



# MATHS POLICY



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**Future Review: January 2026**  
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**Committee: Quality of Education**  
**Version: 1.2**





*"Small school, big hearts.  
Wise, responsible, kind like the Good Samaritan."*

### **Our Mission Statement**

**We are a caring, village school which promotes Christian values, where each child receives a high standard of education that is broad, challenging, exciting and encourages creative thinking. We encourage every learner to be the best they can be, to reflect and plan the next steps in their learning journey, demonstrating a respect towards others and contributing to the communities of which they are a part.**

### **Our Vision**

**Our vision is to nurture unique individuals who are outstanding learners, demonstrating wisdom, responsibility and kindness within their communities. Using the Good Samaritan as our role model, we know that loving others as we are loved is upmost for happy, healthy lives.**

### **Values**

**Wise** - we think wisely and are committed to learning. We relish and retain knowledge and value high standards. We have high expectations, high aspirations and enjoy challenge. Like the wise man who built his house upon the rocks (Matthew 7), we think creatively and use learning to make good decisions. We have firm foundations for our lives.

**Responsible** – we are responsible for ourselves – our well-being, our behaviour and our learning. We strive to be the best people we can be and the best person for others. We have a responsibility to others inside and out of school and at times need to be patient, tolerant and courageous in demonstrating this. As Noah had to step up when God asked him to, so must we. We are a school family whose strength is in our ability to work together. We know that perseverance and hard work will bring reward and that resilience is about coping with challenges positively.

**Kind** - we are kind. Through support, nurture and understanding we all flourish. Each one of us is unique – on the outside and inside. We value diversity and respect difference. There are hundreds and thousands, millions of us but God knows everyone and God knows me!

### **Curriculum Intent**

Our curriculum is designed around our Christian values. Each term, we focus on 3 values across the school and develop a working understanding of them through our choice of texts and foundation subject learning, embedding reading and maths at the core. Our approach is to deliver knowledge rich, sequential learning which excites and inspires, provides opportunity for recap and challenge, raises questions for debate, develops learners' confidence and enables independent learning to flourish. High standards, collaboration and valuing individuals' well-being is at the heart of this process. We believe that how we teach is as important as what we teach and that enrichment experiences are an entitlement. We want our curriculum to enable our children to be wise, responsible and kind in line with our school core values.

## Subject Definition

*Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.*

Mathematics Programme of Study, Sept 2013

## Curriculum intent

To ensure that all children at Buckland School enjoy and have confidence in mathematics through a good or outstanding fluency with numeracy and an ability to reason mathematically. To ensure that the children understand and appreciate the importance of mathematics in the work and everyday life and can apply their knowledge to different subjects.

To enable children to:

- enjoy all aspects of mathematics
- Have confidence in numeracy and other mathematical knowledge
- become fluent in the fundamentals of mathematics
- develop their thinking skills to reason mathematically
- solve problems in real life contexts and through all areas of mathematics logically, systematically and accurately.
- Use initiative and be motivated to work both independently and in cooperation with others
- Communicate confidently in maths where pupils ask and answer questions, openly share work and learn from mistakes
- connect different areas of mathematics together
- use mathematical language effectively and confidently
- receive a broad and balanced curriculum which includes all aspects of mathematics (Using and Applying mathematics, Number, Algebra, Shape and Space, Measurements and Data Handling) as well as a range of appropriate learning experiences (eg. Problem solving, practical work, games).
- use ICT to develop their understanding of mathematical ideas and as a way of handling information effectively
- be able to use and apply their knowledge in other curricular areas.

## The Mathematics Curriculum:

Mathematics is a core subject of the National Curriculum. As part of our strategy to raise pupil attainment, Buckland School uses the objectives from the '**Mathematics programmes of study: key stages 1 and 2' National curriculum in England** as a basis for planning teaching and to fulfil the requirements of the National Curriculum for

Mathematics. It is based around the four key areas that are explicit in the Mathematics programme of study:

- Number
  - Number is divided into sections:
    - Number and place value
    - Addition and subtraction
    - Multiplication and division
    - Fractions
- Measurement
- Geometry
- Statistics

The scheme of work ensures continuity and progression throughout the school, using current and up-to-date practices.

