

Partial Products TASK CARDS

2 and 3-digits by 1-digit



Created by Shelley Gray

About this Resource

The partial products strategy is an effective alternative to traditional long multiplication. Some teachers choose to only teach this method rather than long multiplication, simply because of the large emphasis on number sense understanding.

In this method, place value is emphasized. Students work with the factors written vertically as in traditional long multiplication, and complete the equation in parts. I've written a blog post and made a video all about the partial products strategy. Feel free to read more about that here:

<http://shelleygrayteaching.com/using-partial-products-method-multi-digit-multiplication/>



Are you looking for even more support with teaching multi-digit multiplication in your classroom? You might be interested in this self-paced, student-centered Multi-Digit Multiplication Station that will allow your students to move through a variety of multiplication strategies at their own pace. That station can be found here:

<https://www.teacherspayteachers.com/Product/The-Multi-Digit-Multiplication-Station-self-paced-student-centered-3157826>

This resource includes...

A partial products strategy poster for quick classroom reference

PARTIAL PRODUCTS

Multiply the values of each digit.

$$\begin{array}{r}
 54 \\
 \times 5 \\
 \hline
 20 \\
 + 250 \\
 \hline
 270
 \end{array}$$

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Twenty-four task cards; students will practice the partial products strategy in a variety of different ways.

Solve the equation using the partial products strategy.

$$262 \times 4$$

Partial Products Skill Cards: Grade #1

The equation has been solved using partial products, but there is an error! Can you find it? Identify the error and make the necessary corrections.

$$\begin{array}{r}
 226 \\
 \times 4 \\
 \hline
 21 \\
 80 \\
 + 800 \\
 \hline
 804
 \end{array}$$

Partial Products Skill Cards: Grade #2

Read: Between which two numbers will the product be? Then solve it using partial products to find out!

$$477 \times 3$$

a) between 0 and 499
b) between 500 and 999
c) between 1000 and 1500

Partial Products Skill Cards: Grade #3

Solve the problem using the partial products strategy.

The principal is hiring a new teacher and needs to do interviews. One job interview takes 25 minutes. How many minutes will it take to do 5 interviews?



Partial Products Skill Cards: Grade #3

Complete the task.

Write a multiplication equation that has a product between 100 and 200. Then solve it using the partial products strategy.

$$43 \times 5$$

$$56 \times 6$$

Partial Products Skill Cards: Grade #1

Partial Products Skill Cards: Grade #2

Solve the problem using the partial products strategy.

Write a word problem that you could solve the equation using the partial products strategy. (75x3)

$$75 \times 3$$

Partial Products Skill Cards: Grade #4

Read: Between which two numbers will the product be? Then solve it using partial products to find out!

$$46 \times 4$$

a) Between 0 and 99
b) between 100 and 199
c) between 200 and 299

Partial Products Skill Cards: Grade #4


Write a story problem to accompany this equation. Then solve it using partial products.

$$225 \times 3$$

Partial Products Skill Cards: Grade #4

Solve the problem using partial products.

Hayden collects 7 boxes. His brother collects 15 boxes on many stores. How many stores does his brother collect?



Partial Products Skill Cards: Grade #4


The equation has been partially solved. What is the next step?

$$\begin{array}{r}
 24 \\
 \times 4 \\
 \hline
 16
 \end{array}$$

Partial Products Skill Cards: Grade #1

Solve the equation using the partial products strategy.


Each pizza is cut into 8 pieces. If the school orders 32 pizzas, how many pieces will there be in all?



Partial Products Skill Cards: Grade #4

Solve the problem using the partial products strategy.

The trees in the forest are being inspected by ecologists to make sure that they are healthy. Each ecologist inspects 8 trees. If there are 15 ecologists, how many trees will be inspected in all?



Partial Products Skill Cards: Grade #1

The equation has been solved using partial products, but there is an error! Can you find it? Identify the error and make the necessary corrections.

$$\begin{array}{r}
 240 \\
 \times 6 \\
 \hline
 18 \\
 260 \\
 + 1200 \\
 \hline
 158
 \end{array}$$

Partial Products Skill Cards: Grade #4


Read: Will the product be greater than 1000 or less than 1000? Then solve the equation using the partial products strategy to find out!

$$235 \times 3$$

Partial Products Skill Cards: Grade #4

Solve the problem using the partial products strategy.

