

## **Donnington Wood C of E Junior School**

### **Mathematics Policy 2013**

Principles and entitlements: How we teach mathematics at Donnington Wood

Mathematics at Donnington has at its heart the needs of all pupils to engage, use and apply math to real life practical experiences. Lessons will inspire and reflect the needs of the learner, challenging pupils to develop strategies to check their answers and investigate further. We aim for all pupils to make outstanding progress.

How we teach mathematics

Math's teaching and planning is driven by to the needs of the pupils and lessons are planned according to this. We use the Assessing Pupil Progress (APP) grids to ensure the curriculum is balanced but do not follow a prescribed path of when to deliver each strand. Progress is assessed each day, through marking and self assessment and staff (with the input of pupil voice) decide on the best way to take learning forward. Only when pupils have made the necessary progress and demonstrated they are secure through real life application do staff 'move on' to the next learning need. This means gaps in learning will not become barriers to learning.

Real life application

At Donnington Wood we believe the best way to secure outstanding progress is for all pupils to use and apply their learning to real life problems, investigations and discussions. Pupils will visualize problems and decide the best approaches, making judgments as to the accuracy of their work and the next steps they need to take, fully understanding the key skills.

The calculation policy has been amended to include methods to check working out – ensuring pupils are secure with being able to identify errors. Our teaching of Mental Maths reflects this goal, and focuses on modeling, assessing and then challenging the pupils' application of strategy.

Mathematics is taught in a way that best takes pupils further and includes opportunities for independent, collaborative learning, peer teaching and peer assessing.

Pupils are aware of their own next steps through use of the APP grids and child friendly targets. They are also aware of their levels and we are looking for ways to introduce APS (Average point scores) for all pupils.

Pupils' work books are a key indicator as to assessing Pupil Progress.

Math's work is embedded and evident across the curriculum, serving and extending the needs of our pupils to use and apply.

Staff aim and are aspiring to teach outstanding lessons and all contribute and take ownership of sharing good practice and resources. (Can be found in math's file)

Teachers are not limited to a level or a single strategy of what to teach; we teach according to needs so as not to restrict or limit progress.

This will foster pupils who have:

- ❑ A positive attitude to maths as an interesting and attractive subject.
- ❑ Confidence in mathematics and the ability to express ideas fluently using the language of maths.
- ❑ An appreciation of the creative aspects of the subject, an awareness of its aesthetic appeal and an awareness of the fascination of the subject.
- ❑ The ability to think clearly and logically in maths with confidence, independence of thought and flexibility of mind.
- ❑ An understanding of maths through a process of enquiry and experiment.
- ❑ An appreciation of the nature of numbers, and the relationship between them, leading to an awareness of the basic structure of maths.
- ❑ An appreciation of mathematical pattern and the ability to identify relationships.
- ❑ Mathematical skills and knowledge accompanied by the quick recall of basic facts.
- ❑ Persistence through sustained work in maths which requires some perseverance over a period of time.
- ❑ The ability to work systematically.

### **Additional Information and detail**

There is a daily dedicated mathematics lesson for all children at this school. A typical 60 minute lesson will be structured dependent on the strategy being taught and will focus on allowing pupils to make the most progress. This can be delivered in a number of ways, but will keep at its heart the school principles and entitlements listed at the start. It will also consist of a focus group teach- this is the class teacher primary formal teaching method and will address the next steps for that group. Lessons are based on real life problems and the plenary should make this explicit.

Pupils are grouped according to needs and are flexible to best deliver progress.

### **Planning**

Staff use the APP grids to plan and ensure a balanced curriculum. Every objective in the yearly APP is covered at least once by the end of the year.

Planning is carried out weekly and then adapted daily to reflect the needs of the pupils.

Planning is differentiated and takes into account of all abilities and needs of the children.

### **Equal Opportunities**

As a staff we endeavour to maintain an awareness of, and to provide for equal opportunities for all our pupils in mathematics. We aim to take into account cultural background, gender and Special Needs, both in our teaching attitudes and in the published materials we use with our pupils.

### **Children with Special Education Needs**

Where necessary teachers will, in consultation with the SENCO, draw up an Individual Education Plan, or Group Educational Plans for a child or children. If a child's needs are

particularly severe they will work on an individualised programme written in consultation with the appropriate staff.

When planning, teachers will try to address the child's needs through simplified or modified tasks or the use of support staff.

Where appropriate a Group Educational Plan is developed with common objectives and learning targets for a group.

The progress of children who are on the Gifted and Talented register is reviewed regularly.