The EYFS Statutory Framework 2021 sets standards for the learning, development and care of children from birth to five years old and supports an integrated approach to early learning. This is supported by the 'Development matters' non statutory guidance.

The EYFS Framework states that reception children, working at the expected level of development at the end of EYFS, will:

#### Number

- Have a deep understanding of number to 10, including the composition of each number
- Subitise (recognise quantities without counting) up to 5
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

#### Numerical Patterns

- Verbally count beyond 20, recognising the pattern of the counting system
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

White Rose scheme of work is used in reception to plan teaching and learning opportunities in Maths.

Master the Curriculum is used in nursery to plan teaching and learning opportunities in Maths.

## Planning

- Throughout school, we use the Mathematics Programme of Study and White Rose Maths Hub Scheme of Work to support learning. The work is supported and

supplemented by a range of resources and schemes to plan appropriately for individual needs.

- Differentiated activities are planned for groups. Differentiation for SEN pupils is planned for on weekly planning, making use of the children's specific support plans. Adult support is allocated accordingly. Plans show extension activities and support activities to suit the needs of the children.
- Indoor and outdoor practical activities form the basis of learning in the Foundation Stage.
- Teachers produce medium and short term planning using the strategies above. These are evaluated daily and weekly to inform future planning for the whole class or individual pupils. Details of the planning is documented below.
- The development of mathematics across the curriculum links to a creative curriculum. Units of work, where possible, are addressed at appropriate times to fit in with the rest of the curriculum, in particular, science and ICT.
- Speaking and listening skills are planned for in a variety of ways and specified on the planning record.

## Termly planning

- Teachers' medium-term planning is informed by the previous term's annotated planning sheet.
- Teachers draw up their medium-term plans by identifying the bands from the yearly teaching programme which is based on the Mathematics Programme of Study and White Rose Maths Hub Scheme of work.
- Years 1-6 use the White Rose Maths Hub schemes of learning as their medium term planning documents. These schemes provide teachers with exemplification for maths objectives and are broken down into fluency, reasoning and problem solving aims based on the National Curriculum. They support a mastery approach to teaching and learning and have number at their heart. They ensure teachers stay in the required key stage and support the idea of depth before breadth. They support pupils working together as a whole group and provide plenty of time to build reasoning and problem solving elements into the curriculum.
- Medium term plans are submitted to the headteacher at the start of each new term.

## Weekly planning

For weekly planning, teachers write plans for their mathematics lessons.

- Teachers use the objectives within the Mathematics Programme of Study and the White Rose Maths Hub Scheme of work when planning their lessons.
- Teachers choose objectives based on assessment of the children's progress and need.
- Teachers plan sequences of lessons which link areas of mathematics together and progress the children's learning.
- Teachers make amendments to plans according to their assessments of pupil progress.
- Teachers evaluate their weekly planning, making notes on pupils who have exceeded or not achieved expectations
- Planning clearly shows which group the teacher will be focusing on each day and which group will be supported by the teaching assistant.
- SEN and more able provision within mathematics weekly plans are clearly indicated.
- Planning includes a mental oral starter, focus vocabulary and opportunities for speaking and listening in which children will practice to read, say and write the vocabulary.
- Within the weekly plan, teachers ensure that they include problem solving within a lesson or mental oral starter.
- Every mental oral starter will include regular practice of counting on and back in all areas of mathematics and important number skills
- Problem solving and mathematical reasoning will be integrated into each of the 4 topic areas in the programme of study.
- Teachers will ensure that connections between areas of mathematics are taught and that different areas of mathematics are consistently referred to.
- Homework will sometimes include mathematics, to support learning in class or provide challenge. It is recorded on the planning record.
- Plans are monitored on a regular basis by the mathematics coordinator and head teacher.

