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	1

$$\begin{array}{r} 61 \\ -\ 51 \\ \hline \end{array}$$

2

T	O
4	3

$$\begin{array}{r} 43 \\ -\ 20 \\ \hline \end{array}$$

3

T	O
3	8

$$\begin{array}{r} 38 \\ -\ 30 \\ \hline \end{array}$$

4

T	O
4	5

$$\begin{array}{r} 45 \\ -\ 25 \\ \hline \end{array}$$

INDEPENDENT PRACTICE Subtract. Keep your columns aligned.

1
$$\begin{array}{r} 71 \\ -\ 14 \\ \hline \end{array}$$

2
$$\begin{array}{r} 69 \\ -\ 32 \\ \hline \end{array}$$

3
$$\begin{array}{r} 35 \\ -\ 30 \\ \hline \end{array}$$

4
$$\begin{array}{r} 89 \\ -\ 21 \\ \hline \end{array}$$

PROVE IT Check with addition.

1. 19 + ☐ = 21
2. 64 + ☐ = 88
3. 65 + ☐ = 70

To subtract 1: ☐ exchanged a unit ☐ kept columns aligned ☐ checked with addition

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TEACHER EDITION

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Exchange one ten for ten ones, then subtract.

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

1

T	O
6	1

$$\begin{array}{r} 61 \\ -\ 51 \\ \hline 10 \end{array}$$

2

T	O
4	3

$$\begin{array}{r} 43 \\ -\ 20 \\ \hline 23 \end{array}$$

3

T	O
3	8

$$\begin{array}{r} 38 \\ -\ 30 \\ \hline 8 \end{array}$$

4

T	O
4	5

$$\begin{array}{r} 45 \\ -\ 25 \\ \hline 20 \end{array}$$

INDEPENDENT PRACTICE Subtract. Keep your columns aligned.

1
$$\begin{array}{r} 71 \\ -\ 14 \\ \hline 57 \end{array}$$

2
$$\begin{array}{r} 69 \\ -\ 32 \\ \hline 37 \end{array}$$

3
$$\begin{array}{r} 35 \\ -\ 30 \\ \hline 5 \end{array}$$

4
$$\begin{array}{r} 89 \\ -\ 21 \\ \hline 68 \end{array}$$

PROVE IT Check with addition.

1. 19 + 2 = 21
2. 64 + 24 = 88
3. 65 + 5 = 70

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