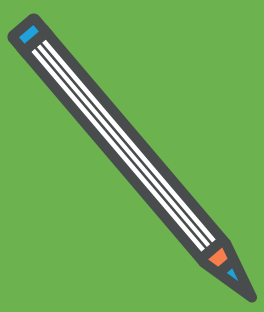
Mathvember

By Whizz Education

Enrichment sheets

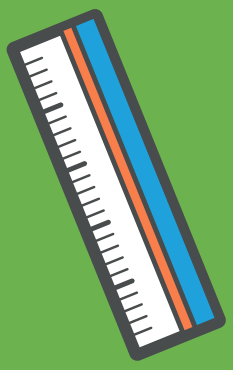
Place Value

Years 1 - 6







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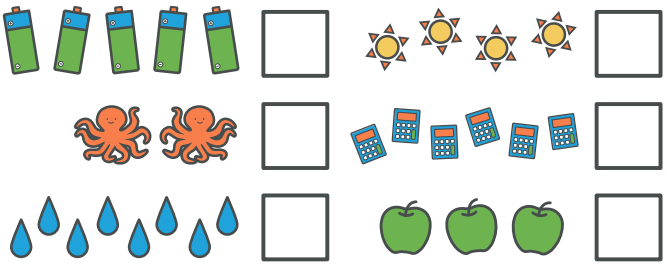
Year F/1

Objective: Recognise the value of a number to 10

How many?

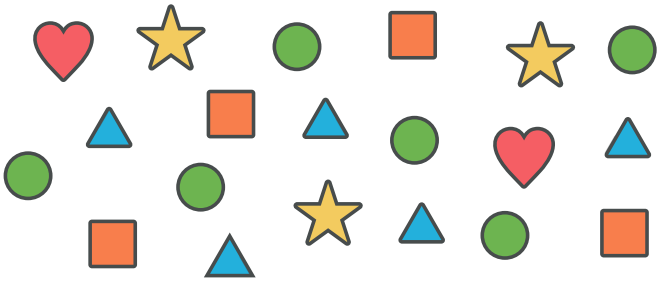


Draw 7 cats

Thread 10 beads onto a lace

Put 4 cubes together

Count how many of each shape



Triangles ☐ Squares ☐

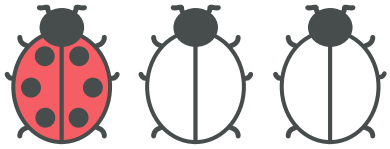
Circles ☐ Hearts ☐

Stars ☐

Draw

4 legs on each chair

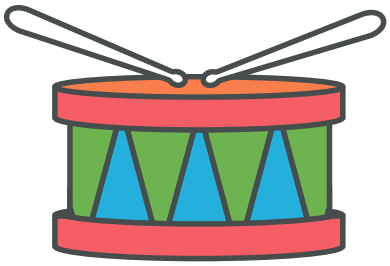
6 spots on each ladybird



10 sweets in each jar

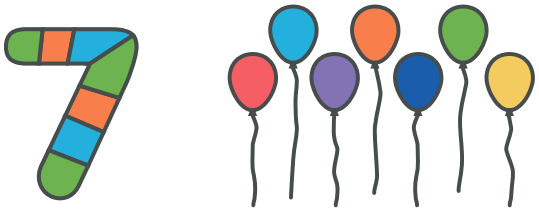
Activity - drum beats

With a partner, show a number card between 0-10 to your partner and they have to beat the drum that many times



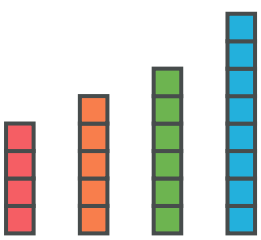
Challenge

How many different ways can you show 7?



How do you know it is 7?

What is wrong with this staircase of numbers? What is missing? How do you know?



With a partner, make a part of a number staircase with cubes with a number missing.

Your partner has to work out the missing number.

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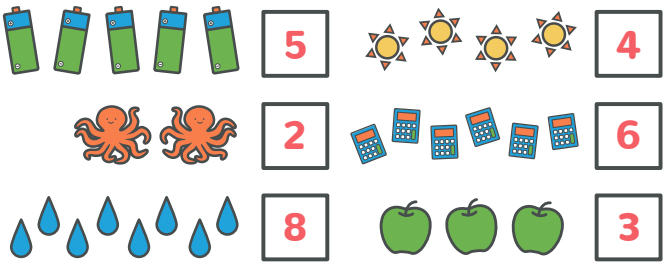
Year F/1

Objective: Recognise the value of a number to 10

How many?

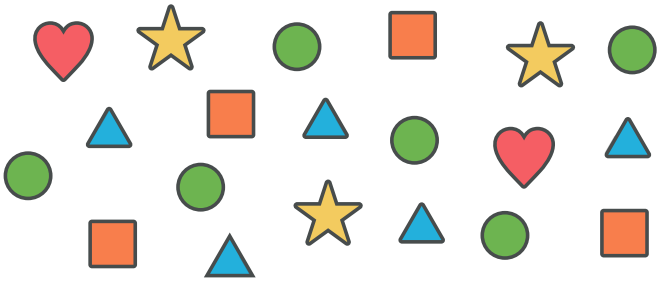


Draw 7 cats

Thread 10 beads onto a lace

Put 4 cubes together

Count how many of each shape



Triangles 5
Circles 6
Stars 3
Squares 4
Hearts 2

Draw

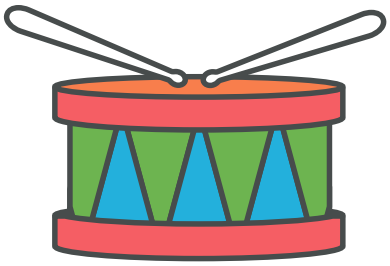
4 legs on each chair

6 spots on each ladybird

10 sweets in each jar

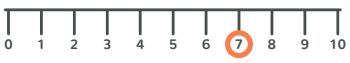
Activity - drum beats

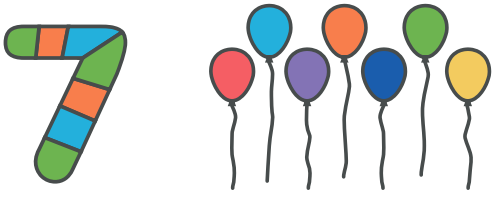
With a partner, show a number card between 0-10 to your partner and they have to beat the drum that many times



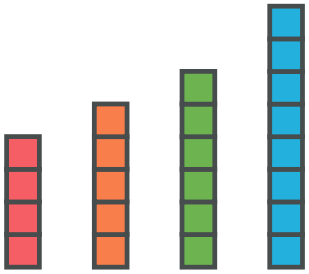
Challenge

How many different ways can you show 7?