## Teaching

- Children are taught mathematics vocabulary daily and are encouraged to use the vocabulary within lessons.
- Mathematics lessons are interactive and include games or activities throughout the week.
- Resources are used to stimulate learning. Teachers use a wide range of visual resources to illuminate meaning.
- Teachers ensure that lessons include a focus on using and applying and encourage children to link areas of mathematics together.
- Teachers encourage the children to be active learners within the lessons.
- Lessons are at a good pace to ensure good to outstanding progress.
- Support staff are directed by the class teacher; they should be aware of the planning and understand the learning objective for that lesson.
- In addition to differentiated tasks for differing abilities, within lessons teachers adapt questioning and ask open-ended questions to meet the needs of the children.
- Teachers reflect and evaluate responses – identifying mistakes and using them as positive teaching points
- Teachers will make explicit the key mathematical systems and rules that govern mathematics.

## Assessment

Assessment is an integral part of teaching and learning and is a continuous process.

- Summative assessment tasks (Rising Stars tests for Y1,3,4 and 5, & end of key stage tests in Y2 and Y6) are carried out three times a year and placed in the individual pupil assessment folder. Each term, every child's KPI sheet is updated to make level judgments and set appropriate targets. These levels are recorded on the school's server.
- Daily AFL techniques are used to inform teaching and learning. A range of strategies are used including self and peer assessment against clear steps to success. The children are involved in creating the steps to success at the beginning of a teaching sequence. The steps to success may be adapted throughout the sequence of lessons.
- Partner talk is used daily to encourage children to discuss their maths and explain their thinking.
- Teachers will consistently assess children's understanding of mathematics concepts during a lesson and adapt the lesson appropriately.
- Marking of children's work is essential to ensure they make further progress. Marking offers praise and points the next steps or challenges the children to use and apply the mathematics to another area (see feedback / marking policy). Children are encouraged to self-assess their work and given time to read teachers' comments and make corrections or improvements. Responses to marking are made as close to the work as possible, ideally at the start of the next lesson. Some pieces of work in mathematics can be marked by children themselves.
- The development of efficient mental and written methods in the teaching of calculation follows the 'Calculation policy' written by the Academy schools of which the written methods are based on those from the Programme of Study. The

policy is followed throughout the school, allowing pupils to learn and understand a range of strategies from which they can select the appropriate method. Children are taught to determine efficient methods. Informal methods are taught to develop mental calculation skills. Monitoring of these methods by the mathematics co-ordinator ensures that there is continuity and progression through the school.

- Each term children are given targets which relate to the areas of maths they will be learning that term. Targets are based on AFL and end of unit assessments. Parents are able to view these targets each week in open afternoon.
- Teachers make assessments of children daily through; regular marking of work, analysing errors and picking up on misconceptions, asking questions and listening to answers, facilitating and listening to discussions and making observations.
- Y2 and Y6 complete the national tests (SATs) in May. Yrs 1, 3, 4 and 5 complete Rising Stars tests which inform teacher summative judgements in the summer term.

## **Pupils' Records of work**

Children are taught a variety of methods for recording their work and are encouraged and helped to use the most appropriate and convenient. Children are encouraged to use mental strategies and their own jottings before resorting to more formal written methods. Children's own jottings to support their work is encouraged throughout all year groups.

## **ICT in the Mathematics lesson**

ICT is used to support the teaching and learning of mathematical objectives, where appropriate, using the My Maths or relevant websites.

- Computers are used during whole class work to provide a starting point as well as to demonstrate concepts and encourage problem solving.
- Computers are used by groups of children working independently within the classroom on programs relating to the mathematical objectives being addressed that day.
- Calculators are used in mathematics for a range of purposes depending on the age of the children:
  - pupils at Key Stage 1 are introduced to calculators and the patterns generated by them.
  - pupils at Key Stage 2 are taught the basic functions of a calculator
  - calculators are used for the purpose of checking answers to calculations.

