

# MULTIPLYING AND DIVIDING DECIMALS BY WHOLE NUMBERS

## Calculating

### Academic Excellence

We will learn the knowledge on the 'recall page' and we will be mastering the following skills:

Present work neatly and effectively to demonstrate learning

Ask for help when needed

### Character: ASPIRATION

How will I demonstrate this?

I will demonstrate positive character traits that will help me to succeed

I will strive to be the best I can be

We will extend our knowledge of the number system to include decimals

### Learning to Learn

We will look at different representations to help us understand the learning

### Personalisation

What will help me in this experience?

Ask questions to support me in developing my understanding

Use resources available within the classroom to support my understanding

### Rights Respecting

Article 28 – right to education

We will all have access to high quality maths education using resources to support our learning

### Concept: COMPOSITION

Numbers between whole numbers are decimal fractions

# Recall Page

## Vocabulary

decimal point	A dot placed after the figure representing units in a decimal fraction
tenth	A whole divided into 10
hundredth	A whole divided into 100
thousandth	A whole divided into 1000
multiply	Increase by an amount
divide	Decrease by an amount

## Knowledge

**Teaching point 1:** Decimal fractions (with a whole number of tenths or hundredths) can be multiplied by a whole number by using known multiplication facts and unitising.

**Teaching point 2:** Multiplying by 0.1 is equivalent to dividing by 10; multiplying by 0.01 is equivalent to dividing by 100. Understanding of place value can be used to divide a number by 10/100: when a number is divided by 10, the digits move one place to the right; when a number is divided by 100, the digits move two places to the right.

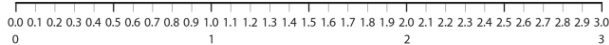
**Teaching point 3:** To multiply a single-digit number by a decimal fraction with up to two decimal places, convert the decimal fraction to an integer by multiplying by 10 or 100, perform the resulting calculation using an appropriate strategy, then adjust the product by dividing by 10 or 100.

**Teaching point 4:** If the multiplier is less than one, the product is less than the multiplicand; if the multiplier is greater than one, the product is greater than the multiplicand.

**Teaching point 5:** To divide any decimal fraction with up to two decimal places by a single-digit number, convert the decimal fraction to an integer by multiplying by 10 or 100, perform the resulting calculation using an appropriate strategy, then adjust the quotient by dividing by 10 or 100.

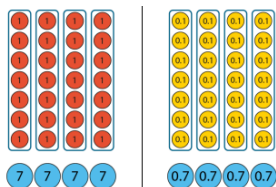
## Representations

Number line:



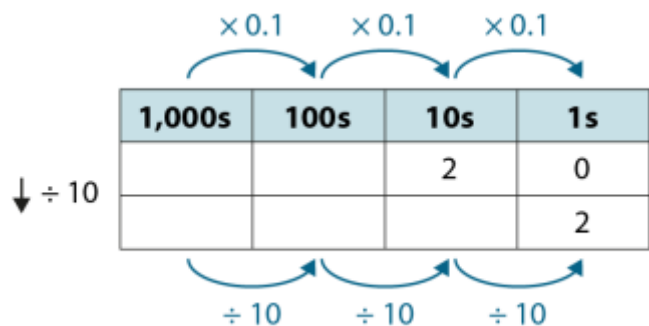
Gattegno chart:

1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000
100	200	300	400	500	600	700	800	900
10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9



$$4.56 \times 4 = 18.24$$

$$\begin{array}{r} 4.56 \\ \times 4 \\ \hline 18.24 \end{array}$$



$$6 \overline{) 0.41} = 0.06833\ldots$$