Students can explore lots of different ways to represent 7 using concrete, pictorial and abstract.



The sequence is 4, 5, 6, __, 8. So seven cubes are missing. Get the students to explain how they knew – could be going up in 1s then jumps to 2 more, could be they counted.

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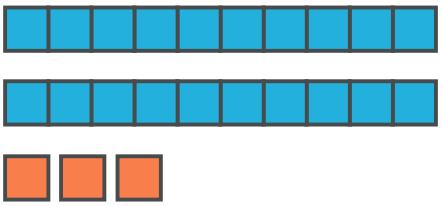
Year 2

Objective: Recognise the place value of each digit in a two-digit number (10s, 1s)

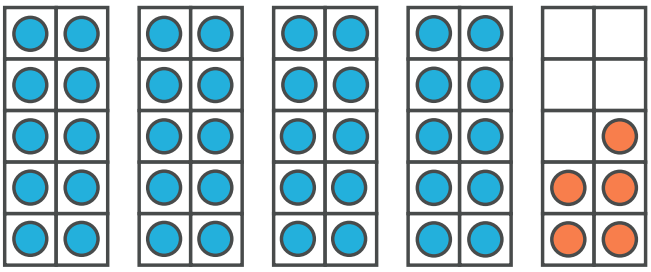
How many? Using the pictures put the missing numbers in the boxes



2 tens and ☐ ones

20 and ☐ makes ☐

☐ + ☐ = ☐



☐ + ☐ = ☐

Find the missing numbers

60 + 7 = ☐

50 and 3 make ☐

87 = ☐ tens ☐ ones

9 + 70 = ☐

4 and 30 make ☐

☐ = 80 + 1

Explore

Use multi-link or straws, to put these numbers in tens and ones.

14 59 91 85 30

Think of another way to group the tens and ones, and another...

Challenge

Sarah

2 tens and 14 ones is the same as 34

Is she correct? How do you know?

Draw a picture to show this

Each packet contains 10 sweets

How many sweets are there altogether?

Explain how you worked it out to a partner

Is there another way to work out how many?

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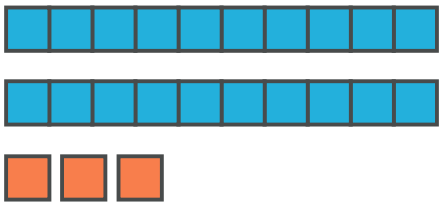
Year 2

Objective: Recognise the place value of each digit in a two-digit number (10s, 1s)

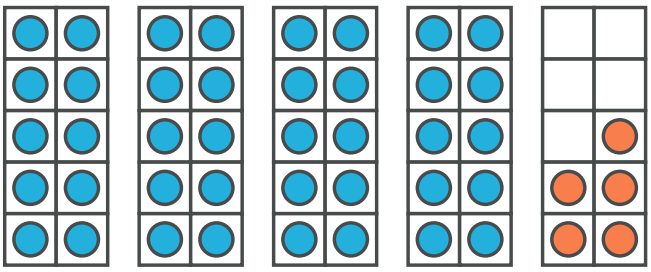
How many? Using the pictures put the missing numbers in the boxes



2 tens and [3] ones

20 and [3] makes [23]

[20] + [3] = [23]



[40] + [5] = [45]

Find the missing numbers

60 + 7 = [67]

50 and 3 make [53]

87 = [8] tens [7] ones

9 + 70 = [79]

4 and 30 make [34]

[81] = 80 + 1

Explore

Use multi-link or straws, to put these numbers in tens and ones.

14 59 91 85 30

Let the students practice partitioning in different ways and saying what they have.
For example: 5 tens and 9 ones or 4 tens and 19 ones

Challenge

"2 tens and 14 ones is the same as 34"

Is she correct? How do you know?

Yes Sarah is CORRECT as 14 ones is also 1 ten and 4 ones. 20 + 14 = 34

Draw a picture to show this

This can be drawn in many ways. For example:

Tens	Ones

Each packet contains 10 sweets

How many sweets are there altogether?

42

Explain how you worked it out to a partner

10 + 10 + 10 + 10 + 2 = 42

Is there another way to work out how many?

"10, 20, 30, 40, 41, 42"

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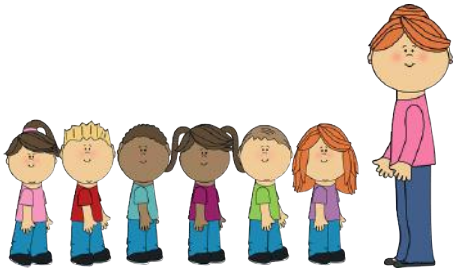
Year 2

Objective: To order a set of objects or numbers and use ordinal numbers correctly, and in context

