

Reading and writing numbers to millions

CURRICULUM ALIGNMENT

NUM.PVT.4

investigate how decimals and percentages (and fractions) can be compared, ordered and expressed in related terms.

INTERACTIVES

Place Value Chart (Sliding Digits) · display, explore, guided

Place Value Blocks (Dienes) · challenge

WHAT THIS LESSON TEACHES

Place value keeps going past thousands: **ten-thousands, hundred-thousands, then millions**. Each place is **ten times** the place to its right.

→ **3,250,000** reads as *three million, two hundred and fifty thousand*.

→ Group digits in **threes from the right** to make big numbers easy to read.

MODEL THIS ON THE BOARD

WRITE 'TWO MILLION, FORTY THOUSAND AND SIX' IN DIGITS

- 1 Two million → **2,000,000**.
- 2 Forty thousand → **40,000**; six → **6**.
- 3 Add the parts: $2,000,000 + 40,000 + 6 = \mathbf{2,040,006}$.
- 4 Mind the zeros — there are no hundred-thousands, thousands, hundreds or tens.

LESSON ARC

Open with 'five million' as a spoken hook and ask how the zeros would sit. Build 2,408,000 on the place-value chart one column at a time so the class watches the three right-hand zeros hold the 2, 4 and 8 open. Pupils then build called numbers at the board, say every empty column aloud, and copy three numbers into a pre-labelled M–U template. The blocks practice bank consolidates before the comma-signpost maths-talk.

TEACHING MOVES

1. **Getting Started.** Say 'over five million people live in Ireland' and give five seconds of silent think-time. Take exactly three hands-up — not call-outs — on how many zeros and where. Don't confirm the answer; it lands in Watch and Notice.
2. **Watch and Notice.** Build each number on the chart one column at a time so pupils see columns fill, not a finished number. On 7,000,090 pause and have the class chant 'no hundred-thousands, no ten-thousands, no thousands' aloud. On 9,999,999 trace both commas and name the three groups: millions, thousands, units.
3. **Try It Together.** Call one number; a pupil builds it on the chart while seated pupils watch and signal thumbs-up. Before reading the whole number, make the class name every empty column. Listen hard for 3,072,000 read as 'three million, seventy-two' — the missing thousands group is the catch; revoice it correctly.
4. **Write the Numbers Into Your Columns.** Hand out the pre-labelled seven-column template so pupils write digits straight into M–U rather than ruling columns themselves. Walk the room glancing at alignment, checking pupils write a 0 — not a blank — in every empty column. This is practice, not marking.

5. **Class Challenge.** Keep board work brisk — a pupil builds each target with the blocks, the class names the empty columns first, then check and confirm. Ask 'what's tricky about the zeros here?' before each build, and bring your strongest builders to 9,008,040 with its four separate place-holder columns.
6. **What Did We Notice?.** Ask why we group with commas every three digits. Revoice a strong answer: 'the comma is a signpost — it tells me where the thousands begin and where the millions begin.' Head off any claim that commas change a digit's value — they only help us read.

COMMON MISCONCEPTIONS

⚠ A pupil reads 3,072,000 as 'three million, seventy-two' — they jump straight from the millions group to the units and drop the thousands group entirely.

Rebuild on the chart and put a finger on each comma in turn: 'three million — then seventy-two THOUSAND — then nothing.' Make the class say the word 'thousand' aloud with the middle group before reading the whole number.

⚠ A pupil leaves a column blank instead of writing 0 in 7,000,090, so the digits slide and the number collapses to something like 7,90.

Side by side on the chart, show the same digits with blanks versus with zeros. The zero isn't 'nothing to write' — it's the thing holding the column open. Have the pupil rebuild it with place-value blocks, putting an empty column in words before writing the 0.

DIFFERENTIATION

EMERGING

- Cap these pupils at six-digit numbers (hundred-thousands) on the chart while the class works to millions — same template, one column shallower.
- On the copybook template, lightly pencil the zeros in for one number so the pupil only places the non-zero digits and traces the place-holders.

DEVELOPING

- After the copybook numbers, ask them to write the next number that is exactly one thousand more than 7,000,090 and read it aloud.
- Give a build-from-words task: 'six million, forty thousand and two' — they write the digits and check every empty column has a 0.

PROFICIENT

- During Class Challenge, narrate a harder variant to fast finishers: 'build the number ten times bigger than 9,008,040 — which new column opens up?' Let them reason it on the chart before you confirm.
- Pose: write the largest seven-digit number with exactly three zeros in it, then explain where the zeros must NOT go and why.

• **Cross-curricular:** Tie to Geography — pupils look up the populations of Dublin, Cork and Galway and write each in digits with commas in the right place.

ANSWER KEY

Warm-up: a) $2 > -4$ b) $5 > -3$ c) $5 > -4$ d) $-3 < -2$

Q1: $485,708 = 400,000 + 80,000 + 5,000 + 700 + 8$

Q2: $-1 < 7 < 8 < 14$

Q3: $-4.6 < 2.6 < 2.7 < 9$

Q4: 200,000 (2 hundred thousands)

EXTENSION SHEET · STRETCH ANSWERS

S1: $-4.7 < 0.1 < 6.7 < 8.3$

S2: $-4.1 < 0.1 < 2.9 < 4.8$

S3: $-10 < -4 < 4 < 6$

S4: $377,265 = 300,000 + 70,000 + 7,000 + 200 + 60 + 5$

S5: $-10 < -1 < 9 < 15$

Investigation: How big is a million? — open-ended; scan pupils' working for valid solution paths rather than a single answer.