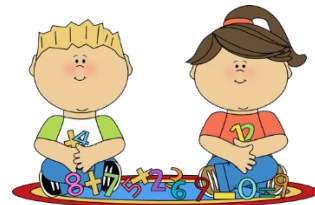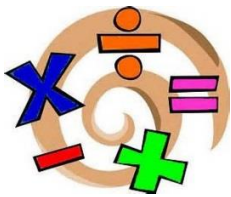# Learn Its

## Year 5        Spring term

The aim of these 'Learn Its', which are focused on in school and for **Home Learning** is to give the children **regular** but **short practice** at key maths facts and skills. This will help them develop their **confidence** and **recall**, which will in turn help the children to apply them in their maths learning.

Wherever we can we want to make this **practice fun**, but with opportunities to record their thinking using **visual models** and **written methods**. Most importantly there should continue to be lots of opportunities to **talk** about the maths, for your child to **explain** their thinking and to show that we as adults **enjoy** it too.

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**Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero**

- *Look at and discuss thermometers. How could we change the reading on the scale within our home? (Radiators, fridge, freezer…)*
- *Look at and discuss daily / weekly weather forecasts. What's the highest and lowest temperature that day / week? What's the difference between the highest and lowest temperatures on each day? Google the coldest and hottest day of 2017 in Whiteley.*

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**Solve addition and subtraction multi-step problems in contexts**

- *This could be done when out shopping, planning the times for a journey, planning the cost of a party… A multi-step problem involves more than one step and more than one operation (i.e. it must involve addition **and** subtraction)*

**Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method**

- *Consider how many miles you have driven over a week. How far would you travel in (for example: 2 weeks, 5 weeks, 12 weeks...) if you drove the same amount every week?*
- *Discuss how much you spend on food shopping over a week and a month. How much would you spend in (for example: 3 weeks / months, 7 weeks / months...) if you spent the same amount every week?*
- *Take your child's top score in a game they enjoy playing. What would be total score if they achieved the same top score 4 times in a row? 6 times, 15 times...?*

**Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000**

- *Make a 3 or 4 digit number with cards. Place them on a sheet with the Place Value columns (see below).*
  - *Ask your child to multiply the number by 10, 100 or 1000. They should move all numbers the correct number of places to the left, putting a zero in the columns as 'place holders' as required. Ask them to explain their thinking / reasoning.*
  - *Ask them to use the same process for dividing the number by 10, 100 and 1000.*

| Millions | Hundreds of thousands | Tens of thousands | Thousands | Hundreds | Tens | Ones | ● | Tenths | Hundredths |
|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  |  |

**Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)**

- *Draw a square (preferably on squared paper). How long are the vertical and horizontal lines? So how many small squares are within the drawn square. You could approach this as a quiz question / magic trick: can they quickly predict the number of square within a drawn square, from just one give length of a square*

- *Find a cube shaped box / object in your house. Measure the length, width and height. Ask your child how they would use that information to calculate the capacity of the cube. (We would discuss, how many 1x1x1 cubes could fit inside it).*
- *Give your child a mixed list of cubed and squared numbers. Can they sort them into two groups?*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Squared | 1 | 4 | 9 | 16 | 25 | 36 | 49 | 64 | 81 | 100 |
| Cubed | 1 | 8 | 27 | 64 | 125 | 216 | 343 | 512 | 729 | 1000 |

**Recognise mixed numbers and improper fractions and convert from one form to the other**
- *Looking at a type of food (e.g. slices of toast, chips, chocolate bars...). Put a few whole portions and one fraction. Ask your child what they have?*

  *e.g.*  *would be 2 and a half (mixed number) or 5 halves (improper fraction)*
- *Draw a number of the same shape and cut them out (or cut them out of magazines). Cut one shape into halves, one into thirds, one into quarters... Give your child a mixed number (e.g. 3 and 2 fifths). Can they make it? How would they say and write it as a mixed number and an improper fraction?*

**Add and subtract fractions with the same denominator and denominators that are multiples of the same number**
- *Use the shapes cut out from above. Ask your child to physically add 2 fractions, then discuss and write down what they have added. Repeat for subtraction.*

  *e.g.     2/5 + 1/5 = 3/5          $\frac{3}{4} + \frac{1}{2}$ = 5/4 or 1 and $\frac{1}{4}$*

  *          5/7 – 2/7 = 3/7          7/8 – 2/4 = 3/8*

**Read and write decimal numbers as fractions**

- *When timing an event (using a digital time) or looking at times of athletes from sporting events, convert decimals into fractions.*

  *e.g.        3.40 minutes = 3 and 4/10 or 3 and 2/5*

  *2 hours and 35 minutes = 2 and 35/60 or 2 and 7/12*

- *When out shopping or looking at prices ask your child what fraction of a pound a certain amount of pence is. As well as the straightforward ½, ¼ and ¾ ask them to consider the examples below…*

| £0.01 | £0.02 | £0.05 | £0.10 | £0.20 | £0.33 | £0.40 | £0.67 |
|-------|-------|-------|-------|-------|-------|-------|-------|
| 1/100 | 2/100 | 5/100 or 1/20 | 1/10 | 2/10 or 1/5 | 1/3 (approx.) | 4/10 or 2/5 | 2/3 (approx..) |

**Measure and calculate the perimeter of composite rectilinear shapes**

- *Find a range of objects in your home that are squares or rectangles. Measure the length of the sides and add the 4 numbers together to calculate the perimeter.*

  *Does your child spot they only need to measure one side if it's a square or two sides if it's a rectangle?*