Label the order of the children in the queue

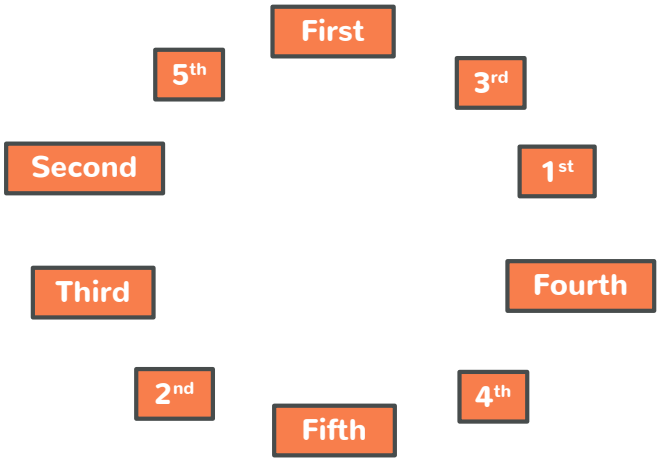


Label the children 1st, 2nd, 3rd, 4th, 5th, 6th

Draw a hat on the child who is first

Draw lines on the T-shirt on the child who is last

Match the word to the number



Fill in the spaces

Mia is _____ in the queue

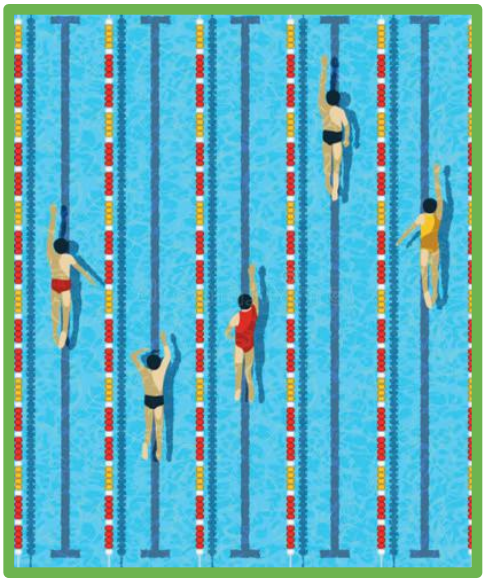
The _____ person in the queue is Jack

Ben is after _____

Ruby is _____ in the queue

Ellie is after _____

Look at the picture - Fill in the spaces



Jack Ben Ruby Brad Ellie

Label the race positions 1st, 2nd, 3rd, 4th, 5th

Who is second in the race? _____

Who is last in the race? _____

Who is between Ben and Jack? _____

Where is Jack? _____

Who is before Ellie? _____

Who is after Ruby? _____

Challenge

Sam is standing in a row with his friends.
He is 3rd from the right and 8th from the left.

Draw a circle around Sam

Now write another sentence for
your partner to work out

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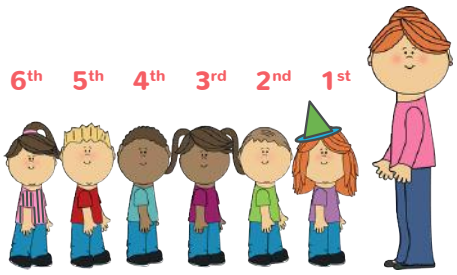
Year 2

Objective: To order a set of objects or numbers and use ordinal numbers correctly, and in context

Label the order of the children in the queue



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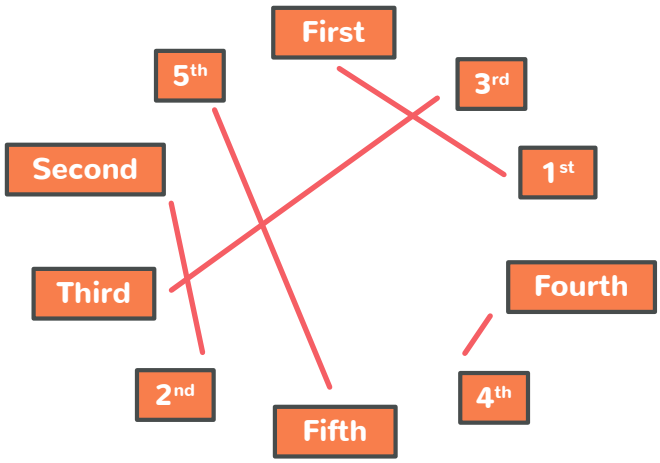


Fill in the spaces

Mia is __1st__ in the queue

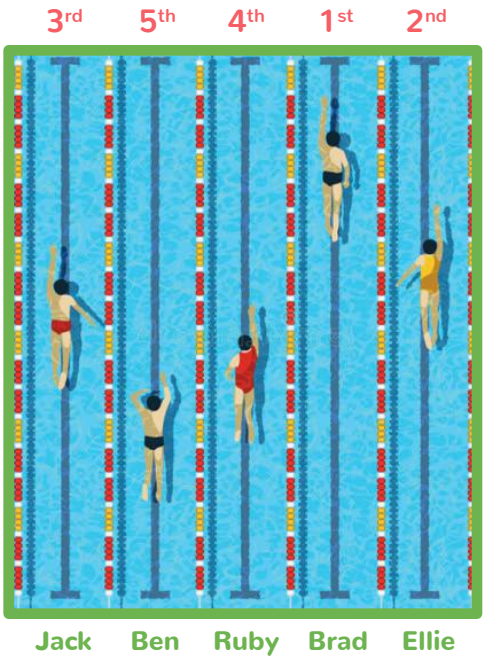
The __4th__ person in the queue is Jack

Ben is after __Mia__

Ruby is __5th/last__ in the queue

Ellie is after __Ben__

Look at the picture - Fill in the spaces



Label the race positions 1st, 2nd, 3rd, 4th, 5th

Who is second in the race? __Ellie__

Who is last in the race? __Ben__

Who is between Ben and Jack? __Ruby__

Where is Jack? __3rd__

Who is before Ellie? __Brad__

Who is after Ruby? __Ben__

Challenge

Sam is standing in a row with his friends.
He is 3rd from the right and 8th from the left.

Draw a circle around Sam

Now write another sentence for your partner to work out

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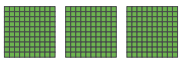
Year 3

Objective: Recognise the place value of each digit in a three-digit number (100s, 10s, 1s)

How many?

Hundreds	Tens	Ones
		

[ ] is three hundred and twenty-four

600 | 80 | 0

[ ] is [ ] hundred and [ ]

Hundreds	Tens	Ones
		

[ ] is [ ] hundred and [ ]

Fill in the gaps

Hundreds	Tens	Ones
2	1	9

The digit ___ is in the ones column.
It stands for ___ ones or ___.

The digit ___ is in the tens column.
It stands for ___ tens or ___.

The digit ___ is in the hundreds column.
It stands for ___ hundreds or ___.

Make another number in the place value grid and tell a partner what the digits column value and quantity value is.

Find the missing numbers

400, 70, and 2 makes [ ]

5 and 20 and 300 makes [ ]

800 and 7 makes [ ]

Partition these numbers - 561, 250, 903

Game for 2 or more players

You need digit cards and a place value grid.

Player 1 picks out three-digit cards from the pack and chooses one of the criteria below.