## **Environment**

The school aims to provide a mathematically stimulating environment:

- Through displays that promote mathematical thinking, discussion, knowledge and understanding. Mathematics vocabulary is displayed for the children to refer to within lessons.
- Through the 'Working Wall' which has mathematics steps to success and key learning ideas which have been developed during the week.



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- Through displays of pupils' work that celebrate achievement.
- By providing a good range of resources for the teacher and pupils to use.

In every classroom, resources such as number lines, hundred square, place value charts and multiplication squares are displayed as appropriate and used as resources for whole class or individual work, for children to become confident in their use and understanding of the number system. These resources are used across the school on a daily basis and in particular in KS1 and Lower KS2 where they use them for games or activities. The children are encouraged to independently retrieve the mathematics resources that they require.

### **MyMaths**

MyMaths, a fully interactive online mathematics learning tool for children is used by teachers to support mathematics learning both in class and at home. Children are set homework on MyMaths in line with the homework policy and are encouraged by school to access it regularly at home to support areas of mathematical learning.

### **Monitoring and Evaluation**

Equality of opportunity for all pupils is ensured by the monitoring of differentiation of teachers' planning by the mathematics co-ordinator. The mathematics planning, teaching and assessment is monitored on a regular basis by the mathematics co-ordinator and headteacher. The mathematics co-ordinator writes and evaluates the mathematics action plan, basing objectives on monitoring and evaluation and the current school development program. In addition to these roles, the mathematics subject leader will monitor the standards, achievement and progress for different groups of pupils across the school.

Signed..... Mathematics Coordinator

Signed..... Headteacher

Signed..... Chair of Governors

Date agreed..... Date for review.....

## **Mathematics Framework 2019-2021 Calculation Policy**

### **Vision and aims**

To ensure that all children at Buckland School enjoy and have confidence in mathematics through a good or outstanding fluency with numeracy and an ability to reason mathematically. To ensure that the children understand and appreciate the importance of mathematics in the work and everyday life and can apply their knowledge to different subject areas.

### **Introduction**

The purpose of this calculation policy is to provide guidance for the teaching of calculation methods from EYFS to year 6. The policy attempts to ensure consistency of practice, and a smooth progression from mental to written calculation, in which the pupils' written calculation methods build effectively upon their mental methods. The mental and written calculation methods are exemplified within the scheme of work and the written methods are based on those that are made explicit in the Mathematics Programme of Study, Sept 2013. The policy emphasises the importance of developing children's confidence in mental mathematics before progressing to formal written methods to ensure good understanding and accuracy in mathematical concepts. Equally, it emphasises the importance of encouraging children to determine which method is applicable to the calculation they are solving. Pupils are taught to use efficient methods of calculation to develop speed, but are also encouraged to ensure accuracy by estimating answers to calculations and checking them by using the inverse method.

### **The aim of the calculation policy is to ensure that children:**

- have a secure knowledge of number facts and a good understanding of the four operations;
- are able to use this knowledge and understanding to carry out calculations mentally and to apply general strategies when using one-digit and two-digit numbers and particular strategies to special cases involving larger numbers;
- make use of diagrams and informal notes to help record steps and part answers when using mental methods that generate more information than can be kept in their heads;
- have an efficient, reliable, written method of calculation for each operation that children can apply with confidence when undertaking calculations that they cannot carry out mentally;
- use a calculator effectively, using their mental skills to monitor the process, check the steps involved and decide if the numbers displayed make sense.

## Teaching and Learning Methods

In KS 1, children are introduced to the processes of calculation through practical, oral and mental activities. As children begin to understand the underlying ideas, they develop ways of recording to support their thinking and calculation methods. They learn to interpret and use the signs and symbols involved. Over time children learn how to use models and images, such as empty number lines, to support their mental and informal written methods of calculation. Teachers will assess the pupil's understanding of the mental methods to determine at what point the pupils can progress to written methods. This progression is explicit in the Academy scheme of work across all age groups.

