

Grade 3 Unit 3

Lesson 5

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Unit 3 Lesson 5: Another Addition Algorithm

WU Notice and Wonder: Another Curious Table (Warm up)

Student Task Statement

What do you notice? What do you wonder?

+	98	99	100	101	102
98		197		199	
99	197		199		201
100		?		?	
101	199		201		203
102		201		203	

1 A New Addition Algorithm

Student Task Statement

Here are two algorithms for adding $367 + 231$.

Han's algorithm

$$\begin{array}{r}
 367 \\
 + 231 \\
 \hline
 8 \quad \text{step 1} \\
 90 \quad \text{step 2} \\
 + 500 \quad \text{step 3} \\
 \hline
 598 \quad \text{step 4}
 \end{array}$$

Elena's algorithm

$$\begin{array}{r} 367 \\ + 231 \\ \hline 8 \end{array} \quad \text{step 1}$$

$$\begin{array}{r} 367 \\ + 231 \\ \hline 98 \end{array} \quad \text{step 2}$$

$$\begin{array}{r} 367 \\ + 231 \\ \hline 598 \end{array} \quad \text{step 3}$$

Discuss with your partner:

1. How is Elena's algorithm different from Han's algorithm?
2. Why do both algorithms work?

2 Compose New Units

Student Task Statement

Here are two algorithms for adding $365 + 182$.

Han's algorithm

$$\begin{array}{r} 365 \\ + 182 \\ \hline 7 \end{array} \quad \text{step 1}$$

$$\begin{array}{r} 140 \\ + 400 \\ \hline 547 \end{array} \quad \begin{array}{l} \text{step 2} \\ \text{step 3} \\ \text{step 4} \end{array}$$

Elena's algorithm

$$\begin{array}{r} 365 \\ + 182 \\ \hline 7 \end{array} \quad \text{step 1}$$

$$\begin{array}{r} 100 \\ 365 \\ + 182 \\ \hline 47 \end{array} \quad \text{step 2}$$

$$\begin{array}{r} 100 \\ 365 \\ + 182 \\ \hline 547 \end{array} \quad \text{step 3}$$

1. How do the algorithms show the 14 tens differently?
2. Try Elena's algorithm to find the value of each sum.

- a. $174 + 352$
- b. $273 + 619$
- c. $354 + 198$
- d. $525 + 376$