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

WHAT THIS LESSON TEACHES

Each column to the left is worth ten times the one before it, running units, tens, hundreds, thousands, ten-thousands, hundred-thousands, then millions.

→ In 3,072,000 the 3 stands for three million because it sits in the millions column.

→ In 4,500,008 the zeros keep the 4, the 5 and the 8 each in their proper columns.

MODEL THIS ON THE BOARD

WRITING 6,090,300 ON THE PLACE-VALUE CHART

1. Start in the millions column and write 6.
2. Move right to hundred-thousands and write 0.
3. Next is ten-thousands: write 9.
4. Then thousands: write 0.
5. Hundreds: write 3.
6. Tens: write 0.
7. Units: write 0.

LESSON ARC

Open with a quiet guess at writing five million — Ireland's population — without confirming yet. Walk four worked examples on the place-value chart interactive (2,408,000; 1,050,607; 7,000,090; 9,999,999), pausing on every zero and naming the comma groups. Pupils then build four more targets at the board, saying empty columns aloud before the full read. Copybook columns lock the same three numbers with a written 0 in every empty place. Class Challenge shifts to place-value blocks for brisk builds; maths-talk lands on why commas group by threes.

TEACHING MOVES

1. **Getting Started.** Give five seconds of silent think-time on 'how would you write five million in digits?', then take three hands-up answers only. Do not confirm yet — listen for who counts the zeros confidently and who guesses.
2. **Watch and Notice.** Build each number column by column on the place-value chart interactive. On 2,408,000 point at the three right-hand zeros first and ask what each holds open before naming the number. On 7,000,090 have the class say the empties aloud: no hundred-thousands, no ten-thousands, no thousands, no hundreds, no units. Finish 9,999,999 by tracing the two commas and naming millions, thousands, units — then ask one pupil to put the 'comma every three from the right' rule in their own words.
3. **Try It Together.** Call one number at a time. A pupil builds on the chart while the class watches; empty columns are named aloud before the full read ('no thousands here'). After each build, pose one quick

question to a seated pupil and revoice their answer so the back rows stay with it. Watch for 3,072,000 read as 'three million seventy-two' — push for 'three million and seventy-two thousand'.

4. **Write the Numbers Into Your Columns.** Pupils rule M / HTh / TTh / Th / H / T / U columns in the copybook and write 2,408,000, 1,050,607 and 7,000,090 one under the other. Walk the room checking alignment — every empty column must hold a written 0, not a blank — and have them read each number aloud after writing.
5. **Class Challenge.** Keep board work brisk. Before each build ask the whole class 'what is tricky about the zeros here?', then a pupil builds with the place-value blocks and the class confirms. Start everyone on 305,072; bring the strongest builders through to 9,008,040. Narrate the Check tick — 'yes, that's it' — and move on without re-teaching.
6. **What Did We Notice?** Ask why we group with commas every three digits and what each group tells you when reading aloud. Listen for ones, thousands, millions. Revoice a strong answer: 'the comma is a signpost — it shows where the thousands begin and where the millions begin.' Head off any claim that commas change the value of the digits.

COMMON MISCONCEPTIONS

⚠ Pupils read 3,072,000 as 'three million seventy-two', dropping the thousands group because the hundreds-of-thousands column is empty.

Stop and rebuild on the chart. Point at the 072 in the thousands group and have the class say 'seventy-two thousand' before attaching the millions. Revoice the full read together.

⚠ Pupils leave empty columns blank in the copybook instead of writing 0, so later digits slide into the wrong place.

Hold up a copy where 2,408,000 has been written without the trailing zeros and ask what the 2 is now worth. Rebuild with a written 0 in every empty column so the 2 stays in millions.

⚠ Pupils think the commas change the value of the digits, or treat each comma-group as a separate number to add.

Write 2408000 and 2,408,000 side by side on the board. Same digits, same value — the commas are only signposts for reading the millions and thousands groups.

DIFFERENTIATION

EMERGING

- Stay on the place-value chart with numbers that only use millions and thousands (e.g. 3,000,000 then 3,072,000) so pupils master naming one empty-column run before scattered zeros appear.
- Pre-label the seven copybook columns M–U for them so the task is placing digits and writing zeros, not inventing the structure.

DEVELOPING

- After the copybook three, give 4,080,007 and ask them to name every empty column aloud before reading the whole number.
- On the chart, cover one digit of a built number and ask which place is hidden and what the number becomes if that digit is zero.

PROFICIENT

- Once 9,008,040 is built, ask: 'change exactly one digit so the number is between nine million and nine million and ten thousand — explain which digit and why.' Keep it as a board-and-copybook stretch during Class Challenge.
- Pose: 'why does a zero in the thousands group force us to say "no thousands" even when millions and units both have digits?' — a justify prompt for the maths-talk.

↗ **Cross-curricular:** Return to the Ireland hook — look up a county population (e.g. Cork or Donegal) and write it with commas and place-value columns.

ANSWER KEY

Q1: 2,158,000

Q2: 305,072

Q3: 4,500,008

Q4: 2,600,007

Q5: $8{,}000{,}070$

Q6: $9{,}008{,}040$

a) Always : It always shows the count of millions directly from its place.

b) Always : It always means exactly zero thousands when placed there.

c) Never : Zeros must be read to keep every digit in its correct column.

d) Sometimes : It sometimes does, but smaller numbers to millions may have fewer.

EXTENSION SHEET · STRETCH ANSWERS

S1: $1{,}302{,}940 = 1{,}000{,}000 + 300{,}000 + 2{,}000 + 900 + 40$

S2: $2{,}560{,}457 = 2{,}000{,}000 + 500{,}000 + 60{,}000 + 400 + 50 + 7$

S3: $-8.9 < -4.7 < 1.3 < 8.4$

S4: $-7 < -5.8 < -3.3 < 1.2$

S5: $-8 < -3.6 < 3.5 < 6.3$

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