Player 2, on a place value grid, places the three-digit cards to make....

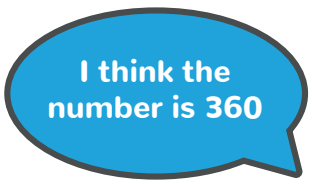
- Smallest number
- Largest number
- Below 400
- Above 500
- Smallest digit in...

Players get 10 points if correct.

Get your partner to explain their number

Challenge

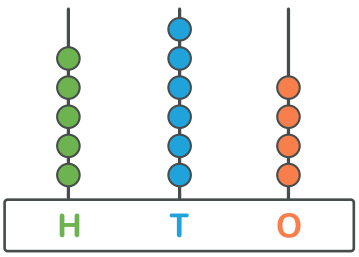
Hundreds	Tens	Ones



Do you agree?

Explain your reasoning.

What do you notice about the numbers?



Make four different numbers by moving just two beads at a time, one column to the left or right.

How will you record your moves?

Have another go - are there lots of possibilities?

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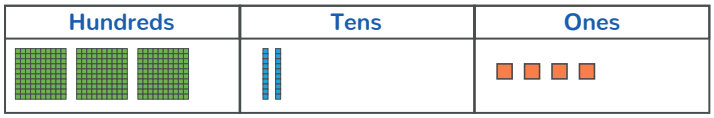
Year 3

Objective: Recognise the place value of each digit in a three-digit number (100s, 10s, 1s)

How many?



342 is three hundred and twenty-four

680 is six hundred and eighty

405 is four hundred and five

Fill in the gaps

Hundreds	Tens	Ones
2	1	9

The digit 9 is in the ones column.
It stands for 9 ones or 9.

The digit 1 is in the tens column.
It stands for 1 tens or 10.

The digit 2 is in the hundreds column.
It stands for 2 hundreds or 200.

Make another number in the place value grid and tell a partner what the digits column value and quantity value is.

Find the missing numbers

400, 70, and 2 makes 472

5 and 20 and 300 makes 325

800 and 7 makes 807

561 = 500 + 60 + 1

250 = 200 + 50

903 = 900 + 3

Game for 2 or more players

You need digit cards and a place value grid.

Player 1 picks out three-digit cards from the pack and chooses one of the criteria below.

Player 2, on a place value grid, places the three-digit cards to make....

- Smallest number
- Largest number
- Below 400
- Above 500
- Smallest digit in...

Players get 10 points if correct.

Get your partner to explain their number

Challenge

"I think the number is 360"

Do you agree?

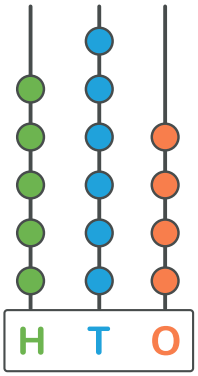
NO

Explain your reasoning.

360 is three hundreds and 6 tens – there are no tens in the tens column. The number is 306.

What do you notice about the numbers?

The digits are the same but in the wrong order.



Make four different numbers by moving just two beads at a time, one column to the left or right.

How will you record your moves?

564 –start with moving tens to ones
546 – 528 – 348 – 168

Have another go - are there lots of possibilities?

Here are some possibilities:
564 – start with moving the hundreds to tens
384 – 366 – 348 – 168

564 – start with moving the ones to the tens
582 – 762 – 780 – 960

564 – start with moving the tens to hundreds
744 – 924 – 962 – 980

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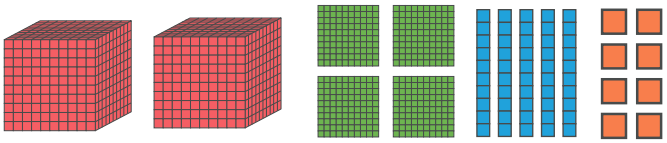
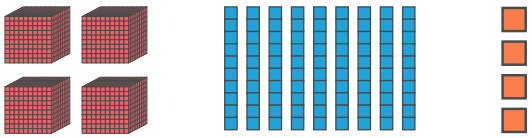
Year 4

Objective: Recognise the place value of each digit in a four-digit number (1000s, 100s, 10s, 1s)

How many?



Write in words
Write in numbers



Write in words
Write in numbers

Fill in the gap

In **3453**, the digit ☐ is in the hundreds place, the digit 5 stands for ☐. The values of digit three are ☐ and ☐

3453 = ☐ + ☐ + ☐ + ☐

In **9022**, the values of digit 2 are ☐ and ☐

The value of the hundreds place is ☐

9022 = ☐ + ☐ + ☐

Find the missing numbers

5000 + 300 + 10 + 6 = ☐

3175 = ☐ + 100 + 70 + ☐

2410 = 2000 + ☐ + 10

8000 + 30 = ☐

1 + 50 + 4000 = ☐

Explore

Partition the number 3545 in other ways

3000 + 500 + ☐ + 5

1000 + ☐ + ☐ + 15

1000 + 2300 + ☐ + ☐

Now make another 4-digit number and partition it in different ways.

And another number, and another...

Challenge

Which is more? Circle the correct answer

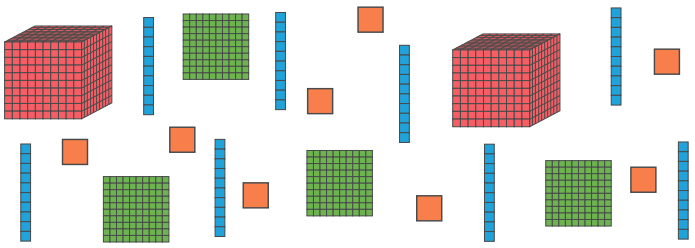
3000 or 330 tens

4 thousands or 40 hundreds

800 tens or 90 hundreds

How do you know?

Jack and Sam have misplaced some base 10 pieces.
They had made 2698, and this is what they now have.



What base 10 could be missing?
Can you think of other solutions?