Where necessary, teachers should also track back to P levels in order to identify specific objectives for pupils who are not reaching level 1. We recognise that this happens for a minority of pupils who's special needs will have already been identified.

### **Assessment and Record Keeping**

Pupils' books will form a key judgment on the progress of pupils and will be regularly monitored.

Assessments will be based on the appropriate level- not the year group.

All assessments are to be completed and kept by the class teacher. Levels are recorded using e-portal and are measured against pupils' individual targets. We are moving towards using APS, which supersedes targets. Pupils are expected to make 4 points progress, but as a school we are driving for 6.

#### **Autumn.**

During Assessment week, children will complete an appropriate assessment and Teachers will analyze the results- putting results into ePortal.

#### **Spring.**

During the second half of the Spring term, pupils will complete appropriate assessment- putting results into ePortal and updating teachers own tracking.

#### **Summer.**

Assessment this term will be the Year 6 SATS and Optional SATS for the other year groups. The Optional SATs will be used for Y3, 4 and 5. Results will be used to identify areas of weakness. This data will again need to be submitted for cohort tracking, and to inform future targets and planning.

The only exception to the assessments indicated above are where an SEN or GT child is working at a level inappropriate to the year specific assessment. In this case, the children will sit a different year groups test. If this is still inappropriate, Assessing Pupil Progress may be used to make a judgment. Level 6 tests will be administered where appropriate.

**All results are to be reviewed by the class teachers against the pupils' daily work. This will serve to check for anomalies in results and inform the SMT during pupil progress meetings.**

Assessing Pupil Progress is completed as ongoing assessment throughout the year using identified pupils, one Higher Ability Pupils (HAPs), one Average Ability Pupils (AAPs) and one Lower Ability Pupils (LAPs). Work books belonging to these pupils have APP grid dated and coloured to indicate progress.

The assessment that takes place through the marking of focus groups will provide an ongoing record of pupil's achievements. The work completed in these sessions will be marked against the objective for that lesson. This will be recorded by the class teacher in the children's books and on their planning and will be used to track the progress of the pupils.

Assessments are used to:

- To ensure that individual pupils make progress compared with previous attainment
- Assess pupils' work against the key objective for the year
- Assess pupils' work against national standards at year 6
- Provide information about children's attainment and progress to assist in reporting to parents
- To assist with planning for progression
- Help us to gain relevant information to set targets and focus on areas of weakness in order to constantly strive for high levels in SATs
- Allow staff and governors the opportunity to see the overall progress and attainment made by the school as a whole, including progress towards school, LEA and national targets.

### **Homework**

All children are expected to carry out some homework for maths, in accordance with our homework policy. This may be to consolidate skills or knowledge or to develop and extend strategies and techniques. However, homework in maths will take many different forms:

- Learning tables facts
- Playing a number game
- A practical activity in a home context, e.g. weighing/measuring
- Preparing work to present to the class
- Thinking about how to solve a problem
- More formal written work

More information can be found in the Homework Policy.

### **Reporting**

All Parents receive an annual written report on which there is a summary of their child's effort and progress in mathematics over the year.

At the end of Key Stage 2 each pupil's level of achievement is matched against national standards and included in their annual written report.

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| Appendix A | Resources             |
| Appendix B | Calculation policy    |
| Appendix C | APP Grids             |
| Appendix D | 2012-2013 Action plan |

**Maths Policy to be reviewed biannually.**

**(Reviewed and modified by Robert Fox, January 2013)**

## **Appendix A**

### **Resources: Each class has:**

'Numbers Up' Digit cards  
A target board  
A large 100 square  
An appropriate number line  
Rulers  
Maths Class Display (with interactive display (target this term))

### **Classes have access to:**

Unifix, multi-link, clixi, polydron  
Coins  
2D/3D Shapes  
Dominoes  
Dice  
Counters  
Calculators (Y4, 5 and 6)  
Number games  
Base 10 apparatus  
Mirrors (see science cupboard)  
Measuring equipment:  
    length: rulers, tape measures, trundle wheels  
    mass: weights, scales  
    time: teaching clock, clock faces, stop watches (science cupboard)  
    capacity: graduated measuring vessels  
    angles: set squares, angle measurer, protractors  
Pairs of compasses  
Fractions games/cards  
Pattern Blocks

### **Teaching Resources**

Donnington Wood Junior and Donnington Wood Infants Joint Calculation Policy

'Abacus' Scheme of Work

iPad resources.

School website.

Maths Games Library (For use in school or at home with parents.)

Interactive Whiteboard