As pupils progress into KS2, the methods become more efficient. In lower KS2, pupils are encouraged to use mental methods for larger numbers and attempt to solve the calculations using the mental strategies that are taught before completing a written calculation. As pupils reach the end of lower KS2, they are beginning to understand how to calculate with decimals. In Upper Key Stage 2, pupils use written methods of calculation with larger numbers and decimals. They are taught to always consider an appropriate method for a calculation, estimate an answer and check the result by using the inverse method. When faced with a calculation, children are able to decide which method is most appropriate and have strategies to check its accuracy.

**Teachers ensure that the calculation methods are taught in the progressive sequence with one method preceding another as the order has a profound influence on pupil's understanding of the methods. This will involve ensuring that children have a secure understanding of mental and written calculation strategies appropriate to each child's age and stage of mathematical development.**

**The teacher's role is to determine at which point a child can progress from one calculation to the next. This judgement will be based on the child's understanding of place value, knowledge and ability to recall maths facts and understanding of the systems and rules that govern mathematics. It is important that children are given time to consolidate each step before progressing to the next.**

**Teachers will consistently refer to the place value of the digits and elicit and acknowledge common misconceptions. They will discuss errors and encourage children to talk and explain the steps to solving calculation methods to ensure that pupils have a high-level of understanding of the calculation method they are completing. In order for pupils to develop this level of understanding, teachers will consistently use mathematical vocabulary in their explanations and refer to the mathematical vocabulary booklet to ensure the correct vocabulary is taught in each year group. It is essential that pupil's use of calculation methods is underpinned by a secure and appropriate knowledge of number facts, along with those mental skills that are needed to carry out the calculation method.**

## Written work in Mathematics books

Across the school written work takes many forms which are dependent upon: the children's age; ability and the task that has been set. In EYFS and early KS1, the recording of mathematical calculations may include:

- Pictorial recording
- Words describing a mental calculation
- Use of signs and symbols.

As the children progress from year 2 to 6, the written work will include:

- Columnar methods for addition and subtraction
- the use of increasingly compact and efficient formal methods
- mental mathematical informal jottings that help the learner

All work in their books should show that children have:

- considered approximate answers to calculations
- checked their answers using inverse operations
- answered and initialled comments and questions marked by the teacher
- Peer or self-assessed calculations using the steps to success

## Mental methods of calculation

Oral and mental work in mathematics is essential, particularly so in calculation. Early practical, oral and mental work must lay the foundations by providing children with a good understanding of how the four operations build on efficient counting strategies and a secure knowledge of place value and number facts. Later work must ensure that children recognise how the operations relate to one another and how the rules and laws of arithmetic are to be used and applied. Ongoing oral and mental work provides practice and consolidation of these ideas.

The ability to calculate mentally forms the basis of all methods of calculation and has to be maintained and refined. A good knowledge of numbers or a 'feel' for numbers is the product of structured practice and repetition. It requires an understanding of number patterns and relationships developed through directed enquiry, use of models and images and the application of acquired number knowledge and skills.

### Secure mental calculation requires the ability to:

- recall key number facts instantly
- use taught strategies to work out the calculation
- understand how the rules and laws of arithmetic are used and applied

### Written methods:

Written methods are used for pupils to work out calculations that are too difficult to do mentally but also for solving problems. Pupils should be given different methods to use as some children may be more adept to particular methods than others. However, this calculation policy also exemplifies the methods that will be used in the Academy. These methods have been chosen by all Academy schools to ensure there is

consistency in approach so that when the pupils move up to the secondary school the pupils are able to use the same methods.

It is expected that by the end of Year 6 all children will understand, and use successfully, the conventional standard written methods to carry out and record calculations that they cannot do 'in their head'. For the written calculation methods, teachers will refer to the scheme of work which provides a structured and systematic approach to teaching the calculation skills.

