



*Creating a whole generation of
kids that are confident in maths*

MASTERING MULTIPLICATION & DIVISION

PART 1 OF 2

STUDENT WORKBOOK
SAMPLE

PINK LESSON TWO





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kids that are confident in maths*

This book is part of a suite of resources developed to support your student in enjoying and understanding maths. Please use this as a tool towards the end of each lesson for practicing what they have learnt.

Worksheets will never replace a well-trained and confident teacher (you), so please use your judgment and use this only to the extent that works for your student.

This book has been made available to you in downloadable form to minimise our impact on the environment and to minimise the impact on printing and delivery costs so that we can make this as inexpensive as possible for you.

We are committed to providing you with quality resources that simplify your teaching and amplify your student's mastery of maths.

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**MATHS
AUSTRALIA**

PINK LEVEL THREE Student Workbook

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Completion Checklist

Check off each lesson as you complete it.

PINK LEVEL THREE

- 1 - Rectangles, Factors And Products
- 2 - Multiply By Zero And One
- 3 - Skip Count By Two, Five, Ten
- 4 - Multiply By Two
- 5 - Multiply By Ten
- 6 - Multiply By Five
- 7 - Area Of A Rectangle And Square
- 8 - Solve For An Unknown
- 9 - Skip Count By Nine
- 10 - Multiply By Nine
- 11 - Skip Count By Three
- 12 - Multiply By Three
- 13 - Skip Count By Six
- 14 - Multiply By Six
- 15 - Skip Count By Four
- 16 - Multiply By Four
- 17 - Skip Count By Eight
- 18 - Multiply By Eight
- 19 - Skip Count By Seven
- 20 - Multiply By Seven
- 21 - Factoring, Coins In A Dollar
- 22 - Prime And Composite Numbers (X 12)
- 23 - Place Value Through Millions (g in kg)
- 24 - Kilometre, Kilogram, And Tonne
- 25 - Rounding To Ten, Hundreds, Thousands
- 26 - Multi-Digit Multiplication

[illegible]

- 27 - Multi-Digit Multiplication (2 digits x 2 digits)
- 28 - Double Digit With Regrouping
- 29 - Multi-Digit Multiplication, Regrouping
- 30 - More Multiple Digit Multiplication

1 2 3 4 5 6

Additional Resources

0 - 100 Number Chart

Multiplication Fact Sheet

Multiply By Zero And One

Write the factors of the following rectangles, then write as a maths sentence.



Draw the following rectangles if you can.

$\rightarrow \uparrow$
(7) (0)

$\rightarrow \uparrow$
(3) (1)

$\rightarrow \uparrow$
(1) (3)

$\rightarrow \uparrow$
(5) (1)

$\rightarrow \uparrow$
(1) (5)

$\rightarrow \uparrow$
(4) (0)

Multiply By Zero And One

Mark the questions below with arrows. Build, draw and colour the rectangles, then say and write the correct answer in the space provided.

Example:

$1 \times 0 =$ (note we can't draw anything since we have nothing).

$$\begin{array}{cc} \rightarrow & \uparrow \\ (1) & (0) \end{array}$$

$$\begin{array}{cc} \rightarrow & \uparrow \\ 1 & \cdot 0 \end{array}$$

$$\begin{array}{cc} \rightarrow & \uparrow \\ 1 & \times 0 \end{array}$$

$$7 \cdot 0 =$$

$$9 \times 0 =$$

$$8 \cdot 1 =$$

$$\begin{array}{r} 5 \\ \times 1 \\ \hline \\ \hline \end{array}$$

$$(0) (2) =$$

$$5 \times 1 =$$

$$(7) (1) =$$

$$0 \times 0 =$$

$$1 \times 3 =$$

$$8 \times 1 =$$

$$\begin{array}{r} 1 \\ \times 4 \\ \hline \\ \hline \end{array}$$

Multiply By Zero And One

Build the following multiplication question and draw it as a rectangle next to your answer. Colour using your colored pencils and matching the colors of the blocks then show three other ways you can write this using maths symbols.

Example:

$$\begin{array}{r} 5 \rightarrow \\ \times 1 \uparrow \\ \hline 5 \\ \hline \end{array}$$



$$(5) (1) = 5$$

$$5 \times 1 = 5$$

$$5 \cdot 1 = 5$$

$$1 \times 0 =$$

$$6 \cdot 0 =$$

$$\begin{array}{r} 1 \\ \times 6 \\ \hline \\ \hline \end{array}$$

$$(7) (1) =$$

$$5 \times 1 =$$

$$4 \times 1 =$$

$$\begin{array}{r} 3 \\ \times 1 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ \times 5 \\ \hline \\ \hline \end{array}$$

$$4 \times 0 =$$

$$8 \times 1 =$$

$$\begin{array}{r} 8 \\ \times 1 \\ \hline \\ \hline \end{array}$$

Multiply By Zero And One

The simplest way for us to understand multiplication is to apply it to our everyday life. Answer the questions below.

