Edward Peake Church of England Middle School			
Topic: Multiplication and Division	**Year: 5**	**NC Strand:**	

What should I already know?

- Recall and use multiplication and division facts for multiplication tables up to 12 × 12
- Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers. Factor pairs
- Recognise and use factor pairs and commutativity in mental calculations. Written methods
- Multiply two-digit and three-digit numbers by a one digit number using formal written layout.
- Multiply 3-digits by 1-digit
- Divide 2-digits by 1-digit
- Divide 3-digits by 1-digit
- Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit,
- integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

What will I know by the end of the unit?

- How to find multiples of whole numbers
- How to list the factor pairs of whole numbers
- How to find the common factors of two numbers
- How to recall prime numbers up to 19
- How to find out (establish) if a number less than 100 is a prime number
- How to explain if a number is a square number by finding it's factors
- How to the cube numbers of an integer
- How to multiply a whole number by 10, 100 and 1000
- How to divide a whole number by 10, 100 and 1000 using a place value chart
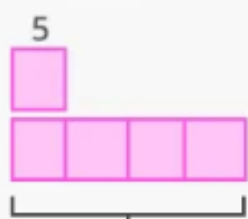- How to multiply by a multiple of 10, 100 and 1000

Vocabulary

Multiple	Multiply
product	Divide
array	Divisor
factor	Dividend
Factor pair	Quotient
Common factor	digit
Venn diagram	Square number
Prime numbers	sequence
Composite numbers	Cube number
Prime factor	Powers of ten

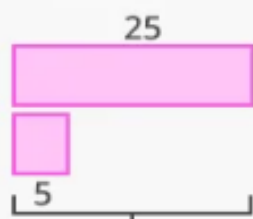| Edward Peake Church of England Middle School			
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Diagram

Multiplication

$4 \times 5 = ?$

5

$4 \times 5 = 20$

Division

$25 \div 5 = ?$

25

5

$25 \div 5 = 5$

Key Information

Dividend

$40 \div 8 = 5$

Divisor   Quotient

$2 \times 4 = 8$

Factors   Product

Investigate/Homework tasks

- Homework will be set from the booklet issued by your teacher

- You should complete at least 30 minutes of maths tasks on Maths Whizz (not games). Please attend help sessions if you do not have access to the internet at home
- Additional work you could complete:
  - Find out more about the meaning of the vocabulary list using http://www.amathsdictionaryforkids.com/
- To challenge yourself:
  - Investigate the key questions typed in red text
  - Explain the key questions typed in purple text

Challenge yourself by answering the green questions

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Key skills/Timeline/Topic Questions

What do you notice about the multiples of 5? What is the same about each of them, what is different?	Are the squares of even numbers always even? Are the squares of odd numbers always odd?
Look at multiples of other numbers, is there a pattern that links them to each other?	Why are cube numbers called cube numbers?
Are all multiples of 8 multiples of 4?	How are squared numbers and cube numbers similar? Different?
Are all multiples of 4 multiples of 8?	True or false: cubes of even numbers are even and cubes of odd numbers are odd?
How can you work in a systematic way to prove you have found all the factors?	Which direction do the digits move when you multiply by 10, 100 or 1000?
Do factors always come in pairs?	When we have an empty place value column to the right of our digits what number do we use as a place holder?
How can we use our multiplication and division facts to find factors?	What happens to the digits of a number when you divide by 10?
How can we find common factors systematically?	How are dividing by 10, 100 and 1,000 related to each other?
How does a Venn diagram help to show common factors? Where are the common factors?	How are dividing by 10, 100 and 1,000 linked to multiplying by 10, 100 and 1,000?
How many factors do the numbers 5, 13, 17 and 23 have? What type of number are these?	What does inverse mean?
What is a composite number?	If we are multiplying by 20, can we break it down into two steps and use our knowledge of dividing by 10? Give an example.
Why are square numbers called square numbers?	
Are there any patterns in the sequence of square numbers?	