MATHS FIELD GUIDE · GRADE 2

Hundreds, tens and ones

OPENING PROBLEM

What does the 2 in 27 count?



2 tens



7 ones

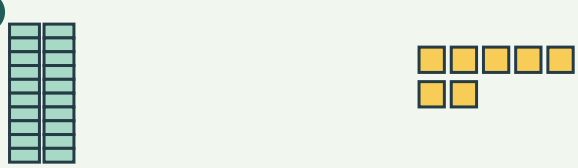
02 Read tens and ones together
03 Rules and worked cases
04 The bead shop
05 Trade without changing the amount
06 Check your reasoning

ILLUSTRATED PROBLEM SHEET

Read tens and ones together

The place tells the size of each unit you count.

1



What does the 2 in 27 count?

Two tens, worth twenty. Seven loose ones make twenty-seven.

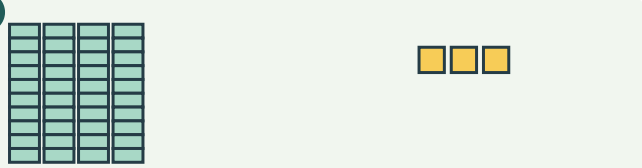
2



Why does 30 need a zero?

There are three tens and no loose ones.

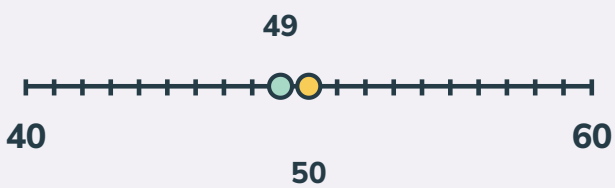
3



Which is larger, 43 or 34?

Four tens beat three tens before we compare the ones.

4



What changes at the next mark after 49?

Nine ones plus one make a ten. The count becomes five tens.

70
seven tens and no ones.

07 as a whole number
seven ones.

CHAPTER PROBLEM

Why are 204 and 24 different numbers?

204 has two hundreds and no tens. 24 has two tens. Both have four ones.

MATHS REFERENCE · GRADE 2

Hundreds, tens and ones

Place value means that a digit gets its value from its position in a number. In 234, the 2 means two hundreds, the 3 means three tens and the 4 means four ones.

Ten tens make one hundred. A hundred is a unit made from 100 ones.

Four cases to recognise

Situation	What to do and why
305	Three hundreds, zero tens and five ones.
3 hundreds exchanged for tens	Thirty tens have the same value as three hundreds.
Compare 307 and 370	Hundreds match. Seven tens outrank zero tens, so 370 is larger.
Largest three-digit number using 2, 0, 5 once	Put 5 in hundreds and 2 in tens to make 520.

Read the model

Build the idea

Build 234 using two hundred pieces, three ten pieces and four ones. Say the amount in each place: 200, 30 and 4.

A place-value chart holds hundreds, tens and ones in separate columns. Each column counts a different size of unit.

Hundreds, tens and ones



H-T-O mat

Why it works

Grouping does not change the total. Ten ten-pieces and one hundred-piece represent the same amount.

Each place to the left has units ten times as large. The chart lets us compare the same kinds of units.

hundred Ten tens or one hundred ones.

place value The value of a digit because of its position.

zero No units in that place.



1 tens 0 ones

How many ones make this rod?

Count its ten little blocks. One ten means ten ones.

WORKED INVESTIGATION

The bead shop

A shopkeeper ties ten beads into each string. Three strings and six loose beads make 36. Untie one string and the total stays 36.

Look at this part	What it tells you
3 tens + 6 ones	36
2 tens + 16 ones	36
1 ten + 26 ones	36

Work it through

Compare 36 and 63 by counting full strings first. Six strings already contain more beads than three strings and six loose beads.

Catch the mistake

The 3 in 36 counts tens. Reading it as three loose beads loses 27 beads.

Compare the cases

Follow an example

Build 306 with three hundreds and six ones. There are no extra tens, so write 0 in the tens place.

Without the zero, 36 would mean three tens and six ones. The zero keeps the other digits in the right places.

What changes? What stays true?

The digit 4 can mean 4, 40 or 400. Always ask which place it occupies.

A number can be regrouped: 234 is also 23 tens and 4 ones. The total stays 234, even when we bundle it differently.

Change one condition

Add four loose beads to 36. The ten loose beads make a fourth string, so the total becomes 40.



What number is shown?

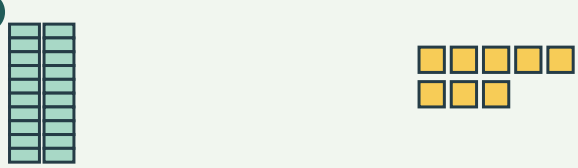
One ten and three ones make thirteen.

ILLUSTRATED PROBLEM SHEET

Trade without changing the amount

One ten can be broken into ten ones, or ten ones can be bundled into a ten.

1



2 tens 8 ones

Add five ones to 28. Where is the new ten?

Eight plus five gives thirteen ones. Trade ten of them. Three tens and three ones make 33.

2



4 tens 2 ones

Take six ones from 42. How can you do it?

Trade one ten. Three tens and twelve ones minus six ones leaves 36.

3

Trade	Tens	Ones
Before	3	10
After	4	0

Did the total rise when the tens column rose?

Both rows mean forty. Ten ones disappeared into the bundle.

4

58 + 9
↓
58 + 10 − 1
↓
67

Why subtract one at the end?

Adding ten puts in one extra. Taking it back gives 67.

60 − 1
five tens and nine ones.

59 + 1
regroup to six tens.

CHAPTER PROBLEM

Make 340 with hundreds, tens and ones. Swap one hundred for tens. What do you have now?

Three hundreds and four tens become two hundreds and fourteen tens. Both show 340.

QUESTION BANK · FOLD OR COVER THE RIGHT COLUMN

Check your reasoning

Try the problem	Solution and reasoning
01 Add ten to 43. Which digit stays the same?	The ones digit stays 3. Four tens become five tens.
02 Which is closer to 100, 48 + 49 or 54 + 48?	97 is three away. 102 is two away, so the second sum is closer.
03 How can you show 52 with exactly four strings of ten?	Use four strings and 12 loose beads. Together they make 40 + 12 = 52.
04 How much greater is 402 than 42?	402 − 42 = 360. The 4 counts hundreds in one number and tens in the other.
05 Write 16 tens and 3 ones as a number.	Sixteen tens make 160. Add three to get 163.



2 tens 0 ones

What if the loose ones are gone?

Two tens still make twenty.

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