MENTAL MATHS POLICY

Summer 2017

Aim
At Eastway, our aim is for all children to leave us numerate, achieving fluency in mathematical skills. To achieve this fluency, it is essential that children master mental mathetical skills and knowledge.

Mental Maths Curriculum
We follow the expectations set out in the 2014 National Curriculum. The skills and knowledge relating to mental maths have been mapped out by year group and term by the maths subject leader (see appendix 1). Class teachers may change which term the knowledge and skills are taught to meet the needs of their children and to fit in with other topics, but all content for their year group must be taught and learned by the end of the year.

Animal Awards
The skills and knowledge for each term has been grouped into an animal award. The aim of this is to motivate children and to help them and their parents understand their next step in mental maths. Each child should be given their own animal award that matches their mental maths targets. (See appendix 2 for animal award year group map and appendix 3 for an example)

Time allocation
Each class should have:
- A weekly lesson, teaching the children strategies for their mental maths skills and knowledge, using models and images where possible
- Regular practise of age related targets (set out in the LTP, appendix 1) through songs, games and challenges
- Daily 10min times table practice (from Y2 upwards)

Assessment
Children should be assessed regularly. It is important that children's learning of mental maths is deep and goes into their long term memory. For this reason, children must show that they are able to achieve their objective fluently three times, with a two week gap between each assessment before a skill is assessed as achieved. Children may be assessed on several skills from an animal award at a time, as some may be being practised whilst others are being learned.
Class teachers should update the animal awards tracker termly to show where children are working and to check that they are making the progress they should.
When making an overall judgement about children's levels, a child should not be awarded a step on target tracker if they have not achieved this step in their mental maths. For year groups working to old curriculum levels, please see appendix 4 for best-fit conversions between animal awards and levels. For individual children where there are specific difficulties with mental maths, class teachers may negotiate assessing the child's overall maths level above their mental maths level with the maths subject leader.

Differentiation

Children should be thoroughly assessed to find gaps in their mental maths knowledge. Each child should then be given an individual animal award target that meets these needs. Children's lessons should planned to meet the needs of each child.

For children working below age-related expectations, they should be given an animal award target at the level of their current needs, but planning should accelerate their progress up to age related expectations as soon as possible.

Please see separate SEN, Gifted & Talented and inclusion policies for further advice

Home-learning

Regular practise is key to improving mental mathematics skills. Practising at home as well as at school will accelerate learning of these skills and knowledge. For this reason, mental maths targets should be the focus of maths home-learning.

All children from Y1-Y6 at Eastway have a Mathletics account. This should form the basis of maths home-learning. An after school Mathletics club will be provided for families who do not have access to Mathletics at home.

The maths subject leader will also put links to online games to some of the animal award targets on the school website.

Other policies

Please refer to the following policies for further detail

- Maths
- Teaching and learning
- Inclusion
- SEN
- Gifted & Talented
- EAL

Appendix 1: Year group expectations, mapped out by term

Y1

Autumn	Spring	Summer
Count up to 20, starting from 0, 1 or any given number	Count 100, forwards and backwards, starting from 0, 1 or any given number	Count to 199, forwards and backward, starting from 0, 1 or any given number
Count backwards from 20, starting from 20 or any given number less than twenty, down to 0	Count in multiples of 10 up to 100	Count in multiples of 5 up to 195
Count in multiples of 2 up to 20	Count in multiples of 2 up to 100	Count in multiples of 10 up to 190
Say one more than a given a number (up to 20)	Say one more than a given a number (up to 100)	Count in multiples of 2 up to 198
Say one less than a given number (up to 20),	Say one less than a given number (up to 100),	Say one more than a given a number (up to 199)
		Say one less than a given number (up to 199),

Y2

Autumn	Spring	Summer
Count in steps of 2, forwards and back (on multiples)	Count in steps of 5, forward and back (on multiples)	Add any two numbers in your head quickly with an answer less than 20
Add a 2 digit number and ones	Count in steps of ten, forwards and back, from any starting number (not multiples)	Subtract any two numbers less than 20 quickly in your head
Subtract ones from a 2 digit-number		
Add three one digit numbers	Add a 2-digit number and tens	
	Subtract tens from a 2-digit number	Know your 5 X tables off by heart
Know your 10 X tables off by heart		Know your division facts for your 5 X tables off by heart
Know your division facts for your 10 X tables off by heart	Know your 2 X tables off by heart	
	Know your division facts for your 2 X tables off by heart Name odd and even numbers	