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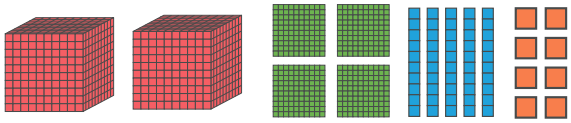
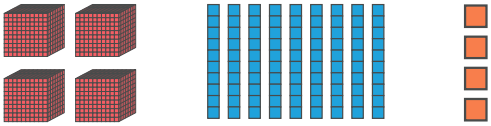
Year 4

Objective: Recognise the place value of each digit in a four-digit number (1000s, 100s, 10s, 1s)

How many?



Write in words
Two thousand, four hundred and fifty-eight
Write in numbers
2458



Write in words
Four thousand and ninety-four
Write in numbers
4094

Fill in the gap

In **3453**, the digit **4** is in the hundreds place, the digit 5 stands for **50**. The values of digit three are **3000** and **3**

3453 = **3000** + **400** + **50** + **3**

In **9022**, the values of digit 2 are **20** and **2**

The value of the hundreds place is **0**

9022 = **9000** + **20** + **2**

Find the missing numbers

5000 + 300 + 10 + 6 = **5316**

3175 = **3000** + 100 + 70 + **5**

2410 = 2000 + **400** + 10

8000 + 30 = **8030**

1 + 50 + 4000 = **4051**

Explore

Partition the number 3545 in other ways

3000 + 500 + **40** + 5

1000 + **2500** + **30** + 15

1000 + 2300 + **200** + **45**

Now make another 4-digit number and partition it in different ways.

And another number, and another...

Challenge

Which is more? Circle the correct answer

3000 or 330 tens

4 thousands or 40 hundreds
4 thousands equals 40 hundreds

800 tens or 90 hundreds

How do you know?

300 tens = 3300
4 thousands = 4000, 40 hundreds = 4000
800 tens = 8000, 90 hundreds = 9000

Jack and Sam have misplaced some base 10 pieces.
They had made 2698, and this is what they now have.

Jack and Sam can see 2488.
There are many solutions.
For example:
2 hundreds and 1 ten
1 hundred and 11 tens
21 tens
11 tens and 100 ones
1 ten and 200 ones
210 ones

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Year 4

Objective: Round any number to the nearest 10 or 100

Rounding to the nearest ten and hundred

Round each number to the nearest ten

42 ☐ 67 ☐ 425 ☐ 197 ☐

Round each number to the nearest hundred

217 ☐ 69kg ☐ 359km ☐ 997m ☐

When rounded to the nearest ten, which numbers would be the nearest to ...

80 _____

470 _____

2000 _____

How did you work it out?

Round each number to the nearest ten.

Fill in the boxes and mark the exact number with a cross on the number line.

183 ☐ ——— 190

586 580 ——— ☐

999 ☐ ——— ☐

Round each number to the nearest hundred.

440 ☐ ——— ☐

2204 ☐ ——— ☐

Find the missing numbers

Number	Rounded to the nearest	
	Ten	Hundred
75		
286		
1202		
5434		
9999		

Game

With a partner, using dice or playing cards, make a 2, 3 or 4-digit number.

Round it to the nearest ten or hundred.

The rounded number is your score for that turn.

The highest score after three turns wins.

Challenge

Give an example of a 2-digit number which rounds to the same number when rounded to the nearest ten and hundred.

How did you work it out?

Is it possible?

Are these statements always, sometimes, or never true? Circle the correct answer and demonstrate with examples

- 546 rounded to the nearest ten is 540

Always Sometimes Never

- Rounding a number to the nearest ten and rounding to the nearest hundred will give different answers.

Always Sometimes Never

- A number with 5 in the tens column rounds up to the nearest hundred.

Always Sometimes Never

Mathvember
By Whizz Education

Year 4

Objective: Round any number to the nearest 10 or 100

Rounding to the nearest ten and hundred

Round each number to the nearest ten

42 **40** 67 **70** 425 **430** 197 **200**

Round each number to the nearest hundred

217 **200** 69kg **100kg** 359km **400km** 997m **1000m**

When rounded to the nearest ten, which numbers would be the nearest to ...

80 **75, 76, 77, 78, 79, 81, 82, 83, 84**

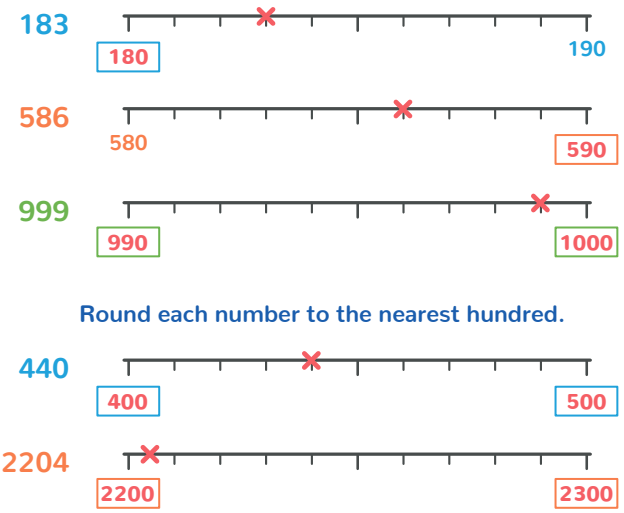
470 **465, 466, 467, 468, 469, 471, 472, 473, 474**

2000 **1995, 1996, 1997, 1998, 1999, 2001, 2002, 2003, 2004**

How did you work it out?

Round each number to the nearest ten.

Fill in the boxes and mark the exact number with a cross on the number line.



Round each number to the nearest hundred.

Find the missing numbers

Number	Rounded to the nearest	
	Ten	Hundred
75	80	100
286	290	300
1202	1200	1200
5434	5430	5400
9999	10,000	10,000

Game

With a partner, using dice or playing cards, make a 2, 3 or 4-digit number.

Round it to the nearest ten or hundred.

The rounded number is your score for that turn.

The highest score after three turns wins.

Challenge

Give an example of a 2-digit number which rounds to the same number when rounded to the nearest ten and hundred.

How did you work it out?

95,96,97,98,99 only possibilities

Is it possible?

YES

Are these statements always, sometimes, or never true? Circle the correct answer and demonstrate with examples

- 546 rounded to the nearest ten is 540

Always Sometimes **Never**

- Rounding a number to the nearest ten and rounding to the nearest hundred will give different answers.

Always **Sometimes** Never

- A number with 5 in the tens column rounds up to the nearest hundred.

