TEACHER RESOURCE BOOK · MATHS · 6TH CLASS

Lesson 1 NUMBER

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 Blocks (Dienes) · challenge, display | Place Value Chart (Sliding Digits) · explore

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 = **2,040,006**.
4. Mind the zeros — there are no hundred-thousands, thousands, hundreds or tens.

LESSON ARC

Open with five million people in Ireland and take three hands-up answers for the biggest real-world number pupils have seen. Build 2,408,000 and 1,050,607 with the place-value-blocks interactive, pointing hard at the trailing and scattered zeros that hold columns open. Pupils come to the chart to build 70,309 through 800,070, then sketch the seven labelled columns in their copy. Student Activity Book follows for solo practice.

TEACHING MOVES

1. **Getting Started.** Give five seconds of silent think-time, then take exactly three hands-up — no open call-outs. If a pupil names a real number, drop it onto a quick place-value frame on the IWB as a teaser, but keep it to ten seconds; the full frame comes next.
2. **Watch and Notice.** Build each number on the place-value-blocks interactive one at a time, naming all seven columns aloud from the left. On 7,000,090 ask 'what is in between the millions and the tens?'; on 9,999,999 ask 'what comes next?' and pause before any answer to seed comma-grouping.
3. **Try It Together.** Walk 3,072 through yourself as the worked demo, then send one pupil at a time to build 70,309, 105,008 and 800,070 while the rest predict which columns stay empty. On 800,070 revoice a strong placement: 'so the eight hundred thousands is full, but everything below is empty except the seventy.'
4. **Sketch the Columns in Your Copy.** Walk the room glancing at column labels and digit alignment — no marking. Catch pupils who drift a digit one column out when a number is shorter than seven digits; nudge them to right-align into the units column first.
5. **Class Challenge.** Brisk turns at the board — each pupil builds, the class confirms, move on. Before each build, fire the narration callout 'what's tricky about the zeros here?' and let the class predict the empty columns. If time is tight, drop 6,070,500 and keep the other three to protect the closing maths-talk.

6. **What Did We Notice?.** Listen for pupils naming the comma groups as millions, thousands, units. Revoice: 'so the first comma from the right always marks off the thousands, and the next marks off the millions.' Head off any idea that commas are decoration — they're reading aids.

COMMON MISCONCEPTIONS

⚠ Pupils read 800,070 as 'eight hundred thousand and seven' — they skip the empty units and lose track of which column the 7 sits in.

Rebuild 800,070 on the place-value blocks and point at each empty column in turn, reading 'no ten-thousands, no thousands, no hundreds — seventy, no units.' Have the pupil read each column aloud rather than the number as a chunk.

⚠ Pupils place the comma every two or three digits from the left, writing 1,050,607 as 10,506,07.

Show on the IWB that the comma is counted from the right, not the left. Mark off the first three digits from the units end together, then the next three. 'The first comma always sits just before the hundreds-tens-units group.'

DIFFERENTIATION

EMERGING

- Pre-load the place-value chart with the column labels M to U already filled so pupils only slot digits, not invent the structure.
- Stay with the five-digit numbers (70,309; 105,008) in copybook while the class moves to seven digits; build these alongside the pupil on the blocks.

DEVELOPING

- After the copybook page, swap two zeros for non-zero digits in 7,000,090 and ask how the spoken name changes.
- Pose 9,008,040 as a missing-digit puzzle: hide the eight thousands and ask 'which column makes this read as nine million, eight thousand and forty?'

PROFICIENT

- During Class Challenge, narrate a harder variant for fast finishers: 'write the number that is one more than 9,999,999 — how many columns does it need now?' and have them explain why the millions column rolls over.
- Ask them to write the largest seven-digit number with exactly three zeros, then justify why no arrangement beats it.

Cross-curricular: Tie to Geography — pupils look up the populations of Irish counties or cities and write each in full with correct comma grouping.

ANSWER KEY

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

Q1: $-1 < 7 < 8 < 14$

Q2: $485{,}708 = 400{,}000 + 80{,}000 + 5{,}000 + 700 + 8$

Q3: 200,000 (2 hundred thousands)

Q4: $-4.1 < 0.1 < 2.9 < 4.8$

EXTENSION SHEET · STRETCH ANSWERS

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

S2: $-4.6 < 2.6 < 2.7 < 9$

S3: $-9 < 12 < 14 < 15$

S4: $-10 < -4 < 4 < 6$

S5: $377{,}265 = 300{,}000 + 70{,}000 + 7{,}000 + 200 + 60 + 5$

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