five thousand nine hundred and twenty

7a 5,678

b 6,589

c 85,621

d 33,333

e 540,912

f 45,142

8a 60,000

b 4,000

c 66,000

d 8,000

9a False

b False

c True

d True

e True

f False

## Pages 4–5

1a 8,434

b 5,692

c 17,150

d 9,840

e 4,815

f 25,941

g 7,068

h 87,158

2a <

b >

c <

d <

e <

f >

g >

h >

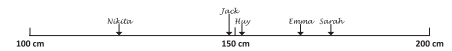
3 12,698; 46,827; 98,652; 115,468;  
250,015; 468,457

4 408,453; 252,013; 115,468; 89,632;  
36,817; 12,898

5 Answers will vary.

6 Answers will vary.

7 Answers may vary.



## Pages 6–7

1a 76,431

b 13,467

c 13,467

d £76,431

e 76,314

2 Answers will vary.

3 Answers will vary.

4a Mt Hero

b Funkytown

c Braggersville

d Rainsalot, Funkytown, Point Lonely, Nirvana, Dodgy Meadows, Braggersville and Notsoniceton.

e Rainsalot, Funkytown, Point Lonely, Dullsville and Dodgy Meadows.

f Point Lonely or Dullsville

## Page 8

1a 71; 17; 7; -7; -17; -71

b 43; 4; 3; -4; -34; -43

2a -3; -7; -11

b -2,900; -2,800; -2,700

c -5; -2; 1

3a -4°C

b £22

## Page 9

1a 900

b 1066

c 1515

d 1960

e 2019

f 1994

2a CCV

b CDLXXVIII

# Series F – Whole Numbers and Place Value

## Page 9

2c MDXXII

d DCXLIII

e MDCXXXIV

f CMXCIX

## Page 10

**What to do**

Answers will vary.

**What to do next**

Answers will vary.

## Page 11

**What to do**

Answers will vary.

## Pages 12–13

1a  $8,000 + 200 + 40 + 6$

b  $400 + 60 + 8$

c  $700 + 60 + 1$

d  $1,000 + 600 + 40 + 5$

e  $900 + 70 + 1$

f  $7,000 + 300 + 80 + 5$

g  $1,000 + 900 + 70 + 8$

2a 687

b 3,745

c 834

d 269

e 2,846

f 7,925

g 245

h 9,832

3a No

b Yes

c Because that doesn't show the place values.

d It 'holds' the place value.

4 Observe students.

## Pages 14–15

	Thousands	Hundreds	Tens	Ones
1				
b	8	9	7	2
c			4	5
d		7	9	8
e	4	5	0	7
f	3	0	4	1

2a 6 4 0 3

b 3 2 6 5

c 1 8 2 5

d 6 5 3 8

e 8 5 5 2

f 9 0 4 2

g 6 5 3 8

h 8 8 2 0

3a 50

b 500

c 5,000

d 500

e 5

f 50

4a 4,700; 4,800; 4,900

b 769; 770; 771

c 4,590; 5,590; 6,590

d 9,028; 8,928; 8,828

5	<sup>1</sup> 4	2	0	<sup>2</sup> 7	<sup>3</sup> 2
	0			0	0
	8		<sup>4</sup> 7	0	<sup>5</sup> 9
	6		0		2
		<sup>6</sup> 2	5	<sup>7</sup> 6	0
		<sup>8</sup> 1	0	4	7
		3		0	<sup>9</sup> 6
	<sup>10</sup> 9	0	4	3	0

## Pages 16–17

1 5,494

718,954

46,512

25,774

8,191

3,041

2b 4

c 5,000

d 400,000

e 400

f 80

g 30

h 4,000

i 90,000

3a True

b False

c True

4 17,359;

999,999;

500,001;

64,382;

Answers will vary.

## Page 18

**What to do**

Observe students.

**What to do next**

Observe students.

## Page 19

Observe students.;

42;

"The number is less than 500" – this is not helpful because every number in the chart is less than 500.

"The number is even" – this is not helpful because we have already been told that the number is a multiple of six (so it must be even).

"The number is greater than 8" – this is not helpful because we are told that it has an even tens digit.

