

Mental strategies for addition and subtraction

WHAT THIS LESSON TEACHES

Splitting a number into its place-value parts so each part can be added or subtracted on its own.

→ $3,450 + 2,780$ becomes $+2,000$, then $+700$, then $+80$.

→ $4,997 + 386$ becomes $+3$ to reach $5,000$, then $+383$.

MODEL THIS ON THE BOARD

PARTITION ON A NUMBER LINE

- 1 Start at 4,997 and jump $+3$ to land on 5,000.
- 2 Then jump $+300$ to 5,300, $+80$ to 5,380 and $+6$ to 5,383.
- 3 The total is 5,383.

ANSWER KEY

a) compensation: $+3 \rightarrow 5,000 + 386 = 5,386 - 3 = 5,383$

b) round-and-adjust: $8012 - 2000 + 5 = 6017$

c) partition: $5,000 + 1,100 + 130 = 6,230$

Q1: 3,462

Q2: 6,910

Q3: 6,243

Q4: 7,455

Q5: 6,755

a) Sometimes — You can split into any place-value parts that help, not always all three.

b) Never — Compensation is often chosen exactly when numbers end in nines.

c) Sometimes — You can round just one number and adjust the other part.

d) Always — Any number can be split into place-value parts.

EXTENSION SHEET · STRETCH ANSWERS

S1: 5644

S2: 14024

S3: 11914

S4: 1499

S5: 10296