

Name: _____

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

1 ten becomes 10 ones

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

52 = 40 + 12.

Exchange one ten for ten ones, then subtract.

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

1

Th	H	T	O
5	0	0	1

$$\begin{array}{r} 5001 \\ - 4092 \\ \hline \end{array}$$

2

Th	H	T	O
8	1	1	2

$$\begin{array}{r} 8112 \\ - 6100 \\ \hline \end{array}$$

3

Th	H	T	O
2	7	1	2

$$\begin{array}{r} 2712 \\ - 1798 \\ \hline \end{array}$$

INDEPENDENT PRACTICE Subtract. Keep your columns aligned.

1

$$\begin{array}{r} 2953 \\ - 2510 \\ \hline \end{array}$$

2

$$\begin{array}{r} 2347 \\ - 1258 \\ \hline \end{array}$$

3

$$\begin{array}{r} 9170 \\ - 6112 \\ \hline \end{array}$$

4

$$\begin{array}{r} 2624 \\ - 2054 \\ \hline \end{array}$$

5

$$\begin{array}{r} 4284 \\ - 2196 \\ \hline \end{array}$$

6

$$\begin{array}{r} 8946 \\ - 6978 \\ \hline \end{array}$$

7

$$\begin{array}{r} 5900 \\ - 5321 \\ \hline \end{array}$$

8

$$\begin{array}{r} 4759 \\ - 3547 \\ \hline \end{array}$$

9

$$\begin{array}{r} 6282 \\ - 3891 \\ \hline \end{array}$$

PROVE IT Check with addition.

1 $1999 + \square = 3890$

2 $7933 + \square = 9375$

3 $1384 + \square = 4324$

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

TEACHER EDITION

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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

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

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

Th	H	T	O
5	0	0	1

$$\begin{array}{r} 5001 \\ - 4092 \\ \hline 909 \end{array}$$

2

Th	H	T	O
8	1	1	2

$$\begin{array}{r} 8112 \\ - 6100 \\ \hline 2012 \end{array}$$

3

Th	H	T	O
2	7	1	2

$$\begin{array}{r} 2712 \\ - 1798 \\ \hline 914 \end{array}$$

INDEPENDENT PRACTICE Subtract. Keep your columns aligned.

1

$$\begin{array}{r} 2953 \\ - 2510 \\ \hline 443 \end{array}$$

2

$$\begin{array}{r} 2347 \\ - 1258 \\ \hline 1089 \end{array}$$

3

$$\begin{array}{r} 9170 \\ - 6112 \\ \hline 3058 \end{array}$$

4

$$\begin{array}{r} 2624 \\ - 2054 \\ \hline 570 \end{array}$$

5

$$\begin{array}{r} 4284 \\ - 2196 \\ \hline 2088 \end{array}$$

6

$$\begin{array}{r} 8946 \\ - 6978 \\ \hline 1968 \end{array}$$

7

$$\begin{array}{r} 5900 \\ - 5321 \\ \hline 579 \end{array}$$

8

$$\begin{array}{r} 4759 \\ - 3547 \\ \hline 1212 \end{array}$$

9

$$\begin{array}{r} 6282 \\ - 3891 \\ \hline 2391 \end{array}$$

PROVE IT Check with addition.

1 $1999 + \underline{1891} = 3890$

2 $7933 + \underline{1442} = 9375$

3 $1384 + \underline{2940} = 4324$

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