# Series F – Whole Numbers and Place Value

## Pages 20–21

1a 500

b 300

c 700

d 400

2a 200

b 700

c 183,600

d 500

e 5,200

f 23,600

3a 1,000

b 5,000

c 2,000

d 59,000

e 219,000

f 913,000

4

$$\frac{M}{30} \frac{O}{10} \frac{S}{400} \frac{Q}{40,000} \frac{U}{20} \frac{I}{40} \frac{T}{1,000} \frac{O}{10} \frac{E}{100} \frac{S}{400}$$

$$\frac{P}{70} \frac{R}{80} \frac{E}{100} \frac{F}{7,000} \frac{E}{100} \frac{R}{80}$$

$$\frac{C}{500} \frac{H}{200} \frac{I}{40} \frac{L}{50} \frac{D}{900} \frac{R}{80} \frac{E}{100} \frac{N}{1,100} \frac{T}{1,000} \frac{O}{10}$$

$$\frac{A}{30,000} \frac{D}{900} \frac{U}{20} \frac{L}{50} \frac{T}{1,000} \frac{S}{400}$$

## Pages 22–23

1a 19

b–d Answers will vary.

2

Sentence	Rounded Sentence	Answer
$384 + 53$	$380 + 50$	430
$22 + 69$	$20 + 70$	90
$406 - 89$	$410 - 90$	320
$379 + 203$	$380 + 200$	580
$93 - 61$	$90 - 60$	30
$609 - 498$	$610 - 500$	110
$826 + 599$	$830 + 600$	1,430
$221 + 11$	$220 + 10$	230
$704 + 341$	$700 + 340$	1,040
$47 + 996$	$50 + 1,000$	1,050

3a 20

b 90

c 90

3d 550

e 950

f 1,300

g 6,700

4a X

b ✓

c ✓

d ✓

e X

f X

5a £60

b 2

c Yes, with £1.20 left over.

## Page 24

1a No

b Yes

c Yes

d Yes

2a Sample answers:

£2.10, £1.60, £3.05

b Sample answers:

£6.50, £10.50, £16.00

## Page 25

### What to do

a Closest £10 = £5,490

Closest £100 = £5,500

Closest £1,000 = £5,000

You would rather it was rounded to the closest £100.

b Numbers in the range 155,500 to 156,499.

c Numbers in the range 145,150 to 145,249.

d Answers will vary.

## Page 26

### What to do

Observe students.

# Looking at whole numbers

Name \_\_\_\_\_

1 Write in words:

a 45,572 \_\_\_\_\_

b 907,463 \_\_\_\_\_

2 Write in numerals:

a forty seven thousand three hundred and nineteen \_\_\_\_\_

b five hundred and eighty six thousand four hundred and ninety-two \_\_\_\_\_

3 Match the numerals with the words:

14,538

thirty-two thousand six hundred and forty-four

32,644

seven thousand four hundred and twenty-one

7,421

fourteen thousand five hundred and thirty-eight

4 Write these numbers in ascending order: 56,821 7,905 57,011 127,823

\_\_\_\_\_

5 Circle the *smaller* number:

a 6,780 / 7,680

b 14,690 / 14,609

c 25,923 / 25,239

6 What is the smallest number you can make using the digits 5, 2, 8, 9, 1? \_\_\_\_\_

7 What is the largest number you can make using the digits 8, 0, 4, 3, 7, 5? \_\_\_\_\_

8 Would you rather inherit £144,567 or one hundred and four thousand, nine hundred and ninety-nine dollars? Why?

\_\_\_\_\_

Skills	Not yet	Kind of	Got it
• Writes numbers to 999,999			
• Matches numerals to words to 999,999			
• Compares and orders numbers to 999,999			

**9** Continue these number sequences:

a

11	7	3			
----	---	---	--	--	--

b

32	21	10			
----	----	----	--	--	--

c

-16	-9	-2			
-----	----	----	--	--	--

**10** Write these Roman numerals as Hindu-Arabic numerals:

a LXVII

b VC

c CXXII

d DCCIX

e MM

f MDCCLXI

**11** Solve these problems:

a If the temperature is 11°C in the daytime, but drops by 14 degrees overnight, what temperature does it go down to at night?

b In a factory the daily number of nails made is rounded to the nearest thousand. If on one day the rounded total is 125,000, give any possible actual number of nails that could have been made that day.

Skills	Not yet	Kind of	Got it
• Counts forwards and backwards with positive and negative whole numbers			
• Reads Roman numerals to 1,000 and years			
• Solves number problems			

# Place value of whole numbers

Name \_\_\_\_\_

**1 Write the following numbers in expanded notation:**

a 821 \_\_\_\_\_

b 13,583 \_\_\_\_\_

c 125,092 \_\_\_\_\_

**2 Express the expanded notation in numerals:**

a  $800 + 40 + 3$

b  $5,000 + 300 + 20 + 2$

c  $40,000 + 6,000 + 500 + 2$

d  $900,000 + 3,000 + 400 + 20 + 7$

**3 In the number 783,012, which digit:**

a is in the ten thousands place?

b is in the tens place?

c will change if one thousand is subtracted?

