

**STEM sentences – A collection from the Enigma Maths Hub – Sustaining Teaching for Mastery Work Group**

**Merebrook Infant School, Milton Keynes - Kelly Tibbles**

**Year Group:** Year 2

**Objective/small step:** Recognise equal groups

**STEM sentence:** There are..... equal groups, with ..... In each group. I have two.....

**Type of STEM sentence:** Structure

**Year Group:** Year 2

**Objective/small step:** Making equal groups-sharing

**STEM sentence:** There are..... cubes altogether  
There are ..... boxes  
There are..... cubes in each box

**Type of STEM sentence:** Structure

**Year Group:** Year 2

**Objective/small step:** Fractions- Whole and part

**STEM sentence:** If..... is the whole then..... is part of the whole

**Type of STEM sentence:** Structure

**Year Group:** Year 2

**Objective/small step:** Find half

**STEM sentence:** The whole is ..... Half of..... is .....

**Type of STEM sentence:** Structure

**Year Group:** Year 2

**Objective/small step:** Representing numbers

**STEM sentence:** There are.....tens and.....ones. The number is.....

**Type of STEM sentence:** Structure

**Year Group:** Year 2

**Objective/small step:** Addition stories

**STEM sentence:** First there were..... then.....came along. Now there are.....

**Type of STEM sentence:** Structure

**Year Group:** Year 2

**Objective/small step:** Addition – Bridging 10

**STEM sentence:** If you change the order of the addends, the sum stays the same.

**Type of STEM sentence:** Generalisation

**Year Group:** Year 2

**Objective/small step:** Addition – Adding 3 or more numbers

**STEM sentence:** We can look for pairs of addends that equal to 10.

**Type of STEM sentence:** Generalisation

**Year Group:** Year 2

**Objective/small step:** Subtraction as difference

**STEM sentence:** There are two more red cars than blue cars. There are two fewer blue cars than red cars.

**Type of STEM sentence:** Language

**Year Group:** Year 2

**Objective/small step:** Subtraction as difference

**STEM sentence:** The difference between four and seven is three. The difference between seven and four is three.

**Type of STEM sentence:** Language

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### **Irthlingborough Juniors – Nicky Moksa**

Year 3

Dividing two digit numbers by one digit numbers - The distributive law

I know that 3 groups of 15 is the same as 3 groups of 10 and 3 groups of 5.

I know that \_\_\_ groups of \_\_\_ is the same as \_\_\_ groups of \_\_\_ and \_\_\_ groups of \_\_\_.

Type: Structure

Year 3

Comparing fractions

When two fractions have the same numerator, the larger the denominator, the smaller the fraction.

When two fractions have the same denominator, the larger the numerator, the larger the fraction.

Type: Generalisation

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**Stem Sentences**

**Year 1**

\_\_\_ is the whole.

\_\_\_ is a part. \_\_\_ is a part.

First there were \_\_\_ apples in the basket.

Then \_\_\_ apples were added.

Now there are \_\_\_ apples in the basket.

I know that \_\_\_ is greater than \_\_\_ because ...

I know that  $10 = 8 + 2$  because .....

**Year 2**

**Column addition:**

1. Line up the digits
2. First add the Ones
3. Then add the Tens

**Division:**

\_\_\_ shared between \_\_\_ groups of \_\_\_

We can divide by \_\_\_ by sharing into \_\_\_ groups.

**Odd and Even Numbers:**

Numbers that can be divided equally by 2 are **even**.

Numbers that cannot be divided equally by 2 are **odd**.

**Year 3**

For multiplication 'There are \_\_\_ equal groups of \_\_\_ cakes.'

For division 'There are \_\_\_\_ teams and \_\_\_\_ children in each team.'

#### Year 4

- When rounding up the numbers end in 5,6,7,8,9 and when rounding down the numbers end in 4,3,2,1
- When multiplying by 10, all of the digits move one place value column to the left
- When dividing by 10, all of the digits move one place value column to the right

#### Year 6

"You can only add and subtract fractions when they are in the same denominator."

"3 cars add 2 cars is 5 cars; 3 people add 2 people is 5 people; 3 of something add 2 something is 5 of something; 3 eighths add 2 eighths is 5 eighths."

"A fraction is a division calculation: the numerator is the dividend; the denominator is the divisor."

"A proper fraction represents part of a whole. A mixed number contains wholes and parts."

"When we multiply by 10, the digits move one place to the left."

"Hundredths is a fraction word and hundredths is also a decimal word."

"This decimal number is made up of \_\_\_\_ tenths; \_\_\_\_ hundredths and \_\_\_\_ thousandths"

"Percent means out of a hundred"

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#### Chantry Primary, Luton – Lisa Phee

##### Rules

$$2 + 1 = 3$$

The sum of any number and 1 will always be one greater than the number.

$$3 + 0 = 3$$

The sum of any number and 0 will always be the number.

$$4 + 2 = 6$$

Count on from the first number the amount of the second number.

$$2 + 5 = 7$$

Count on from the larger number the amount of the smaller number.

$$1 + 3 + 2$$

Add the first two numbers

$$1 + 3 + 2 = (1 + 3) + 2$$

Add the third number to the sum to find the answer.

Numbers more than 10 can be read another way. The number 10 is known as 1 ten.

Examples: 11 = 1 ten 1 one

$$12 = 1 \text{ ten } 2 \text{ ones}$$

$$5 + 10 = 1 \text{ ten } 5 \text{ ones}$$

$$15$$

Adding doubles will result in an even number sum.

$$1 + 1 = 2$$

$$2 + 2 = 4$$

$$7 + 5 =$$

Break up the second number to make a ten.

$$7 + 5 = 7 + 3 + 2$$

$$= (7 + 3) + 2$$

Add the numbers to find the answer.

$$= 10 + 2$$

$$= 12$$

$$28 + 5$$

Expand the two-digit numbers into tens and ones.

$$= 28 + 5 = 20 + 8 + 5$$

Break up the one-digit number to make a ten.

$$= 20 + (8 + 2) + 3$$

Add the numbers to find the answer

$$= 20 + 10 + 3$$

$$= 33$$

$$2516 + 6 = 2510 + 6 + 6$$

Identify the doubles and add them

$$= 2510 + 12$$

Add the numbers to find the answer

$$= 2522$$

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### **Bedgrove Infant – Bilal Aziz**

Stem sentences to support pupil discussion:

I agree with you because...

I disagree with you because...

This statement is true because...

I noticed that...

I calculated the answer by...