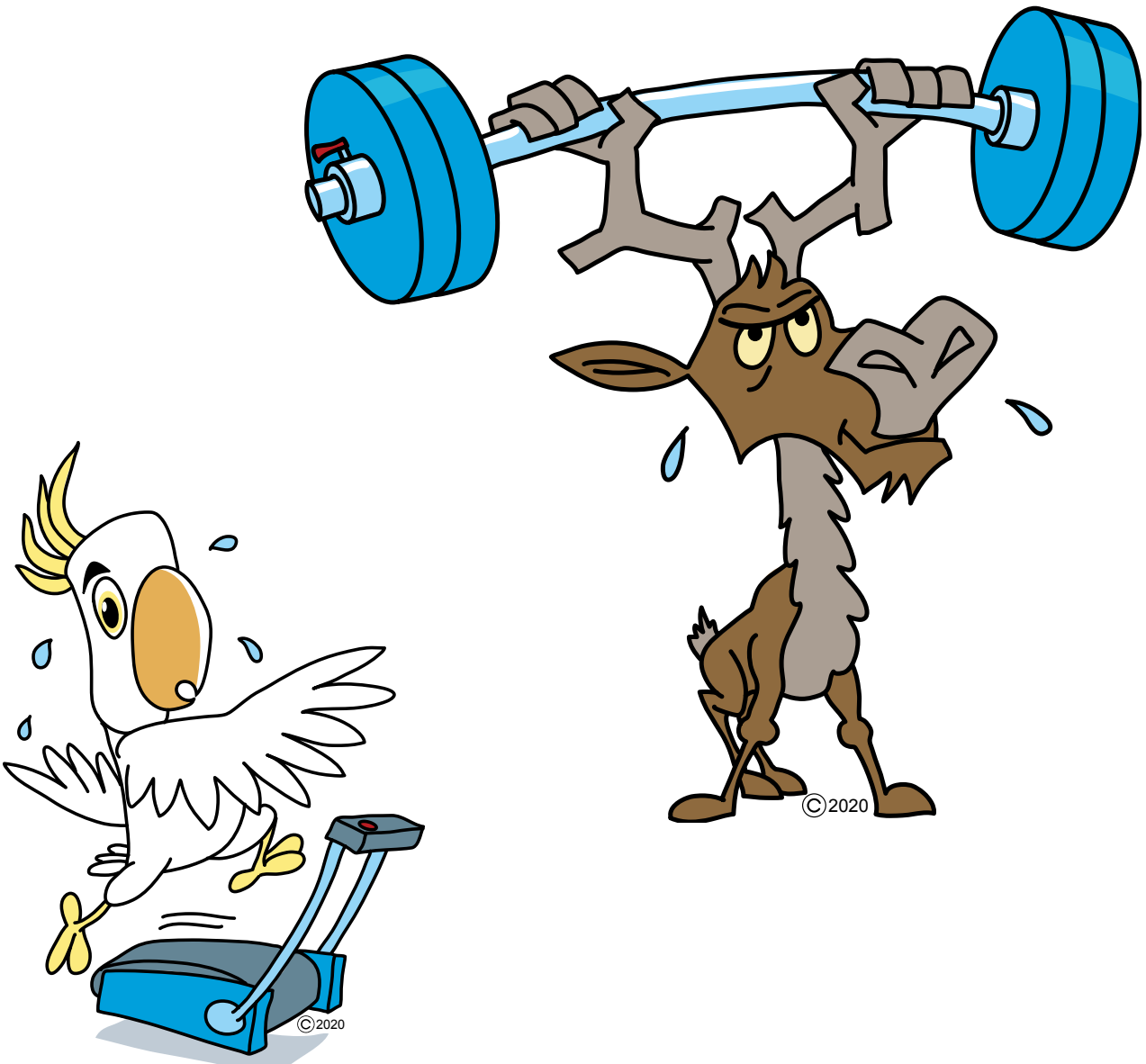
Colin and Coco's Deliberate Practice

Year 6 Unit 1

Number and Place Value

Answers



Contents

This pack of deliberate practice is designed to be used flexibly to secure the manageable steps of this unit.
The table below indicates which activities are linked to which mangeable steps.