**4 In which place is the zero in the following numbers?**

a 12,078 \_\_\_\_\_

b 45,730 \_\_\_\_\_

c 709,231 \_\_\_\_\_

**5 True or false?**

a In the number 490,821, the 9 has the value of nine hundred. \_\_\_\_\_

b In the number 65,359, the 6 is worth six hundred thousand. \_\_\_\_\_

c In the number 34,890, the 8 has a higher value than the 9. \_\_\_\_\_

Skills	Not yet	Kind of	Got it
• Expresses numbers in expanded notation to 999,999			
• States the place value of any digit in numbers to 999,999			
• Identifies the value of digits in large numbers			



# Round and estimate

Name \_\_\_\_\_

1 Round these numbers to the nearest 10:

a 672

b 923

2 Round these numbers to the nearest 100:

a 46,562

b 77,835

3 Round these numbers to the nearest 1,000:

a 432,499

b 967,682

4 Join the numbers in the left column with an estimate in the right:

593,021	roughly 5,000
5,096	roughly twenty-five thousand
24,899	roughly six hundred thousand
28,923	roughly thirty thousand

5 Are these reasonable estimates? Circle your choice.

a Shayla estimates $478 + 111$ is roughly 600.	Yes / No
b Buying a drink for £1.50 and a sandwich for £3 will cost you roughly £10.	Yes / No
c Rounded to the nearest 1,000 there are 3,000 people in a stadium. The actual number could be 3,679.	Yes / No

6 Circle the best estimate:

a $76 - 58 =$	50	20	39
b $102 + 41 =$	43	140	183
c $1,126 + 185 =$	1,300	1,500	1,000

Skills	Not yet	Kind of	Got it
• Rounds to the nearest 10, 100, 1,000			
• Makes reasonable estimates to answer real life problems			
• Uses rounding to make reasonable estimates			

# Series F – Whole Numbers and Place Value – Student Progress Record

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

**What went well:** \_\_\_\_\_

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**What I need to improve:** \_\_\_\_\_

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# Series F – Whole Numbers and Place Value – Student Progress Record

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

**What went well:** \_\_\_\_\_

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**What I need to improve:** \_\_\_\_\_

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# Series F – Whole Numbers and Place Value

## ASSESSMENT ANSWERS

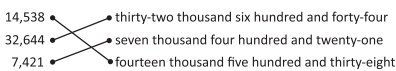
### Pages 1–2

1a Forty-five thousand five hundred and seventy-two

b Nine hundred and seven thousand four hundred and sixty-three

2a 47,319

b 586,492

3 

4 7,905; 56,821; 57,011; 127,823

5 6,780; 14,609; 25,239

6 12,589

7 875,430

8 £144,567, because it is more money.

9a -1, -5, -9

b -1, -12, -23

c 5, 12, 19

10a 67

b 95

c 122

d 709

e 2,000

f 1,761

11a  $-3^{\circ}\text{C}$

b variable

### Page 3

1a  $800 + 20 + 1$

b  $10,000 + 3,000 + 500 + 80 + 3$

c  $100,000 + 20,000 + 5,000 + 90 + 2$

2a 843

b 5,322

c 46,502

d 903,427

3a 8

b 1

c 3

4a hundreds

b ones

c ten thousands

5a False

b False

c True

### Page 4

1a 670

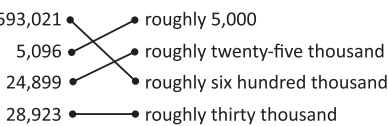
b 920

2a 46,600

b 77,800

3a 432,000

b 968,000

4 

5a Yes

b No

c No

6a 20

b 140

c 1,300

## Series F – Whole Numbers and Place Value

Topic	Reference	Strand	Substrand	Objective
Looking at Whole Numbers	5N1	Number	Number and place value	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.
Looking at Whole Numbers	5N2	Number	Number and place value	Read, write, order and compare numbers to at least 1,000,000.
Looking at Whole Numbers	5N3b	Number	Number and place value	Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals.
Looking at Whole Numbers	5N5	Number	Number and place value	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero.
Place Value of Whole Numbers	5N3a	Number	Number and place value	Determine the value of each digit in numbers up to 1,000,000.
Round and Estimate	5N4	Number	Number and place value	Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000.
Round and Estimate	5C3	Number	Calculation	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.
All	5N6	Number	Number and place value	Solve number problems and practical problems that involve all of the above.