FAITH THINKERS
Traditional Arithmetic & Logic

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

T	O
6	0

$$\begin{array}{r} 60 \\ -\ 45 \\ \hline \end{array}$$

2

T	O
8	6

$$\begin{array}{r} 86 \\ -\ 10 \\ \hline \end{array}$$

3

T	O
5	0

$$\begin{array}{r} 50 \\ -\ 23 \\ \hline \end{array}$$

4

T	O
9	3

$$\begin{array}{r} 93 \\ -\ 50 \\ \hline \end{array}$$

INDEPENDENT PRACTICE Subtract. Keep your columns aligned.

1 $\begin{array}{r} 59 \\ -\ 12 \\ \hline \end{array}$

2 $\begin{array}{r} 85 \\ -\ 82 \\ \hline \end{array}$

3 $\begin{array}{r} 41 \\ -\ 40 \\ \hline \end{array}$

4 $\begin{array}{r} 30 \\ -\ 13 \\ \hline \end{array}$

5 $\begin{array}{r} 79 \\ -\ 52 \\ \hline \end{array}$

6 $\begin{array}{r} 73 \\ -\ 31 \\ \hline \end{array}$

PROVE IT Check with addition.

1. 40 + ☐ = 61
2. 81 + ☐ = 99
3. 50 + ☐ = 54

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

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TEACHER EDITION

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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

T	O
6	0

$$\begin{array}{r} 60 \\ -\ 45 \\ \hline 15 \end{array}$$

2

T	O
8	6

$$\begin{array}{r} 86 \\ -\ 10 \\ \hline 76 \end{array}$$

3

T	O
5	0

$$\begin{array}{r} 50 \\ -\ 23 \\ \hline 27 \end{array}$$

4

T	O
9	3

$$\begin{array}{r} 93 \\ -\ 50 \\ \hline 43 \end{array}$$

INDEPENDENT PRACTICE Subtract. Keep your columns aligned.

1
$$\begin{array}{r} 59 \\ -\ 12 \\ \hline 47 \end{array}$$

2
$$\begin{array}{r} 85 \\ -\ 82 \\ \hline 3 \end{array}$$

3
$$\begin{array}{r} 41 \\ -\ 40 \\ \hline 1 \end{array}$$

4
$$\begin{array}{r} 30 \\ -\ 13 \\ \hline 17 \end{array}$$

5
$$\begin{array}{r} 79 \\ -\ 52 \\ \hline 27 \end{array}$$

6
$$\begin{array}{r} 73 \\ -\ 31 \\ \hline 42 \end{array}$$

PROVE IT Check with addition.

1. 40 + 21 = 61
2. 81 + 18 = 99
3. 50 + 4 = 54

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