	Do It	Challenge It	Play It
Represent 7-digit numbers			1
Recognise the value of digits in 7-digit numbers		1	
Read 7-digit numbers in words and write using numerals including zero as a place holder	1		
Read 7-digit numbers in numerals and write in words, including zero as a place holder	2		
Identify and represent 7-digit numbers on a number line		2	
Compare numbers up to 10,000,000	3		2
Order numbers up to 10,000,000			3
Round whole numbers to different degrees of accuracy		3	
Understand and use negative numbers when working in context, such as temperature	4		
Calculate intervals across zero		4	4

Do It 1

Write these using numerals.

one million, four hundred and eighty-two thousand, six hundred and two	1,482,602
three million, forty-two thousand, one hundred and five	3,042,105
two million, six hundred and thirty thousand, and twelve	2,630,012
four million, twenty-four thousand and seven	4,024,007
four million, thirty-two thousand, five hundred and seven	4,032,507
six million, four hundred thousand, and ninety	6,400,090
two million, forty thousand and one	2,040,001

Challenge It 1

Match the description of the digit to a correct number.
Fill in the missing buddies.

3 tens of thousands	5,014,306
3 millions	4,354,062
3 hundreds of thousands	2,131,605
3 hundreds	3,240,046
7 hundreds of thousands	8,798,089
7 thousands	8,979,008
7 tens of thousands	8,997,818
7 millions	7,098,798

Digits Game

Play It 1

You need:
Pencil and paper each
10 Counters each

To play:
Players use ten counters to represent a number on the Place Value board without their opponent seeing it. The number cannot have more than three counters in any one column.

Players show each other their numbers and say them aloud.

Players then compare the digits they have in each column. The player with the higher digit scores that number.
The player with the highest total scores a point.

For example:
Player 1: My number has 3 millions and your number has 1 million so I score 3
My number has 1 hundred thousand and your number has two hundreds of thousands so you score 2 etc.

To win:
The winner is the first player to score 5 points.

1,000,000s	100,000s	10,000s	1000s	100s	10s	1s

Do It 2

Write these numbers in words.

2,310,340	two million, three hundred and ten thousand, three hundred and forty
4,032,207	four million, thirty-two thousand, two hundred and seven
3,403,400	three million, four hundred and three thousand, four hundred
1,040,301	one million, forty thousand, three hundred and one
5,090,052	five million, ninety thousand and fifty-two
7,018,011	seven million, eighteen thousand and eleven
8,000,002	eight million and two
6,016,050	six million, sixteen thousand and fifty

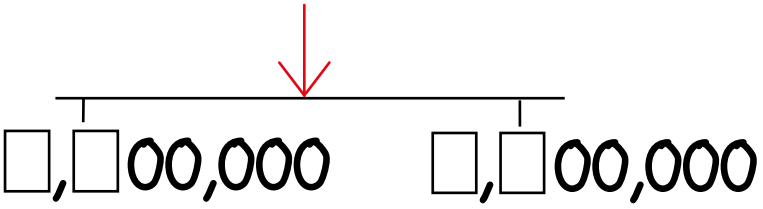
Challenge It 2

Use the digits 3, 5, 6 and 8 once each in the empty boxes to complete the numbers at either end of the number line.

For example: 3,500,000 and 6,800,000 or 3,800,00 and 6,500,000 give the midpoint 5,150,000

Calculate the midpoint.

Rearrange the four digits to make new numbers and calculate the midpoint each time.



Repeat with four new digits.

Largest Wins game

Play It 2

You need:
A baseboard as shown at the bottom of this page)
0 - 9 dice (or cards)

To play:

Take it in turns to roll the dice to get a digit and place it into your number template choosing which column to put it in. Once it is placed it cannot be moved.