## Monitoring and Evaluation

The mathematics coordinator and head teacher will monitor the use of calculation methods across the school to ensure a consistent approach, progression and the teachers' use of AFL to inform planning of teaching.

Signed: \_\_\_\_\_ Mathematics coordinator

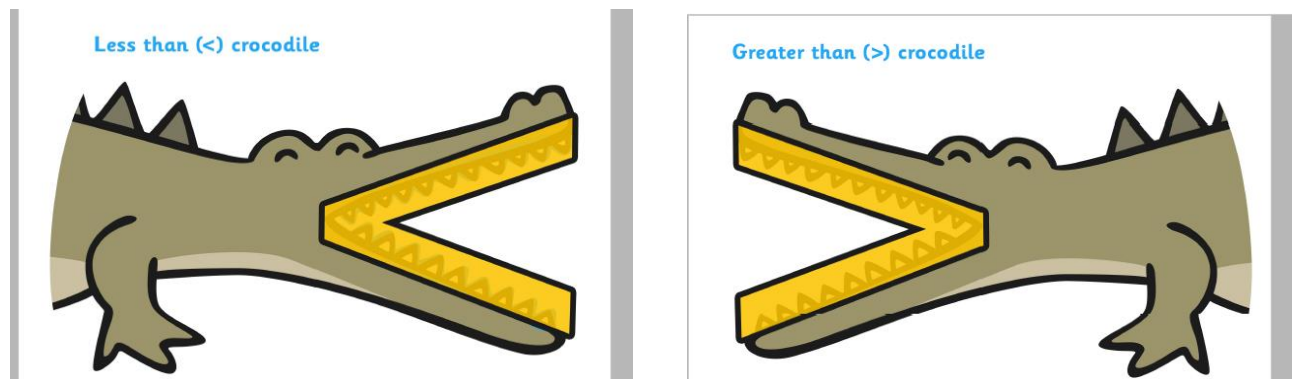
Signed: \_\_\_\_\_ Head teacher

Signed: \_\_\_\_\_ Chair of governors

## Appendix 1:

These are the resources which will be used throughout the school. Every child should be aware of the words and their meaning. What is listed below is the things for which teachers need to refer to when applicable in class.

Crocodile – less than and more than



Spiders – run up and down in 10's.

Robbers – demonstrate taking away.

**Using a Hundred Square**

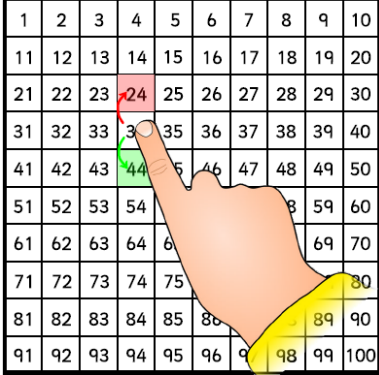
## Finding 10 more or 10 less

**To find 10 more**  
move down 1 square.

**To find 10 less**  
move up 1 square.

31	32	33	34	35
41	42	43	44	45
51	52	53	54	55

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



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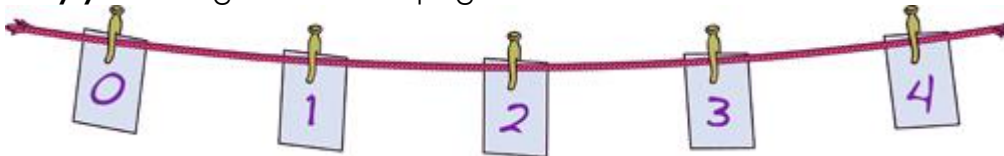
1-100 grids (IWB) – colour multiples of 10

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

'Nearly' numbers – numbers which are nearly a 'ty' number. E.g. 19 → 20

The year groups listed below should refer to these materials at all time

**Early years** – Big numbers on pegs



"Small school, big hearts.  
Wise, responsible, kind like the Good Samaritan."



**Year 1** – Beadstring

My number line



**Year 2** – Number lines



**Year 3** – Frog hops to next 10/100