How much is zero counted six times? Explain why.

If I wasn't paid any pocket money for six days, how much money would I have earned? Write this as a maths sentence to show your answer.

If each of the six children are to be given one apple as a snack, how many apples are needed? Draw this below with the blocks.

How much is eight counted one time? Write this as a maths sentence.

Write three different ways you would communicate the answer to four multiplied zero times.

There were four toy elephants in the basket. How many elephant trunks can you count? Draw this with the blocks and write your answer as a multiplication question.

I have three friends staying overnight. Each of them have brought one toothbrush with them and placed them in the bathroom. How many extra toothbrushes are now in the bathroom?

The test had eight questions, and each question was worth one mark. If I got every answer correct, how many marks did I receive for the test?

I have seven jars for collecting money. None of them have any money in them. How much money have I collected?

I put one dollar in each of the jars I use for collecting money. I have ten jars. How much money do I now have?

Multiply By Zero And One

The simplest way for us to understand multiplication is to apply it to our everyday life. Answer the questions below.

Sally has one flower pot on her table. In the pot are three daffodils. How many flowers are on the table? Build and show this with the blocks, then draw and write your working out and answer here.

There are nine books on the table. Tom wanted to put one bookmark in each book. How many bookmarks did he need? Build and show this with the blocks, then draw and write your working out and answer here.

In our pottery class, each of us were able to make just one bowl. If there were six of us in the class, how many bowls were going to be made in total?

It was six kilometres to ride from our home to the swimming pool. It was so hot that we decided to stay home and not to go to the pool today. How many kilometres did we ride? Explain your answer and write it as a maths sentence.

Write three different ways you would communicate the answer to 'four multiplied one time'.

I have three friends staying overnight. Each of them brought one pillow with them and placed it in the bedroom. How many extra pillows are now in the bedroom?

Each of the five people in the swimming pool were wearing a hat. How many hats could I see in the pool?

I put one ring on each finger of my left hand. How many rings do I now have on my left hand?

Draw a picture with blocks that would show that I collected one beetle each day for five days. How many beetles do I now have?

Each of the six kangaroos had just one joey in it's pouch. How many joeys and there altogether? Draw with blocks and write this as a maths sentence.

Multiply By Zero And One

Write the answers to the following questions, then show another way you could write this same maths question.

Example:

$$1 \times 0 = 0$$

$$0 \times 1 = 0$$

$$2 \times 0 = \underline{\hspace{10cm}}$$

$$0 \times 3 = \underline{\hspace{10cm}}$$

$$4 \times 0 = \underline{\hspace{10cm}}$$

$$0 \times 5 = \underline{\hspace{10cm}}$$

$$6 \times 0 = \underline{\hspace{10cm}}$$

$$7 \times 0 = \underline{\hspace{10cm}}$$

$$0 \times 8 = \underline{\hspace{10cm}}$$

$$9 \times 0 = \underline{\hspace{10cm}}$$

$$10 \times 0 = \underline{\hspace{10cm}}$$

$$100 \times 0 = \underline{\hspace{10cm}}$$

Write the answers to the following questions, then show another way you could write this same maths question if you can.

Example:

$1 \times 1 =$ | ☐ There is no other way to write this because it is a square, where all sides are equal length ($1 \times 1 = 1 \times 1$).

$2 \times 1 =$ _____

$3 \times 1 =$ _____

$1 \times 4 =$ _____

$1 \times 5 =$ _____

$6 \times 1 =$ _____

$1 \times 7 =$ _____

$8 \times 1 =$ _____

$9 \times 1 =$ _____

$1 \times 10 =$ _____

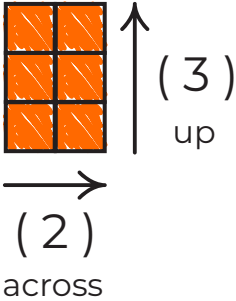
$5 \times 1 =$ _____

Multiply By Zero And One - Cumulative Review

Look at the rectangles below. Count the across dimension and record it in the 'across' brackets. Count the 'up' dimension and record it in the 'up' brackets. Write the ways this can be written in the language of maths, say your answer.

Example:

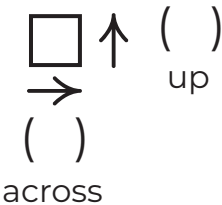
$$\begin{aligned} (2)(3) &= 6 \\ 2 \times 3 &= 6 \\ 2 \cdot 3 &= 6 \end{aligned}$$



Multiplicand	= 2
Multiplier	= 3
Factors	= 2,3
Area	= 6
Product	= 6

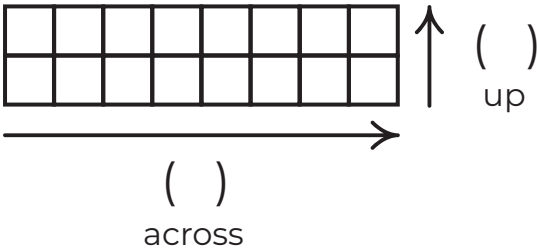
- 'Two multiplied by three'
- 'Two times three'
- 'Two counted three times'

$$\begin{aligned} (\quad) (\quad) &= \underline{\hspace{1cm}} \\ \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} &= \underline{\hspace{1cm}} \\ \underline{\hspace{1cm}} \cdot \underline{\hspace{1cm}} &= \underline{\hspace{1cm}} \end{aligned}$$



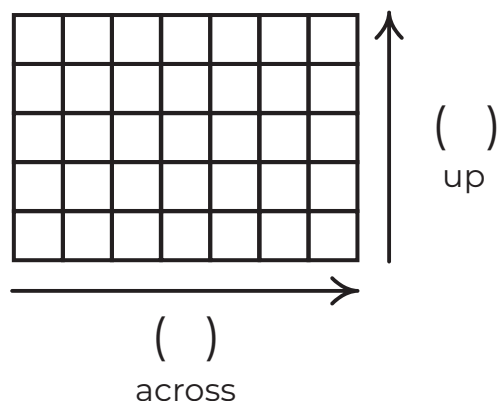
Multiplicand	= <u> </u>
Multiplier	= <u> </u>
Factors	= <u> </u>
Area	= <u> </u>
Product	= <u> </u>

$$\begin{aligned} (\quad) (\quad) &= \underline{\hspace{1cm}} \\ \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} &= \underline{\hspace{1cm}} \\ \underline{\hspace{1cm}} \cdot \underline{\hspace{1cm}} &= \underline{\hspace{1cm}} \end{aligned}$$



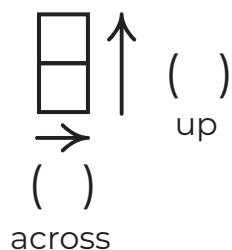
Multiplicand	= <u> </u>
Multiplier	= <u> </u>
Factors	= <u> </u>
Area	= <u> </u>
Product	= <u> </u>

$$\begin{array}{l} (\quad) (\quad) = \underline{\quad} \\ \underline{\quad} \times \underline{\quad} = \underline{\quad} \\ \underline{\quad} \cdot \underline{\quad} = \underline{\quad} \end{array}$$



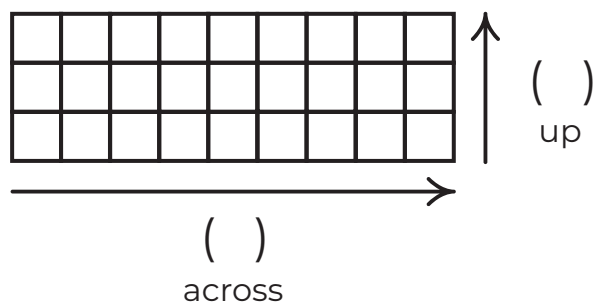
Multiplicand =
Multiplier =
Factors =
Area =
Product =

$$\begin{array}{l} (\quad) (\quad) = \underline{\quad} \\ \underline{\quad} \times \underline{\quad} = \underline{\quad} \\ \underline{\quad} \cdot \underline{\quad} = \underline{\quad} \end{array}$$



Multiplicand =
Multiplier =
Factors =
Area =
Product =

$$\begin{array}{l} (\quad) (\quad) = \underline{\quad} \\ \underline{\quad} \times \underline{\quad} = \underline{\quad} \\ \underline{\quad} \cdot \underline{\quad} = \underline{\quad} \end{array}$$

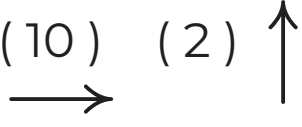
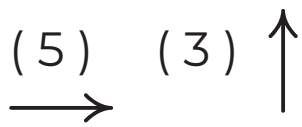
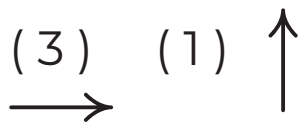
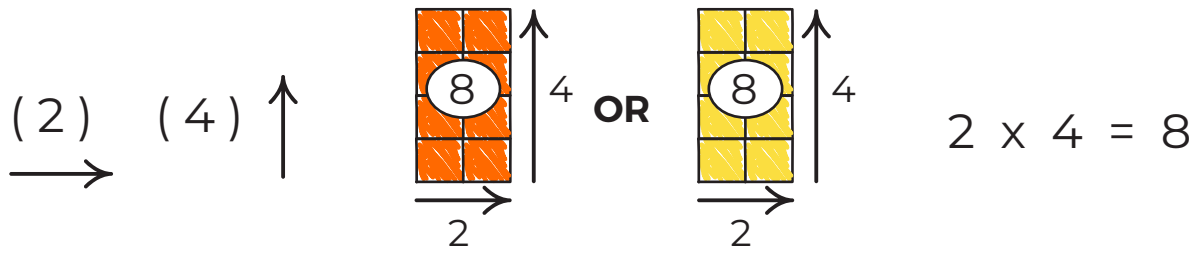


Multiplicand =
Multiplier =
Factors =
Area =
Product =

Multiply By Zero And One - Cumulative Review

Look at the factors below. Draw the rectangle, colour it and find the number of square units contained inside each particular shape.

Example:



$$2 \times 5 =$$

$$2 (2) =$$

$$6 \times 2 =$$

$$5 \times 3 =$$



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WORKBOOK SOLUTIONS
SAMPLE

PINK LESSON TWO



Multiply by Zero and One

2|1

(3)(1): $3 \times 1 = 3$

(6)(1): $6 \times 1 = 6$

(1)(5): $1 \times 5 = 5$

(4)(1): $4 \times 1 = 4$

(10)(1): $10 \times 1 = 10$

(1)(3): $1 \times 3 = 3$

(7)(0); cannot draw

(3)(1); 3 across, 1 up

(1)(3); 1 across, 3 up

(5)(1); 5 across, 1 up

(1)(5); 1 across, 5 up

(4)(0); cannot draw

2|2

$7 \cdot 0 = 0$; cannot draw

$9 \times 0 = 0$; cannot draw

$8 \cdot 1 = 8$; 8 across, 1 up

$5 \times 1 = 5$; 5 across, 1 up

(0)(2) = 0; cannot draw

$5 \times 1 = 5$; 5 across, 1 up

(7)(1) = 7; 7 across, 1 up

$0 \times 0 = 0$; cannot draw

$1 \times 3 = 3$; 1 across, 3 up

$8 \times 1 = 8$; 8 across; 1 up

$1 \times 4 = 4$; 1 across; 4 up

2|3

$1 \times 0 = 0$; (1)(0) = 0, $1(0) = 0$, $1 \cdot 0 = 0$

$6 \cdot 0 = 0$; (6)(0) = 0, $6 \times 0 = 0$, $6(0) = 0$

$1 \times 6 = 6$; (1)(6) = 6, $1(6) = 6$, $1 \cdot 6 = 6$

$$(7)(1) = 7; \quad 7 \times 1 = 7, \quad 7(1) = 7, \quad 7 \cdot 1 = 7$$

$$5 \times 1 = 5; \quad (5)(1) = 5, \quad 5(1) = 5, \quad 5 \cdot 1 = 5$$

$$4 \times 1 = 4; \quad (4)(1) = 4, \quad 4(1) = 4, \quad 4 \cdot 1 = 4$$

$$3 \times 1 = 3; \quad (3)(1) = 3, \quad 3(1) = 3, \quad 3 \cdot 1 = 3$$

$$0 \times 5 = 0; \quad (0)(5) = 0, \quad 0(5) = 0, \quad 0 \cdot 5 = 0$$

$$4 \times 0 = 0; \quad (4)(0) = 0, \quad 4(0) = 0, \quad 4 \cdot 0 = 0$$

$$8 \times 1 = 8; \quad (8)(1) = 8, \quad 8(1) = 8, \quad 8 \cdot 1 = 8$$

$$8 \times 1 = 8; \quad (8)(1) = 8, \quad 8(1) = 8, \quad 8 \cdot 1 = 8$$

2/4

Zero counted six times equals zero (nothing counted any number of times is still nothing).

No pocket money for six days: $6 \times 0 = 0$ (\$0 = no money).

Six children, one apple each: $6 \times 1 = 6$ (six apples are needed).

Eight counted one time equals eight: $8 \times 1 = 8$.

Four multiplied zero times: $4 \times 0 = 0$; $(4)(0) = 0$; $4 \cdot 0 = 0$.

Four toy elephants, one trunk each: $4 \times 1 = 4$ (four elephant trunks).

Three friends, one toothbrush each: $3 \times 1 = 3$ (three extra toothbrushes).

Eight questions, one mark each, all correct: $8 \times 1 = 8$ (eight marks for the test).

Seven jars, no money in any: $7 \times 0 = 0$ (\$0 = no money).

One dollar in each of ten jars: $10 \times 1 = 10$ (ten dollars).

2/5

One pot, three daffodils: $1 \times 3 = 3$ (three flowers).

Nine books, one bookmark each: $9 \times 1 = 9$ (nine bookmarks).

Six people, one bowl each: $6 \times 1 = 6$ (six bowls).

Six km but did not ride: $6 \times 0 = 0$ (zero kilometres, since we did not ride anywhere).

Four multiplied one time: $4 \times 1 = 4$; $(4)(1) = 4$; $4 \cdot 1 = 4$.

Three friends, one pillow each: $3 \times 1 = 3$ (three extra pillows).

Five people, one hat each: $5 \times 1 = 5$ (five hats).

One ring on each finger of one hand: $5 \times 1 = 5$ (five rings).

One beetle each day for five days: $5 \times 1 = 5$ (five beetles).

Six kangaroos, one joey each: $6 \times 1 = 6$ (six joeys).

2|6

$$2 \times 0 = 0 \quad (0 \times 2 = 0)$$

$$0 \times 3 = 0 \quad (3 \times 0 = 0)$$

$$4 \times 0 = 0 \quad (0 \times 4 = 0)$$

$$0 \times 5 = 0 \quad (5 \times 0 = 0)$$

$$6 \times 0 = 0 \quad (0 \times 6 = 0)$$

$$7 \times 0 = 0 \quad (0 \times 7 = 0)$$

$$0 \times 8 = 0 \quad (8 \times 0 = 0)$$

$$9 \times 0 = 0 \quad (0 \times 9 = 0)$$

$$10 \times 0 = 0 \quad (0 \times 10 = 0)$$

$$100 \times 0 = 0 \quad (0 \times 100 = 0)$$

$$2 \times 1 = 2 \quad (1 \times 2 = 2)$$

$$3 \times 1 = 3 \quad (1 \times 3 = 3)$$

$$1 \times 4 = 4 \quad (4 \times 1 = 4)$$

$$1 \times 5 = 5 \quad (5 \times 1 = 5)$$

$$6 \times 1 = 6 \quad (1 \times 6 = 6)$$

$$1 \times 7 = 7 \quad (7 \times 1 = 7)$$

$$8 \times 1 = 8 \quad (1 \times 8 = 8)$$

$$9 \times 1 = 9 \quad (1 \times 9 = 9)$$

$$1 \times 10 = 10 \quad (10 \times 1 = 10)$$

$$100 \times 1 = 100 \quad (1 \times 100 = 100)$$

2|7

(1)(1) = 1, $1 \times 1 = 1$, $1 \cdot 1 = 1$; Multiplicand = 1; Multiplier = 1; Factors = 1,1; Area = 1; Product = 1

(8)(2) = 16, $8 \times 2 = 16$, $8 \cdot 2 = 16$; Multiplicand = 8; Multiplier = 2; Factors = 8,2; Area = 16; Product = 16

$(7)(5) = 35$, $7 \times 5 = 35$, $7 \cdot 5 = 35$; Multiplicand = 7; Multiplier = 5; Factors = 7,5;
Area = 35; Product = 35

$(1)(2) = 2$, $1 \times 2 = 2$, $1 \cdot 2 = 2$; Multiplicand = 1; Multiplier = 2; Factors = 1,2; Area = 2;
Product = 2

$(9)(3) = 27$, $9 \times 3 = 27$, $9 \cdot 3 = 27$; Multiplicand = 9; Multiplier = 3; Factors = 9,3;
Area = 27; Product = 27

2|8

$(3)(1)$: 3 across, 1 up; $3 \times 1 = 3$

$(5)(3)$: 5 across, 3 up; $5 \times 3 = 15$

$(10)(2)$: 10 across; 2 up; $10 \times 2 = 20$

$2 \times 5 = 10$: 2 across, 5 up

$2(2) = 4$: 2 across, 2 up

$6 \times 2 = 12$: 6 across, 2 up

$5 \times 3 = 15$: 5 across, 3 up



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PART 1 OF 2

STUDENT ASSESSMENTS
SAMPLE

PINK LESSON TWO



Given our I-CRAVE methodology and the sequential, mastery-based approach of the Brighter Maths Program, these tests are provided as optional assessments.

The incorporation of paced release as a student progresses through each lesson building, drawing, writing and saying, ensures understanding before an algorithm is taught.

These assessments have been grouped into six units of five lessons each unit, enabling prompt intervention and ensuring confidence and enjoyment of maths as the student progresses. The final assessment reviews all content to ensure mastery before progress.

.....

.....

Student's Name

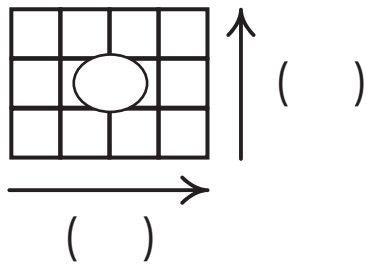
Year

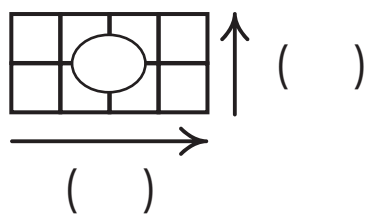
Record your results and the time taken for each unit assessment.

- ☐ **UNIT ONE** | **Lessons 1 – 5**
Results: Time taken:
- ☐ **UNIT TWO** | **Lessons 6 – 10**
Results: Time taken:.....
- ☐ **UNIT THREE** | **Lessons 11 – 15**
Results: Time taken:.....
- ☐ **UNIT FOUR** | **Lessons 16 – 20**
Results: Time taken:.....
- ☐ **UNIT FIVE** | **Lessons 21 – 25**
Results: Time taken:.....
- ☐ **UNIT SIX** | **Lessons 26 – 30**
Results: Time taken:.....
- ☐ **FINAL ASSESSMENT**
Results: Time taken:.....

UNIT ONE : Lesson 1 – Rectangles, Factors And Products

Fill in the brackets with the factors and write the product in the circle. Rewrite the problem three ways following the standard of 'across factor multiplied by up factor equals the product'.





Draw the rectangle that is the same as the following blocks, joined together. Write your answer to show what you have built as if you were

- Counting
- Adding
- Multiplying

Circle whichever is the most efficient when wanting to communicate larger quantities.



Counting: _____

Adding: _____

Multiplying: _____



Counting: _____

Adding: _____

Multiplying: _____

□ UNIT ONE : Lesson 2 - Multiply By Zero And One

Rewrite the following along with the answer as a maths sentence using two other multiplication symbols.

$$0 \times 4 =$$

$$9 \cdot 1 =$$

$$1 \times 4 =$$

$$(5)(1) =$$

$$(0)(8) =$$

$$\begin{array}{r} 3 \\ \times 0 \\ \hline \end{array}$$

Write the following as maths sentences. Include the answers.

How much is five, counted one time?

How much is zero counted four times?

If I had just one cookie jar that contain no cookies, how many cookies do I have?

I was paid nine dollars for raking the leaves in our garden. How much money did I make?

UNIT ONE : Lesson 3 – Skip Count By Two, Five, Ten

Skip count to calculate the answers to the following questions. Draw a rectangle to demonstrate this, then write the answers in a single line sequence.

Andy drank two cups of water every hour for four hours. How many cups of water did he drink altogether?

Sally will put five cookies in each of the four lunch bags. How many cookies will she need?

Each of the seven children on our team scored ten points. What was the total team score?

We rode our bikes five times around the mountain bike track. If the track is two kilometres in length, how many kilometres did we ride?

□ UNIT ONE : Lesson 4 - Multiply By Two

Draw the following as rectangles. Rewrite them as a maths sentence in two more ways using multiplication symbols.

$$5 \times 2 =$$

$$(4)(2) =$$

$$2 \times 6 =$$

$$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$$

How much is three, counted two times?

What is eight times two?

Answer the following life questions.

I want to make five sandwiches. Since each sandwich uses two pieces of bread, how many pieces of bread will I need?

On each of the two days over the weekend I rode seven kilometres. How many kilometres did I ride over the weekend?

□ UNIT ONE : Lesson 5 - Multiply By Ten

Draw the following as rectangles. Write each question as a maths sentence in two more ways, using multiplication symbols.

$$(10)(5) =$$

$$10 \times 1 =$$

$$2 \cdot 10 =$$

$$\begin{array}{r} 10 \\ \times 4 \\ \hline \end{array}$$

How much is ten, counted two times?

What is ten multiplied by six?

Answer the following life questions.

When I looked in my wallet, I found eight ten-cent coins. How much money do I have?

Since each centimetre contains ten millimetres, how many millimetres will there be in four centimetres? Use a ruler (if you have one) or freehand, to draw a line that shows this accurately.

UNIT ONE : Timed Review

Answer the following to check your mastery of these multiplication facts. Time yourself, if you like, to see how many you can answer correctly in one minute.

Answers correct _____ Time taken _____

$5 \times 0 =$	$1 \times 5 =$	$10 \times 5 =$
$2 \times 7 =$	$4 \times 2 =$	$(10)(10) =$
$(3)(2) =$	$7 \times 1 =$	$8 \times 0 =$
$1 \times 1 =$	$4 \times 0 =$	$10 \cdot 1 =$
$(2)(2) =$	$(9)(1) =$	$2 \times 8 =$
$(10)(4) =$	$2 \times 5 =$	$10 \cdot 7 =$
$7 \times 0 =$	$2 \times 3 =$	$6 \times 2 =$
$5 \times 10 =$	$(1)(8) =$	$3 \times 0 =$
$2 \times 6 =$	$0 \times 9 =$	$2 \times 10 =$
$10 \times 9 =$	$(2)(9) =$	$1 \times 9 =$



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PART 1 OF 2

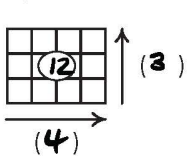
ASSESSMENTS SOLUTIONS
SAMPLE

PINK LESSON TWO

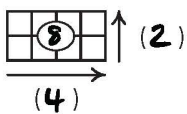


UNIT ONE : Lesson 1 - Rectangles, Factors And Products

Fill in the brackets with the factors and write the product in the circle. Rewrite the problem three ways following the standard of 'across factor multiplied by up factor equals the product'.



$$\begin{aligned} 4 \times 3 &= 12 \\ (4)(3) &= 12 \\ 4 \cdot 3 &= 12 \end{aligned}$$



$$\begin{aligned} 4 \times 2 &= 8 \\ (4)(2) &= 8 \\ 4 \cdot 2 &= 8 \end{aligned}$$

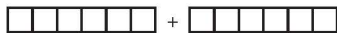
Draw the rectangle that is the same as the following blocks, joined together. Write your answer to show what you have built as if you were

- Counting
- Adding
- Multiplying

Circle whichever is the most efficient when wanting to communicate larger quantities.



Counting: $1+1+1+1+1+1+1+1+1+1+1+1=12$
 Adding: $3+3+3+3=12$
 Multiplying: $3 \times 4 = 12$



Counting: $1+1+1+1+1+1+1+1+1+1+1+1=12$
 Adding: $6+6=12$
 Multiplying: $6 \times 2 = 12$



UNIT ONE : Lesson 2 - Multiply By Zero And One

Rewrite the following along with the answer as a maths sentence using two other multiplication symbols.

$$0 \times 4 = 0 \quad (0)(4) = 0 \quad 0 \cdot 4 = 0$$

$$9 \cdot 1 = 9 \quad (9)(1) = 9 \quad 9 \times 1 = 9$$

$$1 \times 4 = 4 \quad (1)(4) = 4 \quad 1 \cdot 4 = 4$$

$$(5)(1) = 5 \quad 5 \times 1 = 5 \quad 5 \cdot 1 = 5$$

$$(0)(8) = \quad (0)(8) = 0 \quad 0 \cdot 8 = 0$$

$$\begin{array}{r} 3 \\ \times 0 \\ \hline 0 \end{array} \quad (3)(0) = 0 \quad 3 \cdot 0 = 0$$

Write the following as maths sentences. Include the answers.

How much is five, counted one time?

$$5 \times 1 = 5$$

How much is zero counted four times?

$$0 \times 4 = 0$$

If I had just one cookie jar that contain no cookies, how many cookies do I have?

$$1 \times 0 = 0 \quad \text{I have no cookies.}$$

I was paid nine dollars for raking the leaves in our garden. How much money did I make?

$$9 \times 1 = 9 \quad \text{I made nine dollars.}$$

UNIT ONE : Lesson 3 - Skip Count By Two, Five, Ten

Skip count to calculate the answers to the following questions. Draw a rectangle to demonstrate this, then write the answers in a single line sequence.

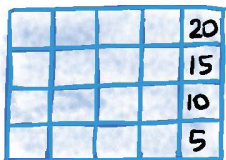
Andy drank two cups of water every hour for four hours. How many cups of water did he drink altogether?



2, 4, 6, 8

Andy drank eight cups of water.

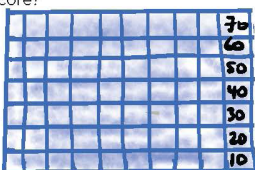
Sally will put five cookies in each of the four lunch bags. How many cookies will she need?



5, 10, 15, 20

Sally needs twenty cookies.

Each of the seven children on our team scored ten points. What was the total team score?



10, 20, 30, 40, 50, 60, 70

The total team score was seventy points.

We rode our bikes five times around the mountain bike track. If the track is two kilometres in length, how many kilometres did we ride?



5, 10

We rode ten kilometres.

UNIT ONE : Lesson 4 - Multiply By Two

Draw the following as rectangles. Rewrite them as a maths sentence in two more ways using multiplication symbols.

$$5 \times 2 = 10 \quad 5 \cdot 2 = 10 \quad (5)(2) = 10 \quad \begin{array}{r} 5 \\ \times 2 \\ \hline 10 \end{array} \quad \text{Diagram: 5x2 grid of blue blocks}$$

$$(4)(2) = 8 \quad 4 \times 2 = 8 \quad 4 \cdot 2 = 8 \quad \begin{array}{r} 4 \\ \times 2 \\ \hline 8 \end{array} \quad \text{Diagram: 4x2 grid of yellow blocks}$$

$$2 \times 6 = 12 \quad (2)(6) = 12 \quad 2 \cdot 6 = 12 \quad \begin{array}{r} 2 \\ \times 6 \\ \hline 12 \end{array} \quad \text{Diagram: 2x6 grid of orange blocks}$$

$$\begin{array}{r} 3 \\ \times 2 \\ \hline 6 \end{array} \quad 3 \times 2 = 6 \quad 3 \cdot 2 = 6 \quad (3)(2) = 6 \quad \text{Diagram: 3x2 grid of pink blocks}$$

How much is three, counted two times?

$$\text{Six } (3 \times 2 = 6)$$

What is eight times two?

$$\text{Sixteen } (8 \times 2 = 16)$$

Answer the following life questions.

I want to make five sandwiches. Since each sandwich uses two pieces of bread, how many pieces of bread will I need?

$$\text{I will need ten pieces of bread. } (5 \times 2 = 10)$$

On each of the two days over the weekend I rode seven kilometres. How many kilometres did I ride over the weekend?

$$\text{I rode fourteen kilometres. } (2 \times 7 = 14)$$

UNIT ONE : Lesson 5 - Multiply By Ten

Draw the following as rectangles. Write each question as a maths sentence in **two** more ways, using multiplication symbols.

$(10)(5) = 50$	$10 \times 5 = 50$ $10 \cdot 5 = 50$	$\begin{array}{r} 10 \\ \times 5 \\ \hline 50 \end{array}$	
$10 \times 1 = 10$	$10 \times 1 = 10$ $(10)(1) = 10$	$\begin{array}{r} 10 \\ \times 1 \\ \hline 10 \end{array}$	
$2 \cdot 10 = 20$	$2 \times 10 = 20$ $(2)(10) = 20$	$\begin{array}{r} 2 \\ \times 10 \\ \hline 20 \end{array}$	
$\begin{array}{r} 10 \\ \times 4 \\ \hline 40 \end{array}$	$10 \cdot 4 = 40$ $(10)(4) = 40$ $10 \times 4 = 40$		

How much is ten, counted two times?

Twenty ($2 \times 10 = 20$)

What is ten multiplied by six?

Sixty ($6 \times 10 = 60$)

Answer the following life questions.

When I looked in my wallet, I found eight ten-cent coins. How much money do I have?

I have eighty cents ($8 \times 10 = 80$).

Since each centimetre contains ten millimetres, how many millimetres will there be in four centimetres? Use a ruler (if you have one) or freehand, to draw a line that shows this accurately.

Four centimetres is forty millimetres ($4 \times 10 = 40$).

UNIT ONE : Timed Review

Answer the following to check your mastery of these multiplication facts. Time yourself, if you like, to see how many you can answer correctly in one minute.

Answers correct _____ Time taken _____

$5 \times 0 = 0$	$1 \times 5 = 5$	$10 \times 5 = 50$
$2 \times 7 = 14$	$4 \times 2 = 8$	$(10)(10) = 100$
$(3)(2) = 6$	$7 \times 1 = 7$	$8 \times 0 = 0$
$1 \times 1 = 1$	$4 \times 0 = 0$	$10 \cdot 1 = 10$
$(2)(2) = 4$	$(9)(1) = 9$	$2 \times 8 = 16$
$(10)(4) = 40$	$2 \times 5 = 10$	$10 \cdot 7 = 70$
$7 \times 0 = 0$	$2 \times 3 = 6$	$6 \times 2 = 12$
$5 \times 10 = 50$	$(1)(8) = 8$	$3 \times 0 = 0$
$2 \times 6 = 12$	$0 \times 9 = 0$	$2 \times 10 = 20$
$10 \times 9 = 90$	$(2)(9) = 18$	$1 \times 9 = 9$

UNIT TWO : Lesson 6 - Multiply By Five

Draw the following as rectangles. Write each question as a maths sentence in **two** more ways using multiplication symbols.

$(5)(3) = 15$	$5 \times 3 = 15$ $5 \cdot 3 = 15$	$\begin{array}{r} 5 \\ \times 3 \\ \hline 15 \end{array}$	
$5 \times 7 = 35$	$(5)(7) = 35$ $5 \cdot 7 = 35$	$\begin{array}{r} 5 \\ \times 7 \\ \hline 35 \end{array}$	
$8 \cdot 5 = 40$	$8 \times 5 = 40$ $(8)(5) = 40$	$\begin{array}{r} 8 \\ \times 5 \\ \hline 40 \end{array}$	
$\begin{array}{r} 5 \\ \times 4 \\ \hline 20 \end{array}$	$5 \times 4 = 20$ $5 \cdot 4 = 20$ $(5)(4) = 20$		

How much is five, counted six times?

Thirty ($5 \times 6 = 30$)

What is five multiplied by two?

Ten ($5 \times 2 = 10$)

Answer the following life questions.

If each log was five metres long, what would be the length of three logs?

Fifteen metres ($5 \times 3 = 15$).

If you have five fingers on each hand, how many fingers do you have?

Ten fingers ($5 \times 2 = 10$).

UNIT TWO : Lesson 7 - Area Of A Rectangle And Square

Find the number of square units contained within each of the following rectangles. Identify whether or not they are also a square, and write a maths sentence to communicate the information. Make sure that you use the correct unit of measure, and identify something from your life that could be this size.

Area = **6m²**

Is this a square? Why or why not? **No. The sides are not the same length.**

What could this be measuring? **(Various)**

Area = **4km²**

Is this a square? Why or why not? **Yes. All sides are the same length.**

What could this be measuring? **(Various)**

Area = **40cm²**

Is this a square? Why or why not? **No. The sides are not the same length.**

What could this be measuring? **(Various)**

Answer the following life questions.

We bought some shade cloth to cover the swimming pool over summer. It measured three metres wide and ten metres long. How many square metres is the shade cloth?

Thirty square metres. ($3m \times 10m = 30m^2$)

The swimming pool itself measures two metres wide and eight metres long. How many square metres is the surface of the swimming pool?

Sixteen square metres. ($2m \times 8m = 16m^2$)