Then it is the next player's turn.
Play continues until you have both made a seven digit number. (Or until it is impossible for one of the players to win, due to where they have placed digits.)
Players say their final number aloud.
The player who has made the larger number scores a point.

For example:
Player 1: I have rolled a 3, I am going to place it in the thousands column, because it is not very large.

Player 2: I have rolled a 7, I am going to place it in the hundreds of thousands column, because it is quite large.

To win:
The winner is the first player to score 5 points.

1,000,000s	100,000s	10,000s	1000s	100s	10s	1s	
				0	0	0	
				0	0	0	

Do It 3

Insert < or >

1,363,000	>	1,362,000	4, 062,013	<	4,062,301
2,230,000	<	2,240,000	6,140,703	>	6,140,073
4,904,000	<	4,907,000	5,634,077	<	5,634,078
2,471,000	<	2,471,200	999,999	<	1,000,000
3,820,003	>	3,802,000	1,222,000	>	1,220,999

Challenge It 3

Match the numbers with the correct rounding.
Fill in the missing buddies.

Round 2,345,543 to the nearest hundred thousand		2,360,000
Round 2,345,543 to the nearest ten hundred thousand		2,400,000
Round 2,451,540 to the nearest hundred thousand		2,350,000
Round 2,355,543 to the nearest hundred thousand (possible answer)		3,000,000
Round 2,355,543 to the nearest million		2,500,000
Round 2,555,543 to the nearest million		2,300,000
Round 2,355,543 to the nearest ten thousand		2,000,000

In Between Game

You need:
A baseboard (as shown at the bottom of this page)
Two sets of cards 1 - 9

To play:
Shuffle the two sets of cards together.
Put the cards in a deck face down.
Player one takes three cards and chooses which cards will be the millions, hundreds of thousands and tens on thousands digits.

Then it is Player 2's turn to pick three cards and make a number.

Player 1 now picks three new cards and tries to make a number between the two numbers made so far.
If they succeed they score a point. If not, no point is scored.
Put all cards back into the deck and shuffle the deck.

Players then swap roles.

To win:
The winner is the first player to score five points.

First number □,□□0,000

□,□□0,000 Try to make a number in between

Second number □,□□0,000

Do It 4

Start at $4^{o}C$ and get		Start at $-4^{o}C$ and get....		Start at $-2^{o}C$ and get			
5 degrees colder	$-1^{o}C$	5 degrees warmer	$1^{o}C$	8	degrees	colder	$-10^{o}C$
7 degrees colder	$-3^{o}C$	1 degrees colder	$-5^{o}C$	12	degrees	warmer	$10^{o}C$
4 degrees colder	$0^{o}C$	4 degrees warmer	$0^{o}C$	3	degrees	colder	$-5^{o}C$
3 degrees warmer	$7^{o}C$	7 degrees warmer	$3^{o}C$	7	degrees	warmer	$5^{o}C$

Challenge It 4

Use the digits 3, 5, 6 and 9 to make the following statement true in several ways.

$$\square - \square < \square - \square$$

Choose four digits of your own. Can you make it true in more ways?

Now use the digits 1, 4, 5 and 8 to make the following statement true in several ways.

$$\square - \square < -\square + \square$$

Calculating Through Zero Game

Play It 4

You need:
0 - 9 dice (or cards)

To play:

Start on zero.
Player 1 always subtracts.
Player 2 always adds.

Take it in turns to throw the dice and carry out the calculation using the answer to the previous player's calculation as your starting number.

For example:

Player 1: I am starting with zero. I have thrown 4 so 0 – 4 = –4

Player 2: I am starting with –4. I have thrown 5 so –4 + 5 = 1

Player 1: I am starting with 1. I have thrown 3 so 1 – 3 = –2

Players could use the number line to support calculations.

To win:
The first player to get an answer of 10 or –10 is the winner.

Swap roles and play again.