

Dear Parents/Carers

Mathematics Learning Together Event

Since the launch of the new national curriculum in 2014, there have been significant changes to how mathematics is taught in schools. The mathematics curriculum sets to achieve excellence in fluency, problem solving and reasoning. Through the use of manipulatives (resources), pictures and written numbers/symbols, pupils are able to represent their mathematical knowledge and understanding in a variety of ways to secure conceptual understanding.

The Sandgate team are excited to share these new strategies regarding the teaching and learning of mathematics by inviting you along to a maths lesson where you will be able to learn alongside your child.

The learning together sessions are as follows:-

Butterflies and Bumblebees:	Tuesday 14 th March
Hedgehogs and Rabbits:	Wednesday 15 th March
Koalas and Kangaroos:	Thursday 16 th March
Wolves and Jaguars:	Monday 13 th March
Armadillos and Giraffes:	Tuesday 14 th March
Meerkats and Monkeys:	Wednesday 15 th March
Eagles and Rhinos:	Monday 13 th March

If you are able to and would like to join your child for their maths lesson on the date specified above, please complete the attached form and return to the main school office by Friday 10th March 2017.

On the day of the learning together event, we ask that you make your way to the Community Room (opposite our main office) between 8.45 a.m. and 9.00 a.m. A member of the Senior Leadership Team will register your attendance and take you to your child's class. The maths lesson will start at 9.00 a.m. and will last one hour. After the event, we ask that on your way out, you sign 'out' on the register and if you have time, complete a short evaluation of your experience.

Yours sincerely

Mrs V Wilkinson Mr S James
Mathematics Leaders

Mathematics Learning Together Event

Name of child: _____ Child's class: _____

Name of parent/carer attending: _____

I would like to and am able to join my child for their maths lesson on:

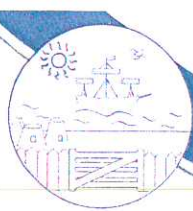
Monday 13th March 2017

Tuesday 14th March 2017

Wednesday 15th March 2017

Thursday 15th March 2017

Please return this acceptance to the main school office. Thank you



Sandgate Primary School Maths Newsletter



Term 4

What is Mastery?

At Sandgate Primary School we use a Mastery approach to the teaching of mathematics. At the centre of the Mastery approach is the belief that **ALL** children have the potential to succeed. They should have access to the same curriculum content and, rather than being extended with new learning, they should deepen their conceptual understanding by tackling challenging and varied problems. Similarly, with calculation strategies, children must not simply rote learn procedures but demonstrate their conceptual understanding through the use of concrete materials and pictorial representations.

Concrete Pictorial Abstract (Make it, Draw it, Write it)

The CPA approach to the teaching of mathematical concepts is one aspect of Mastery. Children and adults can find maths difficult because it is abstract. The CPA approach helps children learn new ideas and build on their existing knowledge by introducing abstract concepts in a more familiar and tangible way.

Concrete

Concrete is the **'Make it'** stage, using concrete objects to model problems. Instead of the traditional method of maths teaching, where a teacher demonstrates how to solve a problem, the CPA approach brings concepts to life by allowing children to experience and handle physical objects themselves. Every new abstract concept is learned first with a "concrete" or physical experience. For example, if a problem is about adding up four baskets of fruit, the children might first handle actual fruit before progressing to handling counters or cubes which are used to represent the fruit.



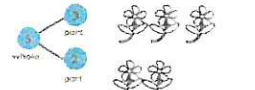
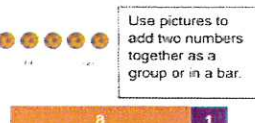

Pictorial

Pictorial is the **'Draw it'** stage, using representations of the objects to model problems. This stage encourages children to make a mental connection between the physical object and abstract levels of understanding by drawing or looking at pictures, circles, diagrams or models which represent the objects in the problem. Building or drawing a model makes it easier for children to grasp concepts they traditionally find more difficult, such as fractions, as it helps them visualise the problem and make it more accessible.

Abstract

Abstract is the **'Write it'** stage, where children are able to use abstract symbols to model problems. Only once a child has demonstrated that they have a solid understanding of the "concrete" and "pictorial" representations of the problem, can the teacher introduce the more "abstract" concept, such as mathematical symbols. Children are introduced to the concept at a symbolic level, using only numbers, notation, and mathematical symbols, for example +, -, x, / to indicate addition, multiplication, or division. Although we've presented CPA as three distinct stages, we will go back and forth between each representation to reinforce concepts.

Here is an example of the different stages from our Calculation Policy.

Objective and Strategies	Concrete	Pictorial	Abstract
Combining two parts to make a whole: part-whole model	 <p>Use cubes to add two numbers together as a group or in a bar.</p> 	 <p>Use pictures to add two numbers together as a group or in a bar.</p> 	$4 + 3 = 7$ $10 = 6 + 4$  <p>Use the part-part whole diagram as shown above to move into the abstract.</p>