There are 3 pencils in each container. If there are 245 containers, how many pencils are there altogether?



Partial Products Skill Cards: Grade #4

Read: Which equation will have a higher product? Then solve each equation using the partial products strategy to see if you were right!

$$672 \times 2$$

$$78 \times 6$$

Partial Products Skill Cards: Grade #4


One of the factors is missing from this equation. Can you figure out what it is? How did you figure it out?

$$\begin{array}{r}
 245 \\
 \times \square \\
 \hline
 26 \\
 200 \\
 + 1000 \\
 \hline
 1225
 \end{array}$$

Partial Products Skill Cards: Grade #4

Solve the problem using the partial products strategy.

5 logs are needed for every hour that the fire burns. How many logs would be for the fire to burn for 26 hours?



Partial Products Skill Cards: Grade #4

The equation has been solved using partial products, but there is an error! Can you find it? Identify the error and make the necessary corrections.

$$\begin{array}{r}
 43 \\
 \times 8 \\
 \hline
 26 \\
 + 320 \\
 \hline
 346
 \end{array}$$

Partial Products Skill Cards: Grade #4


Read: Will the product of this equation be greater than 100 or less than 100? Then solve it using partial products to find out!

$$256 \times 3$$

Partial Products Skill Cards: Grade #4

Solve the problem using the partial products strategy.

Town A has 6 rainy days throughout the year. Town B has 17 times that many rainy days. How many rainy days does Town B have?



Partial Products Skill Cards: Grade #4

Read: Which equation will have a higher product? Then solve each equation using the partial products strategy to see if you were right!

$$54 \times 6$$

$$143 \times 3$$

Partial Products Skill Cards: Grade #4

One of the factors is missing from this equation. Can you figure out what it is? How did you figure it out?

$$\begin{array}{r}
 36 \\
 \times \square \\
 \hline
 30 \\
 + 180 \\
 \hline
 180
 \end{array}$$

Partial Products Skill Cards: Grade #4

Recording sheets to help your students stay organized

RECORDING SHEET - page 1	
<p>Cond. #1</p> <p>Solve the problem.</p> <p>Write an answer sentence.</p> <hr/> <hr/>	<p>Cond. #2</p> <p>Find the error and make the correction.</p> <div style="text-align: center;"> $\begin{array}{r} 43 \\ \times 8 \\ \hline 26 \\ + 320 \\ \hline 344 \end{array}$ </div>
<p>Cond. #3</p> <p>Make your prediction. _____</p> <p>Solve it.</p> <p>Were you right? _____</p>	<p>Cond. #4</p> <p>Solve the problem.</p> <p>Write an answer sentence.</p> <hr/> <hr/>
<p>Cond. #5</p> <p>Make your prediction _____</p> <p>Solve the equations</p> <p>Were you right? _____</p>	<p>Cond. #6</p> <p>Figure out the missing factor.</p> <div style="text-align: center;"> $\begin{array}{r} 36 \\ \times \square \\ \hline 30 \\ + 180 \\ \hline 180 \end{array}$ </div> <p>How did you figure it out?</p> <hr/> <hr/> <hr/> <hr/> <hr/>

RECORDING SHEET - page 2	
<p>Grid #1</p> <p>Solve the problem.</p> <p>Write an answer sentence.</p> <p>_____</p> <p>_____</p>	<p>Grid #2</p> <p>Find the error and make the correction.</p> $ \begin{array}{r} 243 \\ \times 6 \\ \hline 18 \\ 260 \\ + 200 \\ \hline \text{NSR} \end{array} $ <p>Write an answer sentence.</p> <p>_____</p> <p>_____</p>
<p>Grid #3</p> <p>Make your prediction _____</p> <p>Solve it:</p> <p>Were you right? _____</p>	<p>Grid #4</p> <p>Solve the problem.</p> <p>Write an answer sentence.</p> <p>_____</p> <p>_____</p>
<p>Grid #5</p> <p>Make your prediction _____</p> <p>Solve the equations</p> <p>Were you right? _____</p>	<p>Grid #6</p> <p>Figure out the missing factor.</p> $ \begin{array}{r} 24 \overline{) 5} \\ \underline{ 28} \\ 200 \\ \underline{ 200} \\ 1000 \\ \underline{ 125} \end{array} $ <p>How did you figure it out?</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

