



# Maths

## Multiplication and Division

# Expanded Multiplication with Three-Digit Numbers



# Aim

- I can multiply larger numbers using expanded multiplication.

# Success Criteria

- I can set out the calculation correctly.
- I can partition the calculation and multiply the ones, then the tens and finally the hundreds.
- I can add the three calculations together to find the answer.

# Loop Cards



|  |     |    |    |    |     |                      |
|--|-----|----|----|----|-----|----------------------|
|  | 44  | 36 | 84 | 30 | 6   | $7 \times 3$         |
|  | 135 | 24 | 72 | 72 | 5   | $9 \times 12$        |
|  | 12  | 60 | 54 | 35 | 108 | nine groups of three |
|  | 20  | 50 | 80 | 21 | 27  | eight lots of five   |

# Expanded Multiplication

|          |          |          |
|----------|----------|----------|
|          | <b>9</b> | <b>6</b> |
| <b>x</b> |          | <b>7</b> |
| <hr/>    |          |          |
|          | <b>4</b> | <b>2</b> |
| <b>6</b> | <b>3</b> | <b>0</b> |
| <hr/>    |          |          |
| <b>6</b> | <b>7</b> | <b>2</b> |

Lay out your calculation in a grid.

Work out  $6 \times 7$  and write the answer here.

Work out  $90 \times 7$  and write the answer here.

Add them together and write your answer here.

# Expanded Multiplication

|          |           |          |
|----------|-----------|----------|
|          | <b>6</b>  | <b>8</b> |
| <b>x</b> |           | <b>8</b> |
| <hr/>    |           |          |
|          | <b>6</b>  | <b>4</b> |
| <b>4</b> | <b>8</b>  | <b>0</b> |
| <hr/>    |           |          |
| <b>5</b> | <b>14</b> | <b>4</b> |

Lay out your calculation in a grid.

Work out  $8 \times 8$  and write the answer here.

Work out  $60 \times 8$  and write the answer here.

Add them together and write your answer here.



If there are more than 9 tens, regroup them as hundreds and write them under the hundreds column, remembering to add them onto the total.

# Expanded Multiplication



|       |   |   |   |
|-------|---|---|---|
|       | 5 | 1 | 9 |
| x     |   |   | 8 |
| <hr/> |   |   |   |
|       |   | 7 | 2 |
|       |   | 8 | 0 |
| 4     | 0 | 0 | 0 |
| <hr/> |   |   |   |
| 4     | 1 | 5 | 2 |

$$519 \times 9 = 4152$$

Lay out your calculation in a grid.  
This calculation has a number in the hundreds column, so we need an extra row.

Work out  $9 \times 8$  and write the answer here.

Work out  $10 \times 8$  and write the answer here.

Work out  $500 \times 8$  and write the answer here.

Add them together and write your answer here. Don't forget to regroup if you need and write this under the next column, adding it onto the total.

# Expanded Multiplication



|          |   |   |          |
|----------|---|---|----------|
|          | 2 | 6 | 9        |
| <b>x</b> |   |   | <b>3</b> |
| <hr/>    |   |   |          |
|          |   | 2 | 7        |
|          | 1 | 8 | 0        |
|          | 6 | 0 | 0        |
| <hr/>    |   |   |          |
|          | 8 | 0 | 7        |

$$269 \times 3 = 807$$

Lay out your calculation in a grid.  
This calculation has a number in the hundreds column, so we need an extra row.

Work out  $9 \times 3$  and write the answer here.

Work out  $60 \times 3$  and write the answer here.

Work out  $200 \times 3$  and write the answer here.

Add them together and write your answer here. Don't forget to regroup if you need and write this under the next column, adding it onto the total.



# Expanded Multiplication Activities



**★ Exp**

I can multiply larger numbers using expanded multiplication.

1.  $28 \times 3 =$  \_\_\_\_\_

|       |   |
|-------|---|
| H     | T |
|       | 4 |
| x     |   |
| _____ |   |
| _____ |   |
| _____ |   |

3.  $56 \times 7 =$  \_\_\_\_\_

|       |   |
|-------|---|
| H     | T |
|       | 5 |
| x     |   |
| _____ |   |
| _____ |   |
| _____ |   |

5.  $82 \times 8 =$  \_\_\_\_\_

|       |   |
|-------|---|
| H     | T |
|       | 8 |
| x     |   |
| _____ |   |
| _____ |   |
| _____ |   |

**★ Exp**

Now try these with the expanded multiplication method.

1.  $512 \times 3 =$  \_\_\_\_\_

|       |   |
|-------|---|
| T     | H |
|       | 5 |
| x     |   |
| _____ |   |
| _____ |   |
| _____ |   |

3.  $451 \times 4 =$  \_\_\_\_\_

|       |   |
|-------|---|
| T     | H |
|       | 4 |
| x     |   |
| _____ |   |
| _____ |   |
| _____ |   |

**★ Exp**

I can multiply larger numbers using expanded multiplication.

1.  $567 \times 5 =$  \_\_\_\_\_

|       |   |   |   |
|-------|---|---|---|
| T     | H | T | O |
|       | 5 | 6 | 7 |
| x     |   |   | 5 |
| _____ |   |   |   |
| _____ |   |   |   |
| _____ |   |   |   |

3.  $423 \times 8 =$  \_\_\_\_\_

|       |   |   |   |
|-------|---|---|---|
| T     | H | T | O |
|       | 4 | 2 | 3 |
| x     |   |   | 8 |
| _____ |   |   |   |
| _____ |   |   |   |
| _____ |   |   |   |

5.  $421 \times 7 =$  \_\_\_\_\_

|       |   |   |   |
|-------|---|---|---|
| T     | H | T | O |
|       | 4 | 2 | 1 |
| x     |   |   | 7 |
| _____ |   |   |   |
| _____ |   |   |   |
| _____ |   |   |   |

**★ Exp**

I can multiply larger numbers using expanded multiplication.

7.  $821 \times 9 =$  \_\_\_\_\_

9.  $923 \times 7 =$  \_\_\_\_\_

11.  $350 \times 9 =$  \_\_\_\_\_

5.  $421 \times 7 =$  \_\_\_\_\_

**★★★ Expanded Multiplication**

I can multiply larger numbers using expanded multiplication.

7.  $821 \times 9 =$  \_\_\_\_\_

8.  $632 \times 9 =$  \_\_\_\_\_

9.  $923 \times 7 =$  \_\_\_\_\_

10.  $877 \times 6 =$  \_\_\_\_\_

11.  $350 \times 9 =$  \_\_\_\_\_

12.  $999 \times 8 =$  \_\_\_\_\_

13. Kirsty has three packs of 425 sweets. Michael has four packs of 356 sweets. Who has the most sweets? \_\_\_\_\_

# Who Has the Most?



$$152 \times 6 = 912$$

Sophie has 152  
packs of 6 stickers.



$$104 \times 8 = 832$$

Abdul has 104  
packs of 8 stickers.



$$223 \times 4 = 892$$

William has 223  
packs of 4 stickers.

Who has the most stickers?

Sophie has the most stickers.

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