Always Sometimes Never

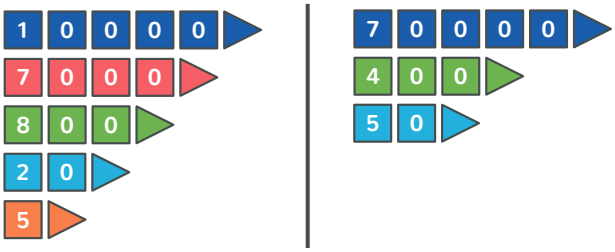
Mathvember
By Whizz Education

Year 5

Objective: Recognise the place value of each digit in a five-digit number

How many?

Write in words and numbers the total of the arrow cards



With a partner, make some other numbers using arrow cards and say the number.

Find the number

Draw an arrow to show where the numbers would be on the number line.

50,000 90,000 25,000 85,000 52,500

Complete...

I placed _____ here on the number line because _____

Complete the missing numbers

30,000 + ☐ = 39,000

☐ = 70,000 + 6,000 + 200 + 80 + 5

49,510 = ☐ + 9,000 + ☐ + ☐

50,071 = ☐ + ☐ + ☐

Why are there only three boxes in the last question?

Explore

With a partner, take turns to write a number between 10,000 and 100,000. You then need to write the number in three different ways.

e.g. 40,160

1) 40,000 + 100 + 60

2) 4 ten thousands and 1 hundred and 6 tens

3) Forty thousand, one hundred and sixty

Have a go!
What is the same and what is different about how you have written the number in three ways?

Challenge

My number has twenty-four thousands and six hundreds and thirty ones

What is the number?
How do you know?

Use a Place Value chart to show what happens to the 4-digit in the number when it is placed in the:

a) ones column

b) tens column

c) hundreds column

d) ten thousand column

Write the new number each time the 4-digit is placed in a new column

Using the digit cards, make a 5-digit number that gives the following...
(do not start with digit 0)

An even number

An odd number

Largest number

Smallest number

A number with zero in hundreds place

A multiple of 5

A number divisible by 9

Explain why you chose to put the digits in that order.
Is there more than one possibility for each of the questions?

Mathvember
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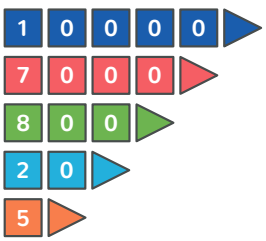
Year 5

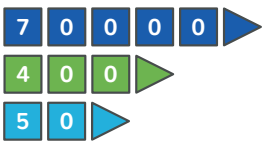
Objective: Recognise the place value of each digit in a five-digit number

How many?

Write in words and numbers the total of the arrow cards



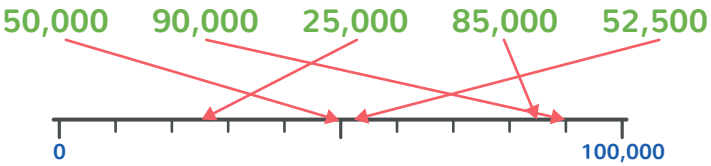
17,825
Seventeen thousand, eight hundred and twenty-five



70,450
Seventy thousand, four hundred and fifty

Find the number

Draw an arrow to show where the numbers would be on the number line.



Complete...

I placed 25,000 here on the number line because 25,000 is halfway between 0 and 50,000

Complete the missing numbers

30,000 + [9,000] = 39,000

[76,285] = 70,000 + 6,000 + 200 + 80 + 5

49,510 = [40,000] + 9,000 + [500] + [10]

50,071 = [50,000] + [70] + [1]

Why are there only three boxes in the last question?

Explore

With a partner, take turns to write a number between 10,000 and 100,000. You then need to write the number in three different ways.

e.g. 40,160

1) 40,000 + 100 + 60

2) 4 ten thousands and 1 hundred and 6 tens

3) Forty thousand, one hundred and sixty

Have a go!
What is the same and what is different about how you have written the number in three ways?

Challenge

My number has twenty-four thousands and six hundreds and thirty ones

What is the number?
24,630

How do you know?
24 thousands is 2 ten thousands and 4 thousands and six hundred and forty ones is 6 hundreds, 3 tens

Use a Place Value chart to show what happens to the 4-digit in the number when it is placed in the:

a) ones column - 20,634

b) tens column - 20,670

c) hundreds column - 20,030

d) ten thousand column - 60,630

An even number
Any number ending in 0, 2, 8
An odd number
Any number ending in 1, 3, 5
Largest number
85,321
Smallest number
10,235
A number with zero in hundreds place
Any combination with 0 in the hundreds
A multiple of 5
Any number ending in 5 or 0
A number divisible by 9
The digits when added together should be divisible by 9
e.g the digits 3,5,0,8 and 2 will be used

Mathvember

By Whizz Education

Year 5

Objective: Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0

What is the temperature?

Mark these temperatures on the thermometer opposite

15°C

29°C

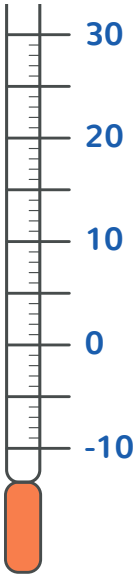
2°C

18°C

-5°C

-1°C

0°C



Negative numbers used in real life

Which of these scenarios use negative numbers? Explain how negative numbers are used.

Order these numbers in each row

Order these numbers from largest to smallest

1)	-5	3	8	1	-7
2)	-1	0	2	-3	5
3)	10	-5	-10	5	0

Order these numbers from smallest to largest

1)	12	0	23	-17	-21
2)	-8	18	8	-18	-28

Activity

Place cards on the floor in order from -10 to 10.

With a partner, take steps and land on a card.

Say out loud the number you land on.

Try walking in steps of 2s, 3s and so on.

Go backwards and forwards.

Ask each other questions.

E.g. if the temperature is 4 degrees and then drops 5 degrees overnight, what would the temperature be then? Show me with the cards.

Challenge

Mary

-6 degrees is warmer than -2 degrees.

Is Mary correct?

Explain your answer.

Why do you think she said this?

Tom started counting backwards from 24 in 5s.

Will he reach -18?

What will be the eighth number he will say?

What do you notice about the numbers?

Try counting back in 2s and 3s from a given number, what do you notice?