[illegible]

RECORDING SHEET - page 4	
<p>Cons 111</p> <p>Solve the equation</p>	<p>Cons 112</p> <p>Find the error and make the correction.</p> $\begin{array}{r} 226 \\ \times 4 \\ \hline 24 \\ 80 \\ + 900 \\ \hline 804 \end{array}$
<p>Cons 120</p> <p>Predict _____</p> <p>Figure it out:</p>	<p>Cons 121</p> <p>Solve the problem.</p> <p>Write an answer sentence.</p> <p>_____</p> <p>_____</p>
<p>Cons 121</p> <p>Write the equation:</p> <p>Solve it:</p>	<p>Cons 124</p> <p>Predict _____</p> <p>Figure it out:</p> <p>_____</p> <p>_____</p>

Answer keys to make self-checking a breeze!

ANSWER KEY	
<p>Card #1</p> <p>Solve the problem.</p> $\begin{array}{r} 26 \\ \times 5 \\ \hline 130 \end{array}$ <p>Write an answer sentence <u>30 legs would be needed.</u></p>	<p>Card #2</p> <p>Find the error and make the correction.</p> $\begin{array}{r} 43 \\ \times 8 \\ \hline 264 \\ + 320 \\ \hline 344 \end{array}$
<p>Card #3</p> <p>Make your prediction: <u>Answers will vary.</u></p> <p>Solve it.</p> $\begin{array}{r} 256 \\ \times 3 \\ \hline 18 \\ 768 \end{array}$ <p>Were you right? <u>Answers will vary.</u></p>	<p>Card #4</p> <p>Solve the problem.</p> $\begin{array}{r} 17 \\ \times 6 \\ \hline 42 \\ + 60 \\ \hline 102 \end{array}$ <p>Write an answer sentence <u>Team B has 102 ratty dows.</u></p>
<p>Card #5</p> <p>Make your prediction: <u>Answers will vary.</u></p> <p>Solve the equations</p> $\begin{array}{r} 94 \\ \times 6 \\ \hline 24 \\ + 300 \\ \hline 324 \end{array} \qquad \begin{array}{r} 43 \\ \times 3 \\ \hline 12 \\ + 300 \\ \hline 424 \end{array}$ <p>Were you right? <u>Answers will vary.</u></p>	<p>Card #6</p> <p>Figure out the missing figure.</p> $\begin{array}{r} 36 \\ \times 5 \\ \hline 30 \\ + 80 \\ \hline 80 \end{array}$ <p>How did you figure it out? <u>Answers will vary.</u></p>

RECORDING SHEET - page 2	
<p>Cond #1</p> <p>Solve the problem.</p> <div style="text-align: center; margin: 10px 0;"> $\begin{array}{r} 19 \\ \times 8 \\ \hline 72 \\ + 800 \\ \hline 872 \end{array}$ </div> <p>Write an answer sentence <u>872 trees will be inspected in all.</u></p>	<p>Cond #2</p> <p>Find the error and make the correction.</p> <div style="text-align: center; margin: 10px 0;"> $\begin{array}{r} 243 \\ \times 6 \\ \hline 18 \\ + 80240 \\ \hline 600 \\ \hline 158 \end{array}$ </div>
<p>Cond #3</p> <p>Make your prediction. <u>Answers will vary.</u></p> <p>Solve it:</p> <div style="text-align: center; margin: 10px 0;"> $\begin{array}{r} 235 \\ \times 3 \\ \hline 15 \\ + 410 \\ \hline 600 \\ \hline 705 \end{array}$ </div> <p>Answers may vary - The product <u>is more than 500.</u></p>	<p>Cond #4</p> <p>Solve the problem.</p> <div style="text-align: center; margin: 10px 0;"> $\begin{array}{r} 243 \\ \times 3 \\ \hline 9 \\ + 120 \\ \hline 600 \\ \hline 724 \end{array}$ </div> <p>Write an answer sentence <u>There are 724 pencils altogether.</u></p>
<p>Cond #5</p> <p>Make your prediction. <u>Answers will vary.</u></p> <p>Solve the equations:</p> <div style="text-align: center; margin: 10px 0;"> $\begin{array}{r} 78 \\ \times 6 \\ \hline 48 \\ + 420 \\ \hline 468 \\ \hline 344 \end{array}$ </div> <p>Write your answer. <u>Answers will vary.</u></p>	<p>Cond #6</p> <p>Figure out the missing factor.</p> <div style="text-align: center; margin: 10px 0;"> $\begin{array}{r} 24 \times 5 \\ \times 15 \\ \hline 25 \\ + 200 \\ \hline 300 \\ \hline 125 \end{array}$ </div> <p>How did you figure it out? <u>Answers will vary</u></p>

RECORDING SHEET - page 3	
<p>Grid #1</p> <p>First multiply 3x5 to make 15</p> <p>Then multiply 3x70 to make 210</p> <p>Lastly, add 210+15 to make 225</p> 	<p>Grid #2</p> <p>Predict? <u>Answers will vary.</u></p> <p>Figure it out:</p> $\begin{array}{r} \times 46 \\ 714 \\ + 150 \\ \hline 1184 \end{array}$
<p>Grid #3</p> <p>Solve the problem.</p> $\begin{array}{r} 15 \\ \times 9 \\ \hline 45 \\ + 40 \\ \hline 135 \end{array}$ 	<p>Grid #4</p> <p>Write a story problem.</p> <p><u>Answers will vary.</u></p>
<p>Write an answer sentence</p> <p><u>Hayden's brother collects 135</u></p> <p><u>stones.</u></p> 	<p>Solve it:</p> $\begin{array}{r} 225 \\ \times 3 \\ \hline 15 \\ + 600 \\ \hline 675 \end{array}$
<p>Grid #5</p> <p>Describe the next step</p> <p>The next step is to multiply 5x20 to make 100</p> $\begin{array}{r} 24 \\ \times 4 \\ \hline 96 \\ + 80 \\ \hline \end{array}$ 	<p>Grid #6</p> <p>Solve the problem:</p> $\begin{array}{r} 32 \\ \times 8 \\ \hline 16 \\ + 240 \\ \hline 256 \end{array}$
<p>Write an answer sentence</p> <p><u>There will be 256 pieces of</u></p> <p><u>slices in all.</u></p> 	

RECORDING SHEET - page 4	
<p>Grid #1</p> <p>Solve the equation</p> $\begin{array}{r} 252 \\ \times 4 \\ \hline 8 \\ 240 \\ + 800 \\ \hline 1008 \end{array}$	<p>Grid #10</p> <p>Find the error and make the correction.</p> $\begin{array}{r} 226 \\ \times 4 \\ \hline 74 \\ 80 \\ + 800 \\ \hline 804 \quad 104 \end{array}$
<p>Grid #2</p> <p>Product: <u>Answers will vary.</u></p> <p>Figure it out!</p> $\begin{array}{r} 477 \\ \times 4 \\ \hline 28 \\ 190 \\ + 1800 \\ \hline 1908 \end{array}$	<p>Grid #12</p> <p>Solve the problem.</p> $\begin{array}{r} 35 \\ \times 5 \\ \hline 25 \\ + 80 \\ \hline 175 \end{array}$ <p>Write or answer sentence: <u>It will take 175 minutes to do 5 interviews.</u></p>
<p>Grid #3</p> <p>Write an equation:</p> <p>Solve it:</p> <p><u>Answers will vary.</u></p>	<p>Grid #14</p> <p>Product: <u>Answers will vary.</u></p> <p>Figure it out!</p> $\begin{array}{r} 43 \\ \times 5 \\ \hline 15 \\ + 200 \\ \hline 285 \end{array} \quad \begin{array}{r} 56 \\ \times 6 \\ \hline 36 \\ + 300 \\ \hline 336 \end{array}$ <p>Write or answer it: <u>Answers will vary.</u></p>