

Diving into Mastery



# Multiply Decimals by Integers

# Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:



**Diving**



**Deeper**



**Deepest**

These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.



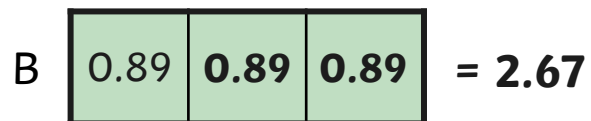


# Aim

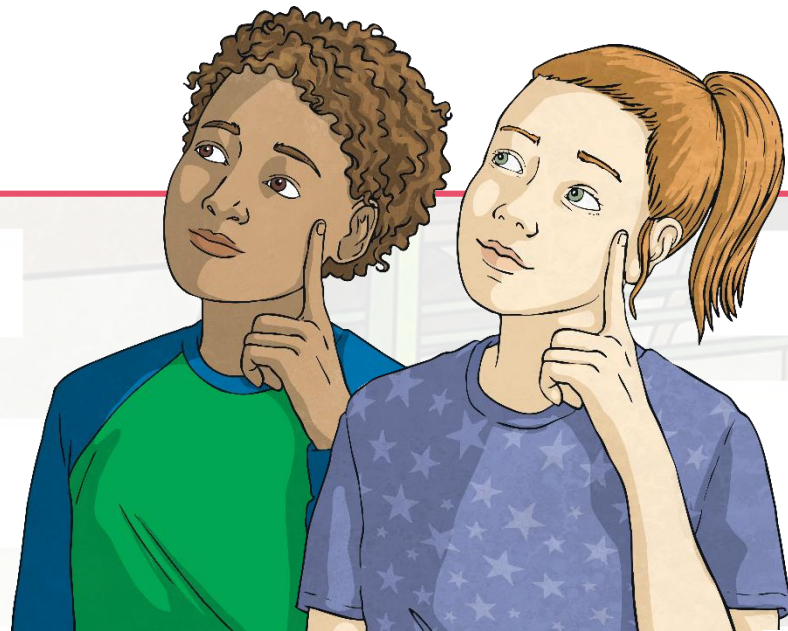
- Multiply one-digit numbers with up to two decimal places by whole numbers.



Use bar model B to help you give the total value of bar model A.



$$A = 2.67 \times 4 = 10.68$$







Complete this multiplication table with the missing numbers:

$\times$	2.87	3.45
4	11.48	13.8
6	17.22	20.7

## Multiply Decimals by Integers

## Deeper



Anna is using a place value chart to help her find the answer to this missing digit multiplication question.

Ones	Tenths	Hundredths
1 1 1 1	0.1 0.1	0.01
1 1 1 1	0.1 0.1	0.01

$$\square . \square \square \times 2 = 8.64$$

- a) Is Anna correct? If not, what multiplication calculation does Anna's place value chart represent?

**Anna has represented  $4.21 \times 2 = 8.42$**

- b) In order to get the correct answer of 8.64, Anna will need to add one tenth counter and one hundredth counter to the place value chart. Is this statement correct? Explain your answer fully.

**The statement is not correct as adding just one of each of the counters to the chart will show an answer of 8.53. In order to get the correct answer of 8.64 Anna needs to represent 4.32 in each of the place value rows by adding two tenth counters and two hundredth counters, placing one in each row.**





Complete this number statement. Do not use a digit more than once.  
Find five different possibilities.

Different digits  
from 0-9 may be  
used here

$$\square . \square \square$$

A digit from 2-9  
may be used here

$$\times \square =$$

An answer  
between 6 and 8

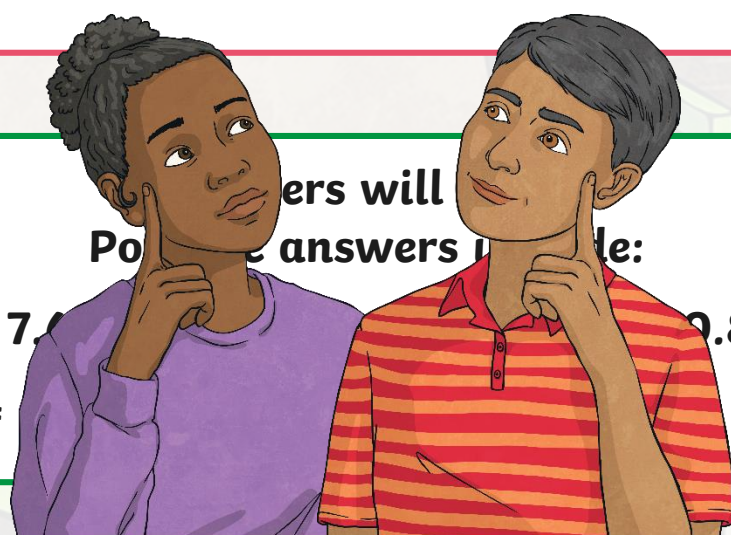
$$\square$$

Possible answers will be:

