Willow Primary Academy

Maths Curriculum



*“Without mathematics, there’s nothing you can do. Everything around you is mathematics. Everything about you is numbers.” – Shakuntala Devi*

**INTENT**

We want all pupils at Willow Primary Academy to experience the beauty, power and enjoyment of mathematics and develop a sense of curiosity about the subject. At Willow, we foster positive ‘can do’ attitudes, believe all children can achieve in mathematics, and teach for secure and deep understanding of mathematical concepts. We use mistakes and misconceptions as an essential part of learning and provide challenge through rich and sophisticated problems before acceleration through new content.

We aim for all pupils to:

* Become fluent in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
* Solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios.
* Reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.
* Have an appreciation of number and number operations, which enables mental calculations and written procedures to be performed efficiently, fluently and accurately.

**IMPLEMENTATION**

Our Maths curriculum is delivered during daily Maths lessons and Maths meeting three times a week. Maths lessons involve everyone learning together with appropriate support and challenge in place for all pupils to access the learning. They are used to deliver the set curriculum. Maths meetings are deliberate practice sessions that allow time for children to review prior learning, practice key skills and knowledge and provide time for any intervention pupils may need to support them in securing understanding and making progress.

**Delivery**

* Maths lessons involve everyone learning together with appropriate support and challenge in place for all pupils to access the learning.
* Maths lessons focus on a manageable step of new learning based on NC statements.
* Teachers use MTPs to plan their lessons using one Key learning Point per lesson.
* Conceptual understanding is developed through concrete and pictorial representations.
* Reasoning skills are part of every daily lesson.
* High quality materials and tasks support learning and enable all to access maths learning.
* Teachers have access to Can Do Maths resources and Classroom Secrets to support planning.
* Key questions are used to open up the content to be studied.
* Assessment takes place during learning to address misconceptions, identify strengths and gaps and inform next steps.
* Maths meetings are deliberate practice sessions that allow time for children to review prior learning, practice key skills and knowledge.
* Maths meetings can provide time for any intervention pupils may need to support them in securing understanding and making progress.

**Progression**

* In EYFS, pupils explore the ‘story’ of numbers to twenty and the development of models and images for numbers as a solid foundation for further progress. Teachers use the concrete – pictorial – abstract approach to conceptual development.
* Pupils, regardless of their ability, in KS1 and KS2 are provided with opportunities to become more fluent in their learning, to reason mathematically and to solve a range of problems.
* All children are expected to be exposed to age related expectations and staff allow the time to plug gaps children may have in a particular area of mathematics.
* Staff understand what age-related expectations and mastering looks like for each objective and plan for how their children will get there.
* Maths concepts are carefully mapped out to ensure that they are revisited and reviewed throughout the year and across each Key Stage, each time building on prior learning.
* Lessons are carefully sequenced to develop coherent and comprehensive pathway.
* Each unit has clear overview outlining key concepts, knowledge, skills and vocabulary to be taught and evaluated to measure impact.
* Potential misconceptions are identified in advance and strategies to address them are planned for.
* Key questions are used to challenge thinking and develop learning for all pupils.
* Calculation and fraction, decimal and percentage documents show clear progression, building on prior learning and supporting pupils in linking concrete ideas to abstract concepts.
* Adaptive teaching is used in order to meet the needs of all pupils.

**IMPACT**

The Maths curriculum at Willow ensures that children are happy learners who talk enthusiastically about their learning and eager to further their progress in maths. Children celebrate their mistakes and learn from them and each other. Classes are enthused, engaged and challenged. The impact of ‘mastery’ and the emphasis on accurate use of mathematical language is evident during class/pupil discussions. Consistent teaching practices that are more effective for pupil progress long term are evident across school**.** These factors ensure that we are able to achieve the expected standards, with achievement at the end of KS2 in-line with that of the national average, as well an increasing proportion of children demonstrating greater depth, at the end of each phase. Pupils leave Willow being ready for their next stage of learning and are able to use maths in their everyday lives.

**Long Term Plan – 2022 – 23**

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| **Units Overview** | TERM 1 | TERM 2 | TERM 3 | TERM 4 | TERM 5 | TERM 6 |
| **EYFS** | - Introducing number- Exploring routines and times of the day - Using positional language- Representing 1, 2 and 3 - Comparing 1, 2 and 3- Composition of 1, 2 and 3- Positional language | - 2D shapes- Spatial reasoning- Introducing zero- Representing numbers to 5- Comparing numbers to 5- Composition of 4 and 5 - One more and one less -Exploring patterns - Comparing size, mass and capacity | - Number 6, 7 and 8- Making pairs- Combining 2 groups- Comparing mass- Comparing capacity - Length and height- 3D shapes- Spatial reasoning- Time | - Number 9 and 10- Comparing numbers to 10- Number bonds to 10- Exploring Patterns - Time- Building numbers beyond 10- Counting patterns beyond 10 | - Adding more- Taking away- Spatial reasoning- Compose and decompose- Doubling- Sharing and grouping equally- Odd and even | - Spatial reasoning- Mapping- Patterns and relationships- Deepening understanding- Consolidation |
| **Year 1** | - Number and place value- Geometry – Properties of shapes- Addition and subtraction | - Number and place value- Addition and subtraction - Geometry – Properties of shapes | - Addition and subtraction - Measure - length | - Addition and subtraction - Fractions | - Multiplication and division- Measure – Time- Geometry – position and direction  | - Multiplication and division- Measure – money- Measure – mass and capacity |
| **Year 2** | - Number and place value- Geometry – Properties of shapes- Addition and subtraction | - Addition and subtraction - Geometry – Properties of shapes- Multiplication and division- Geometry – position and direction | - Multiplication and division (Times tables)- Measure – length and mass- Fractions | - Revision in maths meetings starts- Measure – Time- Measure – Money- Fractions | - Statistics- Measure – capacity and temperature- SATS | - Number and place value- Addition and subtraction- Multiplication and division |
| **Year 3** | - Number and place value- Geometry – Properties of shapes | - Multiplication and division (Times tables)- Addition and subtraction mental methods | - Fractions- Addition and subtraction written methods | - Multiplication and division (Times tables)- Measure – money | - Fractions – calculating- Measure – time- Multiplication and division | - Measure – length, mass and capacity- Geometry – angles- Statistics |
| **Year 4** | - Number and place value- Geometry – Properties of shapes | - Multiplication and division (Times tables)- Addition and subtraction mental methods | - Multiplication and division (Times tables)- Addition and subtraction written methods | - Multiplication and division- Geometry – angles | - Decimals- