## Maths- Skills

## This lesson will be live on teams for

your class at; 9am-5L 10am-5H 11am-5M

Learning objective; To revisit multiplying and dividing by 10, 1001000.

## Warm up- Which of these statements are true or false. Can you explain why?

## True or False?

## True or False?

There are 13 marbles and two jars, if you share them equally, there will be none left over.

## Explain your answer.

$5 \times 4$ is equal to $4 \times 5$

Explain your answer.

If you divide a number by 2 , the answer is always even.

## True or False?

Explain your answer.

## True or False?

Multiplication is the inverse (opposite) of division.

Explain your answer.

## To multiply and divide by 10, 100, 100

Do I need to use my column method ?
Or
Should I use my place value knowledge?


Place Value Grid


## It is our place value knowledge.

- When we multiply by $10,100,100$ the digits all get a multiple of 10 larger. This means that they move to the left in a place value grid. For example a 4 will move from the 'ones' column into the 'tens' column making it 40 if multiplied by 10 . It moved one place to the left
- If I am dividing the same principles apply but it will be getting smaller so moves to the left. 3600 divided by 100 will move the 3 from the 'thousands' column into the 'tens' column and the 6 from the 'hundreds' column into the ones 'column' making the answer 36 . It has moved 2 places to the right


Multiplying and Dividing by 10, 100 and 1000


- Looking at this support sheet, can you tell me any other facts about multiplying and dividing by $10,100,1000$ ?
- Why do I move one place when operating with 10 ? 2 with 100 ? 3 with 1000 ?
- So how would I multiply or divide by 1000000 ?

Fluency
1*

|  | $\mathbf{x 1 0}$ | $\mathbf{x 1 0 0}$ | $\mathbf{x 1 0 0 0}$ |
| :---: | :---: | :---: | :---: |
| 5.7 |  |  |  |
| 23.02 |  |  |  |
| 0.92 |  |  |  |
| 0.306 |  |  |  |
| 24.67 |  |  |  |

Multiply the following numbers by 10, 100 and 1000 to complete the table.

|  | $\mathbf{x 1 0}$ | $\mathbf{x 1 0 0}$ | $\mathbf{x 1 0 0 0}$ |
| :---: | :---: | :---: | :---: |
| 4.02 |  |  |  |
| 0.045 |  |  |  |
| 34.094 |  |  |  |
| 209.817 |  |  |  |
| 0.006 |  |  |  |

Complete the following table.

|  | $\div \mathbf{1 0 0 0}$ | $\mathbf{x 1 0 0}$ | $\div \mathbf{1 0}$ |
| :---: | :---: | :---: | :---: |
| 6.45 |  |  |  |
| 0.501 |  |  | 93.6 |
|  | 7.18 |  |  |
|  |  |  |  |

## Reasoning- lets look at and discuss these questions.



```
Jack is thinking of a 3-digit number.
When he multiplies his number by 100,
the ten thousands and hundreds digit are
the same.
The sum of the digits is }1
What number could Jack be thinking of?
```


## Plenary- Missing number

1. Use the multiplication and division facts below to fill in the missing numbers to complete the calculations

| Multiplication/Division Fact | Missing number calculation |
| :--- | :--- |
| $6.4 \times 10=64$ | $64 \div 10=$ |
| $75 \div 10=7.5$ | $7.5 \times 10=$ |
| $6530 \div 100=65.3$ | $65.3 \times 100=$ |
| $24.5 \times 100=2450$ | $2450 \div 100=$ |
| $7.6 \times 1000=7600$ | $7600 \div 1000=$ |
| $45 \div 100=0.45$ | $0.45 \times 100=$ |

2. Fill in the missing numbers in these multiplication calculations:
a. $53 \times$ $\qquad$ $=530$
b. $\qquad$ $\times 10=340$
c. $38 \times$ $\qquad$ $=3800$
d. $\qquad$ $\times 1000=4000$