$$2.56 \times 3 = 7.68$$

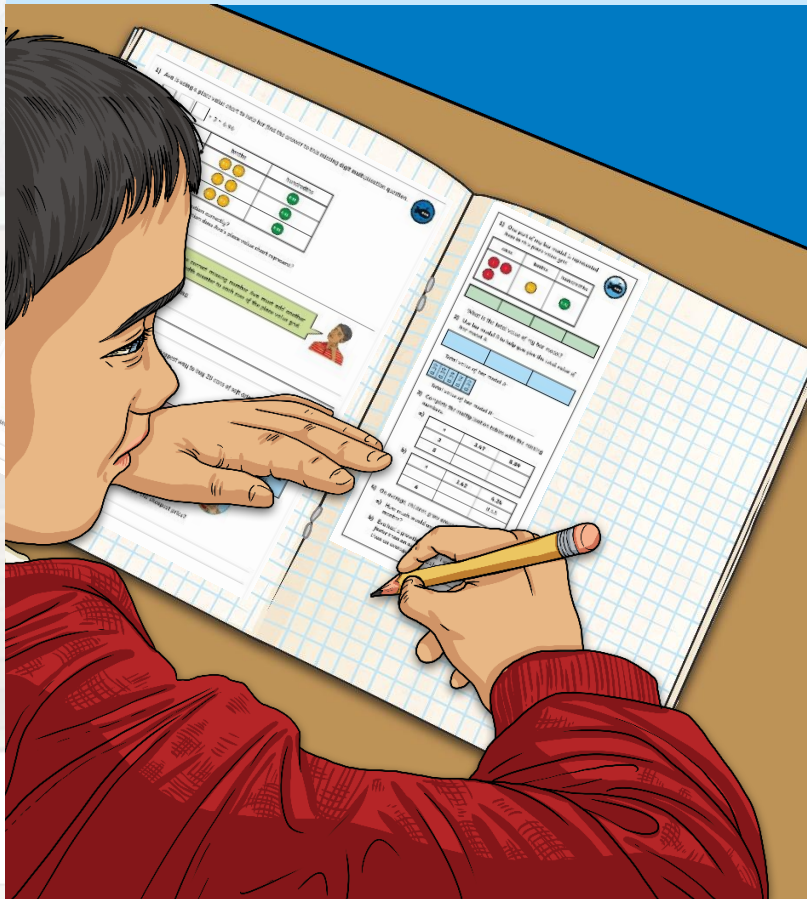
$$3.10 \times 2 = 6.20$$

$$0.87 \times 7 = 6.09$$



# Multiply Decimals by Integers

Dive in by completing your own activity!



1) One part of my bar model is represented here in this place value grid.

ones	tenths	hundredths

What is the total value of my bar model?

2) Use bar model B to help you give the total value of bar model A.

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Total value of bar model A: \_\_\_\_\_

3) Complete the multiplication tables with the missing numbers.

a)

×	3.47	5.09
3		
5		

b)

×	1.62	4.24
6		8.48

4) On average, children grow around 0.58cm a month.

a) How much would an average child grow in 8 months?

b) Eva had a growth spurt and grew three times faster than an average child. How much more than an average child did she grow in 8 months?



# Need Planning to Complement this Resource?

## National Curriculum Aim

Multiply one-digit numbers with up to two decimal places by whole numbers.

**Short Multiplication**

Use a grid to multiply 12 by 34. Write the answer.

£	1	5	4
×	3	4	
-----			
£	6	2	4
£	4	6	8
-----			
£	13	8	8

**A Day out with Friends**

**Bus Ticket Decimals**

Look at the bus ticket, making mental notes.

Step 1: How much did the bus cost? £1.54

Step 2: How much did the bus cost? £1.54

Step 3: Calculate the bus cost. How much did the bus cost? £1.54

Step 4: How much did the bus cost? £1.54

Step 5: How much did the bus cost? £1.54

Step 6: How much did the bus cost? £1.54

Step 7: How much did the bus cost? £1.54

Step 8: How much did the bus cost? £1.54

Step 9: How much did the bus cost? £1.54

Step 10: How much did the bus cost? £1.54

**Fractions: A Day out with Friends**

**A Day**

**A Day**

**A Day out with Friends**

**Sticky-Tape Decimals**

Use the sticky-tape to solve the problem. How many metres of sticky-tape does the factory produce in 25 minutes?

1	2	5	
8	4	7	
3	8		
6	2	6	
2	2	1	0
3	2	1	6
1			

**Factory Decimals**

**Wrapping-Paper Decimals**

Look at the box of wrapping paper. How much wrapping paper does the factory produce in 25 minutes?

You need to multiply 6.53 by 25.

The calculation you need to complete to answer the question is:  $6.53 \times 25$

**Fractions: Factory Decimals**

**Decimal Ma**

**Factory Decimals**



