Monday

TBAT use the short written method for division

Solve these division calculation using a mental method:

$52 \div 4 =$

$108 \div 9 =$

$136 \div 2 =$

$105 \div 5 =$

What strategy did you use?

1.2.21

TBAT use the short written method for division

The 'Bus Stop' method for division:

$145 \div 5 =$ Layout the calculation in a 'bus stop'	Divide each number under the bus stop by the number outside. If a number can't be divided, carry it across to the next number	5 goes into 14 2 times with 4 left over. This 'left over' part gets carried across to the next number:
$5 \overline{\smash{)}1\ 4\ 5}$	$5 \overline{\smash{)}\cancel{1}\,{}^{1}4\ 5}$	$\overset{\ \ 2}{5 \overline{\smash{)}\cancel{1}\,{}^{1}4\ {}^{4}5}}$

1.2.21

TBAT use the short written method for division

The 'Bus Stop' method for division:

We now need to calulate how many 5s go into 45:	This gives us our answer:
$\overset{\ \ 2\ \ 9}{5 \overline{\smash{)}\cancel{1}\,{}^{1}4\ {}^{4}5}}$	$145 \div 5 = 29$

Tuesday

TBAT _use the short written method for division with remainders_

Spot my mistakes:

```
      1 0 3            2 0 1 0
   3 | 4 1 1        4 | 8 0 4
```

TBAT use the short written method for division with remainders

The 'Bus Stop' method for division (with remainders)

Sometimes when we are dividing, a number wont divide perfectly into equal parts. It wont 'fit' into the number we are dividing.

For example, in $21 \div 4$ we know that 5 4s would fit into 20, but there would be 1 left over. We write this left over part as a 'remainder' (r):

$$21 \div 4 = 5r1$$

TBAT use the short written method for division with remainders

The 'Bus Stop' method for division (with remainders)

$$233 \div 5 =$$

Layout the calculation in a 'bus stop'

5 ⟌ 2 3 3

Divide each number under the bus stop by the number outside. If a number can't be divided, carry it across to the next number

5 ⟌ ₂2³ 3

5 goes into 23 4 times with 3 left over. This 'left over' part gets carried across to the next number:

    4

5 ⟌ ₂2³ ₃3

2.2.21
TBAT use the short written method for division with remainders

The 'Bus Stop' method for division (with remainders)

We now need to divide 33 by 5. 5 goes into 33 6 times with 3 left over

Because this is the end of the calculation, we don't have anywhere to carry this left over to. So, it becomes our remainder!

We can also write our remainder as a fraction by putting it 'over' the number we were dividing by:

$$233 \div 5 = 46r3$$

or

$$233 \div 5 = 46\frac{3}{5}$$

$$\begin{array}{r} 4\ 6 \\ 5\ \overline{)2^23^33} \end{array}$$

$$\begin{array}{r} 4\ 6\ r3 \\ 5\ \overline{)2^23^33} \end{array}$$

Wednesday

Spot my mistakes:

```
      1 4 9 r3
  5 | 3 ²4 ⁴8
```

```
      9 1 5
  9 | 8 ⁸2 ¹4
```

Division Word Problems

Apples are sold in packs of 6. A farmer harvests 135 apples. How man packs can he make?

This problem is asking as to divide. However, the answer is going to give us a remainder:

```
      2 2 r3
  6 | ₁3 ¹5
```

How should we answer the original question?
Can we have a 'remainder' of a pack?

Apples are sold in packs of 6. A farmer harvests 135 apples. How man packs can he make?

