

# HEYGARTH PRIMARY SCHOOL

## Mental Mathematics Policy



Date discussed with Staff:	Date discussed with Governors:
Date ratified by Governors:	
Date for review:	
Signed:	Headteacher
Signed:	Chair of Governors

## **Heygarth Primary School** **Mental Maths Policy**

### **Aims**

At Heygarth Primary School, 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 mathematical skills and knowledge.

### **Mental Maths Curriculum**

We follow the expectations set out in the 2014 National Curriculum for Mathematics. The skills and knowledge relating to mental maths have been mapped out by year group and term by the Mathematics 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 should 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 mathematics.

Each child should be allocated their own Animal Award that matches their mental maths targets. (See Appendix 2 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;
- DAILY practise of mental maths skills;
- DAILY 10 minutes times table practice (from Year 2 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 as others are being learned.

When making an overall judgement about children's levels in maths, a child should not be awarded a level if they have not achieved this level in their mental maths. 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 be 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 in KS1 and KS2 will be given a set of playing cards and a 1-12 die for home-learning. F1 and F2 children may be given this where appropriate. Each week the class teacher should give children an activity to do at home with this equipment, linking to their Animal Award target. Children should practice for 10-20mins (depending on age), five times per week.

The Mathematics 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:

- Teaching and Learning
- Inclusion
- SEN
- Gifted & Talented
- EA

### **Review**

This policy will be reviewed in line with the school's policy review programme. The subject leader is responsible for reporting to the governors' about the quality of its implementation and its impact on standards. In the light of this, policy amendments may be made.

H. Beamish  
September 2014

**Appendix 1 – Year Group expectation mapped out by term**

EYFS

30 – 50 months	40 – 60 months	ELG
Know 3 counting songs off by heart Say numbers 1 to 10 in order Count up to 5 things objects accurately Count up to 10 things that are not objects e.g. steps or claps	Count up to 10 objects accurately Count out up to 6 objects from a larger set Say one more than numbers to 10 Say one less than numbers to 10	Count up to 20 objects accurately Count up to 20 things that are not objects e.g. claps or steps Place any 3 numbers up to 20 in order of size Find one more than numbers to 19 Find one less than numbers to 20

Year 1

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

## Year 2

Autumn	Spring	Summer
Count in steps of 10, forward & back, starting from any number Add a 2 digit number and ones Subtract ones from a 2 digit-number Add and subtract two multiples of ten e.g. 70 - 20 Add three one digit numbers Know the 10 X tables off by heart Know the division facts for 10 X tables off by heart	Count in steps of 2, forward & back, starting from any number Add a 2-digit number and tens Subtract tens from a 2-digit number Name odd and even numbers Know the 2 X tables off by heart Know the division facts for 2 X tables off by heart	Count in steps of 5, forward & back, starting from any number Count in steps of 3, forward & back, starting from any number Add any 2 numbers quickly (answer less than 20) Subtract any 2 numbers less than 20 quickly Know the 5 X tables off by heart Know the division facts for 5 X tables off by heart

## Year 3

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

#### Year 4

Autumn	Spring	Summer
count in multiples of 1000 Know your 11 X tables off by heart Know division facts for 11 X tables off by heart Find 1000 more or less than a given number (up to 5-digit) count in multiples of 6 Know your 6 X tables off by heart Know division facts for 6 X tables off by heart	count in multiples of 25 count in multiples of 9 Know your 9 X tables off by heart Know division facts for 9 X tables off by heart count in multiples of 7 Know your 7 X tables off by heart Know division facts for 7 X tables off by heart Count backwards in ones through zero to include negative numbers	Multiply 1 and 2 digit numbers by 10 and 100 Divide 1 and 2 digits number by 10 and 100 Know your 12 X tables off by heart Know division facts for 12 X tables off by heart Know all times tables up to 12 X 12 off by heart Know all of division facts for the times table up to 12 X 12, off by heart

#### Year 5

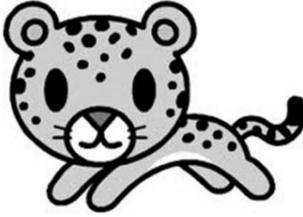
Autumn	Spring	Summer
Square any one digit number Recall square numbers to 144 Multiply whole numbers and decimals (to 2dp) by 10, 100 and 1000 Divide whole numbers and decimals (to 2dp) by 10, 100 and 1000 Use times tables to multiply a multiple of ten by a one digit e.g. 60 X 8 Use division facts to divide a multiple of ten by a one digit e.g. 320 ÷ 8	Add and subtract numbers less than ten with one decimal place Name multiples of a number Name factors of a number, including factor pairs Use times tables to multiply a multiple of 10, 100 or 1000 by a one digit e.g. 600 X 8 Use division facts to divide a multiple of 10, 100 or 1000 by a one digit e.g. 3200 ÷ 8	Learn prime numbers to 19 off by heart count forwards and backwards in positive and negative whole numbers, including crossing zero Add and subtract numbers mentally with increasingly large numbers (for example, 12 462 – 2300 = 10 162). Use times tables to multiply a multiple of 10, 100 or 1000 by a multiples of 10, 100 or 1000 e.g. 600 X 800 Use division facts to divide a multiple of 10, 100 or 1000 by a multiples of 10, 100 or 1000 e.g. 3200 ÷ 800

Year 6

Autumn	Spring	Summer
Perform mental calculations, including with mixed operations and large numbers - 2 step mental maths Name common factors of two numbers Name common multiples of two numbers Multiply and divide any number by 10, 100 or 1000, giving answers to 3dp Multiply tenths by units e.g. $0.6 \times 7$	Embedding through problem solving...	

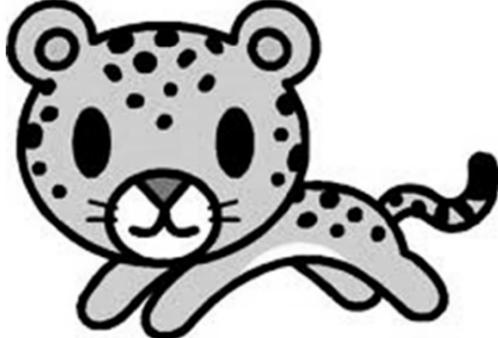
**Appendix 2 – Example of Animal Awards and Targets**

## Snow Leopard Targets



	Date achieved	Date achieved	Date achieved
Count to 199, forwards and backward, starting from 0, 1 or any given number			
Count in multiples of 5 up to 195			
Count in multiples of 10 up to 190			
Count in multiples of 2 up to 198			
Say one more than a given a number (up to 198)			
Say one less than a given number (up to 199)			

## Snow Leopard Award Achieved!



Awarded to:  
.....

Date :.....

Your next award is the giraffe

To earn that, you must:

- Count in steps of 10, forwards & back, starting from any number
- Add a 2 digit number and ones
- Subtract ones from a 2 digit-number
- Add three one digit numbers
- Add and subtract two multiples of ten e.g.70 - 20
- Know the 10 X tables off by heart
- Know the division facts for 10 X tables off by heart