

PLACE VALUE & SUBTRACTION

Algorithm Lab • Tens, Ones, and Exchange

Objective: Subtract by place value, exchanging units without changing the quantity.

DO THIS Show each number by place value. Exchange a unit when you need to, then subtract.

EXCHANGE One ten is ten ones — the quantity does not change.

EXAMPLE

T	O
5	2

$$\begin{array}{r} 52 \\ - 28 \\ \hline 24 \end{array}$$

52 = 40 + 12.

Exchange one ten for ten ones, then subtract.

1 ten becomes 10 ones

BUILD & SUBTRACT Show the number, then subtract by place value.

1

H	T	O
6	8	9

$$\begin{array}{r} 689 \\ - 378 \\ \hline \end{array}$$

2

H	T	O
9	1	5

$$\begin{array}{r} 915 \\ - 136 \\ \hline \end{array}$$

3

H	T	O
6	5	5

$$\begin{array}{r} 655 \\ - 397 \\ \hline \end{array}$$

INDEPENDENT PRACTICE Subtract. Keep your columns aligned.

1

$$\begin{array}{r} 759 \\ - 214 \\ \hline \end{array}$$

2

$$\begin{array}{r} 831 \\ - 696 \\ \hline \end{array}$$

3

$$\begin{array}{r} 922 \\ - 837 \\ \hline \end{array}$$

4

$$\begin{array}{r} 761 \\ - 643 \\ \hline \end{array}$$

5

$$\begin{array}{r} 804 \\ - 121 \\ \hline \end{array}$$

6

$$\begin{array}{r} 483 \\ - 350 \\ \hline \end{array}$$

7

$$\begin{array}{r} 543 \\ - 197 \\ \hline \end{array}$$

8

$$\begin{array}{r} 626 \\ - 390 \\ \hline \end{array}$$

9

$$\begin{array}{r} 707 \\ - 421 \\ \hline \end{array}$$

PROVE IT Check with addition.

1 $116 + \square = 336$

2 $192 + \square = 274$

3 $668 + \square = 778$

To subtract I: exchanged a unit kept columns aligned checked with addition

TEACHER EDITION

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EXCHANGE One ten is ten ones — the quantity does not change.

EXAMPLE

T	O
5	2

$$\begin{array}{r} 52 \\ - 28 \\ \hline 24 \end{array}$$

1 ten becomes 10 ones

$52 = 40 + 12.$

Exchange one ten for ten ones, then subtract.

BUILD & SUBTRACT Show the number, then subtract by place value.

1

H	T	O
6	8	9

$$\begin{array}{r} 689 \\ - 378 \\ \hline 311 \end{array}$$

2

H	T	O
9	1	5

$$\begin{array}{r} 915 \\ - 136 \\ \hline 779 \end{array}$$

3

H	T	O
6	5	5

$$\begin{array}{r} 655 \\ - 397 \\ \hline 258 \end{array}$$

INDEPENDENT PRACTICE Subtract. Keep your columns aligned.

1

$$\begin{array}{r} 759 \\ - 214 \\ \hline 545 \end{array}$$

2

$$\begin{array}{r} 831 \\ - 696 \\ \hline 135 \end{array}$$

3

$$\begin{array}{r} 922 \\ - 837 \\ \hline 85 \end{array}$$

4

$$\begin{array}{r} 761 \\ - 643 \\ \hline 118 \end{array}$$

5

$$\begin{array}{r} 804 \\ - 121 \\ \hline 683 \end{array}$$

6

$$\begin{array}{r} 483 \\ - 350 \\ \hline 133 \end{array}$$

7

$$\begin{array}{r} 543 \\ - 197 \\ \hline 346 \end{array}$$

8

$$\begin{array}{r} 626 \\ - 390 \\ \hline 236 \end{array}$$

9

$$\begin{array}{r} 707 \\ - 421 \\ \hline 286 \end{array}$$

PROVE IT Check with addition.

1 $116 + \underline{220} = 336$

2 $192 + \underline{82} = 274$

3 $668 + \underline{110} = 778$

TEACHER NOTES Answer key & guidance

Answers: aligned vertical differences
Common error: Subtracting the smaller digit from the larger in each column

Strategy: Rename one unit as ten of the next-smaller unit
Prompt: "Do you have enough ones, or must you exchange a ten?"

To subtract I: exchanged a unit kept columns aligned checked with addition