The answer would be 22, with 3 apples left over. The farmer can't make 23 whole packs, because he would need 3 more apples to do this.
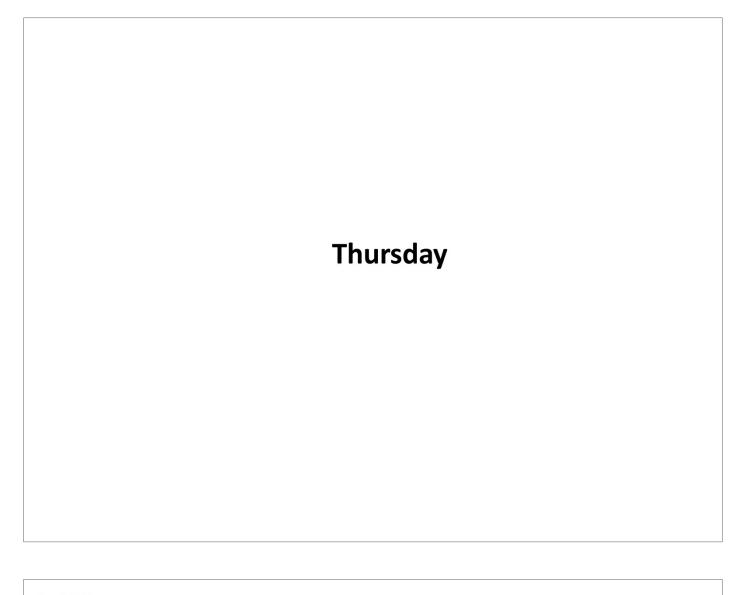
Have a go at this word problem. What do you think you need to do with the remainder?

A factory makes 659 chocolate bars in one day. They put 5 bars in each pack to be sold in supermarkets. How many packs can they make?
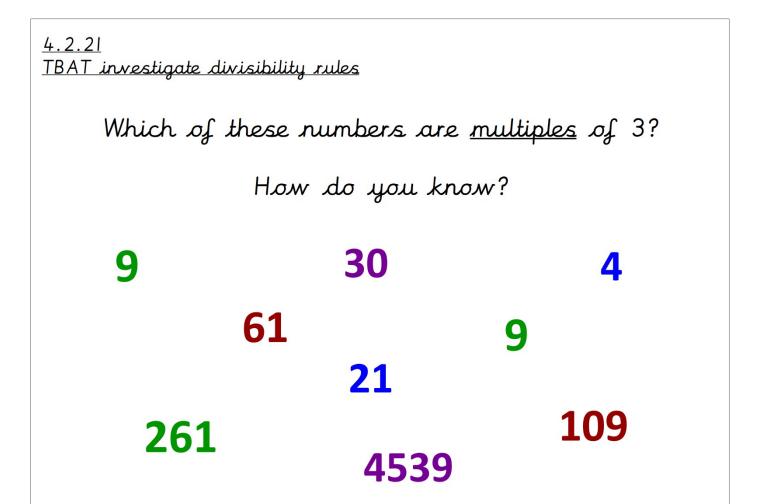
Thursday

What is a multiple?

A number that can be divided by another number without a remainder.

For example – 9, 21 and 30 are all multiples of 3.

They can be divided by 3 without a remainder.

Which of these numbers are <u>multiples</u> of 3?

How do you know?

9   30   4

61   9

21

261   109

4539

Today you will be investigating the following statement:

"If I add all of the digits of a number together and that number is a <u>multiple</u> of 3, then the original number will also be a <u>multiple</u> of 3"

4.2.21
TBAT investigate divisibility rules

To investigate:

○ Choose a 3 digit number, for example 326
○ Add the digits: 3 + 2 + 6 = 11 (this is not a multiple of 3)
○ Test the rule using the bus-stop method. Divide the number by 3, if there is no remainder, the number is a multiple of 3:

$$1 \quad 0 \quad 8 \quad r \quad 2$$
$$3 \overline{\smash{)}3 \; \overset{2}{\cancel{2}}\,{}^{2}6}$$

Because there is a remainder, this would support the rule, because the addition of the digits (11) is also not a multiple of 3.

4.2.21
TBAT investigate divisibility rules

Investigate 10 more numbers to test the rule

(Two numbers have been done for you as an example)

Number	Do the digits total a multiple of 3?	Division Calculation	Multiple of 3? (Answer has no remainder)
415	4 + 1 + 5 = 10 (No)	$\begin{array}{r} 138r1 \\ 3\overline{)415} \end{array}$	No
951	9 + 5 + 1 = 15 (Yes, because 5 x 3 = 15)	$\begin{array}{r} 317 \\ 3\overline{)951} \end{array}$	Yes