**Year One Mathematics Overview for Parents**

Friday 13th November 2015

Thank you for attending our Year One Mathematics afternoon. Please take a look at some of the information that we discussed and extra details that you may find helpful. If you have any questions that have not been addressed, please do come and speak to us anytime after school.

**National Curriculum 2014**

The aims of the National Curriculum for Mathematics are:

1. Children to become fluent in the fundamentals of mathematics
2. Children to be able to reason mathematically by following a line of enquiry
3. Children to be able to solve problems by using and applying their mathematics in a variety of different contexts.

Mathematics is split into distinct domains for teaching. However, it is important that children learn to make connections across mathematical ideas in order to fully achieve the aims of the National Curriculum.

Children should move through the areas of study at broadly the same pace. Those who grasp concepts very quickly should be challenged through rich and in depth problems, rather than being accelerated onto new content.

**Recommendations of the National Centre for Teaching Mathematics (NCETM)**

In order to achieve the aims of the National Curriculum 2014, the NCETM makes the following recommendations:

1. Emphasis should be placed upon problem solving and comprehension so that children have lots of opportunities to relate what they learn and connect knowledge.
2. Children should be supported to develop core competencies of: visualisation, mental strategies and recognising patterns.

Teaching should emphasise the foundations for learning, as opposed to the content itself so that children will think mathematically rather than relying purely on memory.

**Concrete, Pictorial, Abstract Approach**

To develop comprehension of mathematical concepts, Year One follow the Concrete, Pictorial and Abstract approach.

1. **Concrete**

The children are introduced to a new concept by acting it out with real objects.

1. **Pictorial**

Once the children understand the hands-on approach (concrete) they can relate their learning to a diagram or picture of the problem or question.

1. **Abstract**

The children should now be able to understand the idea enough to represent it using mathematical notation – we call this a number sentence ( 7 + 3 = 10 ).

**Longton Primary School Calculation Policies**

1. **Addition**

In Year One, children combine groups of objects to find a total. Next, they progress to using Base 10 equipment to support addition. They should record their thinking as an addition sentence ( 8 + 2 = 10).



1. **Subtraction**

Children use practical equipment and taking away strategies. Similar to addition, children progress to using Base 10 for their subtraction. They should record their thinking as a subtraction sentence ( 10 – 2 = 8 ).



1. **Multiplication**

In Year One, children do not record multiplication formally. However we explore multiplication through the following strands:

* 1. Counting in 2s, 5s and 10s
  2. Doubling and halving
  3. In the Spring term we will use arrays – this will prepare us well for multiplication in Year Two.



1. **Division**

Similarly, in Year One, there is no formal recording of division. However, division is learned about through sharing equally. We do not introduce the word ‘remainder’ but we do talk in terms of what is left over.



**Helping at Home**

**Number and Place Value**

Use a number line or a hundred square to:

* Find one more or one less than a number.
* Count in jumps of 2, 5 or 10.
* Look at the patterns of odd and even numbers.
* Practise matching numerals and number words.

**Calculations**

* Find as many ways as you can to make 10 or 20.
* Practise addition as combining groups.
* Practise subtraction as taking away and finding the difference between two numbers.
* Practise doubling and halving numbers.

**Fractions**

* Find halves and quarters of shapes and groups of objects.

**Geometry**

* Go on a shape hunt around the house for 2D or 3D shapes.

**Measures**

* Encourage children to look at the calendar – what day is it? What month is it? What season is it?
* Compare the length, mass and capacity of objects.
* Look at different coins – does your child begin to recognise different amounts?
* Look for o’clock and half past on an analogue clock.
* Look at a thermometer – does your child understand that, the lower numbers mean that it’s a colder day?

**Weekly Teaching Sequence**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Week 1** | Number and Place value | Sequencing and Sorting | Number and Place value | Length and Mass/weight | Number and Place value | Time |
| **Week 2** | Number and Place value | Fractions | Mass/weight | Addition and Subtraction | Addition and Subtraction | Multiplication and Division |
| **Week 3** | Length and Mass/weight | Fractions  Capacity and Volume | 2-D and 3-D Shape | Fractions | Capacity and Volume | Subtraction - difference |
| **Week 4** | Addition and Subtraction | Money | Counting and Money | Position and Direction | Fractions | Measurement |
| **Week 5** | Addition and Subtraction | Time | Multiplication | Time | Position and Direction  Time | Sorting |
| **Week 6** | 2-D and 3-D shape | Assess and review week | Division | Assess and review week | 2-D and 3-D shape | Assess and review week |

**‘I can...’ Statements**

**Number – number and place value**

1. I can count forwards to 100 beginning with 0 or 1, or from any given number.
2. I can count backwards from 100 or from any given number.
3. I can read and write numbers to 100 in numerals.
4. I can confidently count in twos from 0.
5. I can confidently count in fives from 0.
6. I can confidently count in tens from 0.
7. I can confidently find one more than a given number.
8. I can confidently find one less than a given number.
9. I can identify and show numbers using objects and pictures including the number line, and use the language of: equal to, more than, less than (fewer), most, least.

**Number – addition and subtraction**

1. I can read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs.
2. I know addition facts to 10.
3. I am beginning to use known addition and subtraction facts within 20.
4. I can add and subtract two one-digit numbers together.
5. I can add and subtract one-digit and two-digit numbers to 20, including zero.
6. I can solve one-step problems that involve addition and subtraction using objects and pictures.
7. I can solve missing number problems e.g. 7 = \_ + 3.

**Number – Multiplication and division**

1. I can solve one-step problems involving multiplication by using objects, pictures and arrays with the support of the teacher.
2. I can solve one-step problems involving division, by using objects, pictures and arrays with the support of the teacher.

**Number - fractions**

1. I can recognise, find and name a half as one of two equal parts of an object, shape or quantity.
2. I can recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.

**Measurement**

1. I can compare, describe and solve practical problems for lengths and heights.
2. I can compare, describe and solve practical problems for mass/weight.
3. I can compare, describe and solve practical problems for capacity and volume.
4. I can compare, describe and solve practical problems for time. [for example, quicker, slower, earlier, later].
5. I can measure and begin to record length and heights.
6. I can measure and begin to record mass/weight.
7. I can measure and begin to record capacity and volume.
8. I can measure and begin to record time (hours, minutes and seconds).
9. I can recognise and know the value of different coins and notes.
10. I can sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening].
11. I can recognise and use language relating to dates, including days of the week, weeks, months and years.
12. I can tell the time to the hour.
13. I can tell the time to half past the hour.
14. I can draw the hands on a clock face to show these times.

**Geometry – Properties of shapes**

1. I can recognise and name 2-D shapes [for example, rectangles (including squares), circles and triangles].
2. I can recognise and name 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].

**Geometry – position and direction**

1. I can describe the position of an object using ‘behind’, in front of’, ‘under’.
2. I know my left and right.
3. I can describe movement including whole, half, quarter and three- quarter turns.