Mathvember
By Whizz Education

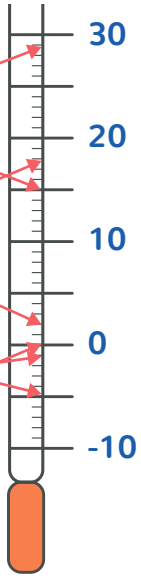
Year 5

Objective: Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0

What is the temperature?

Mark these temperatures on the thermometer opposite

15°C
29°C
2°C
18°C
-5°C
-1°C
0°C



Negative numbers used in real life

Which of these scenarios use negative numbers? Explain how negative numbers are used.


This is a sad negative face but not linked to numbers!


Temperature below zero as it is snowing


If we borrow money or go overdrawn at the bank


Golf score


The temperature the freezer needs to be to keep food frozen


Sea level and below


Lifts go below the ground level

The word 'don't' is negative but not linked to numbers

Order these numbers in each row

Order these numbers from largest to smallest

1)	8	3	1	-5	-7
2)	5	2	0	-1	-3
3)	10	5	0	-5	-10

Order these numbers from smallest to largest

1)	-21	-17	0	12	23
2)	-28	-18	-8	8	18

Activity

Place cards on the floor in order from -10 to 10.

With a partner, take steps and land on a card.

Say out loud the number you land on.

Try walking in steps of 2s, 3s and so on.

Go backwards and forwards.

Ask each other questions.

E.g. if the temperature is 4 degrees and then drops 5 degrees overnight, what would the temperature be then? Show me with the cards.

Challenge

-6 degrees is warmer than -2 degrees.

Is Mary correct?

NO

Explain your answer.

-6 is colder, negative numbers are smaller than zero, the higher the negative number the smaller it is.

Why do you think she said this?

Because 6 is greater than 2 and so got muddled with the negative/ minus sign.

Tom started counting backwards from 24 in 5s.

Will he reach -18?
Not exactly, he will say -16 then -21

What will be the eighth number he will say?
Including 24 the eighth number will be -16

What do you notice about the numbers?
There is a pattern. For example:
24, 19, 14, 9, 4, -1, -6, -11, -16, -21.
Before zero the numbers end in 4 or 9
After zero they end in 1 or 6.

Mathvember
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Year 5

Objective: Recognise the place value of each digit in a seven & six digit number

How many? Make and read

Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones

Place counters on a place value chart to make these numbers

538,834
680,806
200,106
4,685,379
5,090,909
7,313,000

Say these numbers out loud to a partner.
Tell your partner the value of the digits.
Using the place value chart make some more 5 or 6-digit numbers.

Greater than or smaller than?

Which number is greater? Which is smaller?
Use the greater than (>) or smaller than (<) sign.
Explain how you know.

152,490 ☐ 152,409

12,500 ☐ 125,000

100,000 ☐ 99,999

5,345,721 ☐ 534,721

3,007,000 ☐ 3,070,000

10,000,000 ☐ 9,999,000

Complete the missing numbers

386,375 = ☐ + 8000 + 300 + ☐

800,000 + 400 + ☐ = 800,426

5,236,000 = ☐ + 236,000

1,000,000 + 200,000 + 700 + 4 = ☐

7,550,100 = 7,000,000 + ☐ + 100

Activity - Guess my number

Working with a partner write a 5, 6, or 7-digit number.
Give clues for your partner to guess your number.

E.g. if you wrote 157,300 you can say...

My number has six digits
The digit 3 has a value of 300
The digit 1 is in the hundred thousands column
There are two zeroes in my number
The digit 5 is between the digits 1 and 7

What is my number?

Challenge

What is the smallest 6-digit number, greater than 500,000 that can be made with these digits?

8 0 6 3 1 5

How do you know?

Write another question like this.

5 50 500 5000 20 200 2000

Which two numbers would you multiply to make:

One hundred
One thousand
Ten thousand
Hundred thousand
One million

Is there more than one solution?
Is it possible to make ten million?

Mathvember
By Whizz Education

Year 5

Objective: Recognise the place value of each digit in a seven & six digit number

How many? Make and read

For example

538,834

Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
	■■■ ■■	■■■	■■■■ ■■■■	■■■■ ■■■■	■■■	■■■■

4,685,379

Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
■■■■	■■■ ■■■	■■■■ ■■■■	■■■ ■■	■■■	■■■■ ■■■■	■■■ ■■■ ■■■

Greater than or smaller than?

Which number is greater? Which is smaller?
Use the greater than (>) or smaller than (<) sign.
Explain how you know.

152,490 [>] 152,409

12,500 [<] 125,000

100,000 [>] 99,999

5,345,721 [>] 534,721

3,007,000 [<] 3,070,000

10,000,000 [>] 9,999,000

Complete the missing numbers

368,375 = [360,000] + 8000 + 300 + [75]

800,000 + 400 + [26] = 800,426

5,236,000 = [5,000,000] + 236,000

1,000,000 + 200,000 + 700 + 4 = [1,200,704]

7,550,100 = 7,000,000 + [550,000] + 100

Activity - Guess my number

Working with a partner write a 5, 6, or 7-digit number.
Give clues for your partner to guess your number.

E.g. if you wrote 157,300 you can say...

My number has six digits
The digit 3 has a value of 300
The digit 1 is in the hundred thousands column
There are two zeroes in my number
The digit 5 is between the digits 1 and 7

What is my number?

Challenge

What is the smallest 6-digit number, greater than 500,000 that can be made with these digits?

8 0 6 3 1 5

865,310

5 50 500 5000 20 200 2000

Which two numbers would you multiply to make:

One hundred
5 x 20
One thousand
50 x 20, 5 x 200
Ten thousand
500 x 20, 5 x 2000, 50 x 200
Hundred thousand
500 x 200, 50 x 2000, 20 x 5000
One million
500 x 2000, 200 x 5000
Ten million
5000 x 2000

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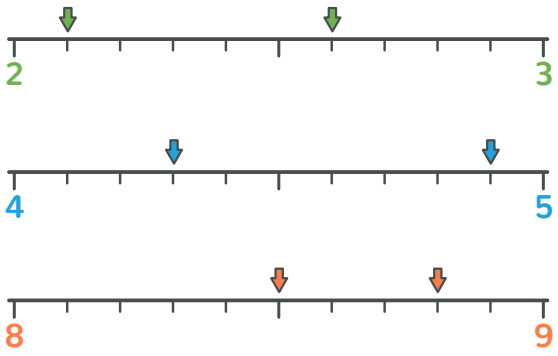
Year 6

Objective: To be able to round decimals to the nearest whole number & to one decimal place

Rounding to the nearest whole number

Write the numbers next to the arrow then write in brackets the nearest whole number.