Y3

Autumn	Spring	Summer
Count in multiples of 100, forwards and back, including 0	Count in multiples of 4, forwards and back, including 0	Count in multiples of 8, forwards and back, including 0
Count in multiples of 50, forwards and back, including 0	Know your 4 X tables off by heart	Count up and down in tenths
Know your 3 X tables off by heart	Know your division facts for your 4 X tables off by heart	Know your 8 X tables off by heart
Know your division facts for your 3 X tables off by heart	Add and subtract ones with a three digit number	Know your division facts for your 8 X tables off by heart
Say 10 more or less than a number to (up to 3 digit)	Add and subtract tens with a three digit number	Add two 2 digit numbers, with an answer more than 100
Say 100 more or less than a number (up to 3 digit)	Add and subtract hundreds and a three digit number	Subtract two 2-digit numbers

Y4

Autumn	Spring	Summer
count in multiples of 6	count in multiples of 7	count in multiples of 25 Know your 12 X tables off by heart
count in multiples of 1000	count in multiples of 9	
Know your 6 X tables off by heart	Know your 7 X tables off by heart	Know your division facts for your 12 X tables off by heart
Know your division facts for your 6 X tables off by heart	Know your division facts for your 7 X tables off by heart	Know all of your times tables up to 12 X 12 off by heart
Know your 11 X tables off by heart	Know your 9 X tables off by heart	Know all of your division facts for the times table up t 12 X 12, off by heart
Know your division facts for your 11 X tables off by heart	Know your division facts for your 9 X tables off by heart	Round any number (up to 4-digits) to the nearest 100
Find 100 more or less than a given number (up to 5-digit numbers)	Round any number (up to 4-digits) to the nearest 10	Round any number (up to 4-digits) to the nearest 1000
Count backwards through zero to include negative numbers		

Y5

Autumn	Spring	Summer
Identify multiples of a number count forwards and backwards with positive and negative whole numbers, including through zero count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	Say factors of a number, including factor pairs Say the common factor of two numbers Learn prime numbers to 19 off by heart	add and subtract numbers mentally with increasingly large numbers (for example, 12 462 – 2300 = 10 162). round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000

Y6

Autumn	Spring	Summer
perform mental calculations, including with mixed operations and large numbers - 2 step mental maths	round any whole number to a required degree of accuracy	

Appendix 2: Animal award map by year group

	Spring	Summer	Autumn
Y1	Otter	Elephant	Snow leopard
Y2	Giraffe	Chimpanzee	Guinea Pig
Y3	Owl	Chameleon	Badger
Y4	Orang-utan	Narwhal	Red panda
Y5	Grey Seal	Gecko	Tasmanian Devil
Y6	Duck Billed Platypus		

Appendix 3: Example animal award

Otter Targets

	Date achieved	Date achieved	Date achieved
Count up to 20, starting from 0, 1 or any given number			
Count backwards from 20, starting from 20 or any given number less than twenty, down to 0			
Count in multiples of 2 up to 20			
Say one more than a given a number (up to 20)			
Say one less than a given number (up to 20),			

Otter Award Achieved!

Awarded to:

....

Date :.........................

Your next award is the Elephant
To earn that, you must:
* Count to 100, forwards and backwards, starting from 0, 1 or any given number
* Count in multiples of 10 up to 100
* Count in multiples of 2 up to 100
* Say one more than a given a number (up to 100)
* Say one less than a given number (up to 100),

Appendix 4: Best fit old NC levels against animal awards

NC 2014 age related expectation	Animal Award	NC 2000 level equivalent (best fit)
Y1	Otter	L1
	Elephant	L2
	Snow leopard	L2
Y2	Giraffe	L2
	Chimpanzee	L2/3
	Guinea Pig	L2/3
Y3	Owl	L3
	Chameleon	L3
	Badger	L3/4
Y4	Orang-utan	L4
	Narwhal	L4
	Red Panda	L4
Y5	Grey Seal	L4
	Gecko	L4
	Tasmanian Devil	L4
Y6	Puck Billed Platypus	L5