

Year 6

Decimal Place Value

Mastery Challenge Cards



Maths Mastery **Decimal Place Value**

Pavel writes three decimal fractions with 3 in the hundredths place.

0.234, 0.432, 0.334

He adds the decimals. Find the answer yourself, then find 2 more sets of three decimals with 3 in the hundredths place with the same total.

Work alone or with a partner to find which other digits can be put in the hundredths place of a number with 3 decimal places and have the same total as those above.

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Maths Mastery **Decimal Place Value**

Nikita tries to find 2 decimal fractions with the same digit in the thousandths place that totals 1.

Work alone or with a partner to help Nikita find 2 decimal fractions where this would work.

Explain why it is not possible for 2 decimal fractions with 3 decimal places to have the same digit in the hundredths place and to total 1.



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Maths Mastery **Decimal Place Value**

George writes a number of decimal fractions.

Circle all the decimal fractions with 8 in the hundredths place.

Explain how you know the numbers you have circled have 8 in the hundredths place.

0.378

0.892

0.581

0.408

0.826

0.985

0.268

0.387

0.278

0.895

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Maths Mastery **Decimal Place Value**

Pavel writes a number of decimal fractions.

Circle all the decimal fractions with 5 in the tenths place.

Explain how you know the numbers you have circled have 5 in the tenths place.

0.548

0.458

0.295

0.572

0.451

0.045

0.519

0.53

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Maths Mastery **Decimal Place Value**

Nikita writes a number of decimal fractions.

Circle all the decimal fractions with 2 in the thousandths place.

Explain how you know the numbers you have circled have 2 in the thousandths place.

0.623

0.812

0.239

0.421

0.266

0.832

0.275

0.329

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Maths Mastery **Decimal Place Value**

George describes a number. "The number is between 1 and 2. There is a 5 in the tenths place, 8 in the hundredths place and a 1 in the thousandths place."

What is George's number?

With a partner, describe numbers to each other.



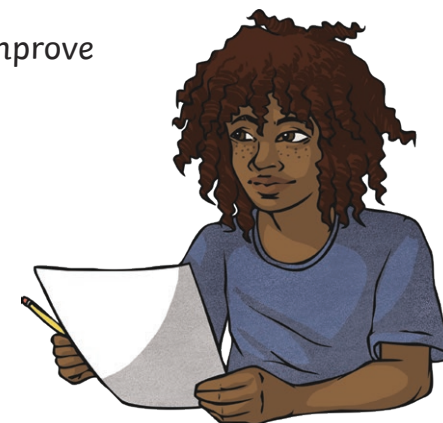
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Maths Mastery **Decimal Place Value**

Pavel says, "When you multiply a decimal number by 10, the decimal point is moved one place to the left."

$$4.56 \times 10 =$$

Work alone or with a partner to improve Pavel's explanation.



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Nikita says, "When you divide a decimal number by 100, the digits move one decimal place to the right."

$$4.56 \div 100 =$$

Work alone or with a partner to improve Nikita's explanation.



George writes some decimal numbers:

0.38 2.05 12.9 8.52

He asks, "What numbers are multiplied by 10 to give the answers above?"

Then he asks, "What numbers are divided by 10 to give the answers above?"

Work with a partner to repeat this exercise.

Nikita writes some decimal numbers:

7.2 0.98 23.1 9.02

He asks, "What numbers are multiplied by 100 to give the answers above?"

Then he asks, "What numbers are divided by 100 to give the answers above?"

Work with a partner to repeat this exercise.

Pavel thinks of a decimal fraction:

"I divide it by 10."

"I add 7 hundredths."

"I multiply the number by 100"

"I subtract 2 tenths."

"My new number is 31.4."

"What number did I start with?"



Maths Mastery **Decimal Place Value**

I am a four-digit decimal fraction between 3 and 4.

I have **3 decimal places**.

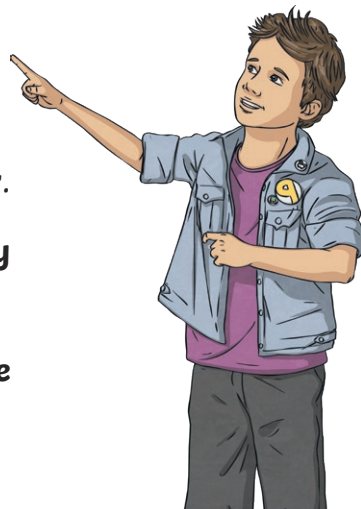
I am an **even number**.

My thousandths digit is a **prime number**.

My tenths digit is **one more than my hundredths**.

My hundredths digit is **3 times the size of my thousandths digit**.

What am I?



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Maths Mastery **Decimal Place Value**

Calculate the missing digits:

$$\square.3\square2 + 2.43\square = 8.\square29$$



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Maths Mastery **Decimal Place Value**

What must be added to **1.076** to make **1.9**?

What must be added to **1.076** to make **1.09**?



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Maths Mastery **Decimal Place Value**

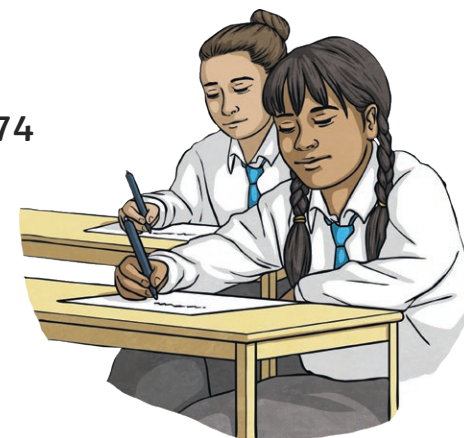
True or False?

$$5.267 \times 10 = 52.67$$

$$(0.001 \times 100) + 3.764 = 3.774$$

$$8.098 > 8.089$$

$$5.732 - 1.04 = 4.792$$



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What is halfway between **6.428** and **3.714**?



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Which of these numbers is closest to **5.523**?

5.891

or

5.124



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Use these 4 digits to make a number that when rounded to the nearest whole number makes 37.

6 3 4 9

Use these digits to make a number that when rounded to the nearest whole number makes 10.

2 9 0 5

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