Explain to your partner how you round a decimal number to the nearest whole number.

Rounding race times

These are some of the results of the Rio Olympics Women's 4 x 100m relay. The times are in seconds.

Nation	USA	Canada	GB	Nigeria	Jamaica	Germany
Time	41.01	43.15	41.77	43.21	41.36	42.10

Round these times to the nearest 1 decimal place.

Does it change any of the placing?

Will any countries have the same time?

Round these times to the nearest second.

Does this change any of the placings?

Why do you think short distance races are clocked in tenths and hundredth of a second?

Let's circle

Circle the decimals that round to 2

2.54 2.76 1.6 2.259 1.86 1.97

Circle the decimals that round to 7.3

7.332 7.38 7.34 7.28 7.03 6.93

List all possible decimals that round to 3 using the digits 3, 2, 6, and 8

Game - Rounding to the nearest ...

You need a target board, two colour counters and 2 dice.

You roll the two dice and that will give you a decimal number.

For example, you roll 4 and 6, you can make 4.6 and 6.4.

You then round to the nearest whole number (so 4.6 to 5 and 6.4 to 6.)

Then cover up the corresponding whole numbers on the target board with your colour counters.

You keep taking turns.

The winner is the one with the most counters on the board.

Challenge

Here are eight possibilities.
Each clue eliminates some numbers.
Who am I?

9.35	3.28	1.39	1.55
6.3	1.74	4.71	7.1

I have three digits.

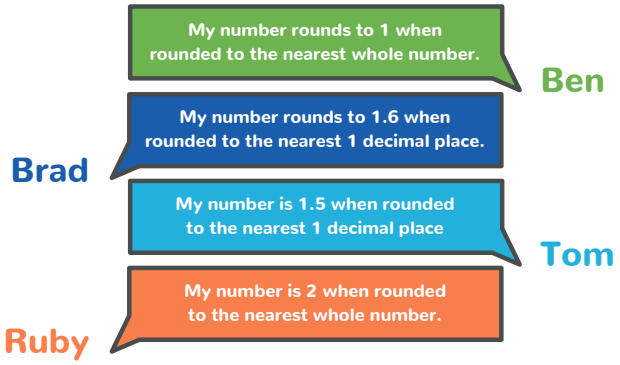
I am less than half of 16.

When rounded to the nearest whole number, I round down not up.

All my digits are odd.

Which clue was the most helpful?
Have a go at writing your own 'Who am I'?

The teacher gives out the following four cards:
1.52, 1.25, 1.56, 1.502



Can you work out which student has which card?
Explain your choices. What do you notice?

Mathvember
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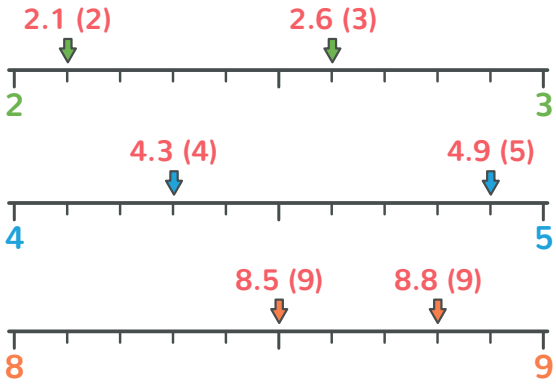
Year 6

Objective: To be able to round decimals to the nearest whole number & to one decimal place

Rounding to the nearest whole number



Explain to your partner how you round a decimal number to the nearest whole number.

First you look at the tenths column, if the digit is 4 or below you round down to the nearest whole number, if 5 or above you round up.

Rounding race times

These are some of the results of the Rio Olympics Women's 4 x 100m relay. The times are in seconds.

Nation	USA	Canada	GB	Nigeria	Jamaica	Germany
Time	41.01	43.15	41.77	43.21	41.36	42.10
Rounded	41.0	43.2	41.8	43.2	41.4	42.1

Does it change any of the placing?
Canada and Nigeria now draw

Round these times to the nearest second.

USA	Canada	GB	Nigeria	Jamaica	Germany
41	43	42	43	41	42

Why do you think short distance races are clocked in tenths and hundredth of a second?

Otherwise athletes could have the same time, it makes the timing more exact.

Let's circle

Circle the decimals that round to 2

2.54 2.76 1.6 2.259 1.86 1.97

Circle the decimals that round to 7.3

7.332 7.38 7.34 7.28 7.03 6.93

List all possible decimals that round to 3 using the digits 3, 2, 6, and 8

2.6, 2.68, 2.8, 2.86, 3.2, 3.26, 3.28

Game - Rounding to the nearest ...

You need a target board, two colour counters and 2 dice.

You roll the two dice and that will give you a decimal number.

For example, you roll 4 and 6, you can make 4.6 and 6.4.

You then round to the nearest whole number (so 4.6 to 5 and 6.4 to 6.)

Then cover up the corresponding whole numbers on the target board with your colour counters.

You keep taking turns.

The winner is the one with the most counters on the board.

Challenge

Here are eight possibilities.
Each clue eliminates some numbers.
Who am I?

~~9~~ ~~5~~	~~3~~ ~~8~~	1.39	~~1~~ ~~5~~
~~6~~ ~~3~~	~~1~~ ~~4~~	~~4~~ ~~1~~	~~7~~ ~~1~~

I have three digits.
I am less than half of 16.
When rounded to the nearest whole number, I round down not up.
All my digits are odd.

The teacher gives out the following four cards:
1.52, 1.25, 1.56, 1.502

Ben - 1.25
Brad - 1.56
Tom - 1.52 or 1.502
Ruby - 1.52, 1.502 or 1.56

Can you work out which student has which card?
Explain your choices. What do you notice?
Get the students to think of clues to stop this duplication.

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