# The Relationship between digits in different places

### Place Value in Base 10

Our numbers use a place value system based on groups of ten.

This means that each place value column is ten times larger than the column before.

Ten Thousands	Thousands	Hundreds	Tens	Ones/Units
10 x 1 thousand 100 x 1 hundred 1,000 x 1 ten	10 x 1 hundred 100 x 1 ten 1,000 x 1 unit	10 x 1 ten 100 x 1 unit	10 x 1 unit	

#### Place Value in Base 10 - Revision

As we have learned, our numbers use a place value system based on groups of ten. Each place value column is ten times larger than the column before.

1 10 100 1000 10 000 Look at the numbers in the box. Can you see a pattern?

# Making Numbers Larger

As we move from the ones column into the tens column, a zero is added. This shows that the number is ten times larger – it has been multiplied by 10. The same thing happens as we keep moving to the left through the columns - the pattern never ends! If you move 2 columns to the left you increase the value by 100 times.

10 000 100 100 10 1 x 10 x 10 x 10	Ten Thousands	Thousands	Hundreds	Tens	Ones/Units
x 10	10 000	1000	100	10	1
·	-	x 10 -	x 10	x 10	x 10

X 100

X 100

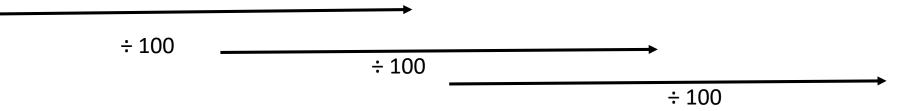
X 100

## Making Numbers Smaller

As we move from the ten thousands column into the thousands column, a zero is removed. This shows that the number is ten times smaller – it has been divided by 10. The same thing happens as we move to the right through the columns.

If you move 2 columns to the right you decrease the value by 100 times.

Ten Thousands	Thousands	Hundreds	Tens	Ones/Units
10 000	1000	100	10	1
÷ 10	÷ 10	÷ 10	÷ 10	



## The Relationship between places

- What is the relationship in between the circled 3 and the boxed 3 in 934,327
  - The circled 3 is in the ten thousands place and has a value of 30,000. The boxed 3 is in the hundreds place and has a value of 300. The circled 3 is 100 times larger than the boxed 3. (or: The boxed 3 is 100 times smaller than the circled 3)
- What is the relationship between the circled 4 and the boxed 4 in 34,564
  - The boxed 4 is in the thousands place and has a value of 4,000. The circled 4 is in the ones place and has a value of 4. The circled 3 is 1,000 times smaller than the boxed 4. (or: The boxed 4 is 1,000 times larger than the circled 4)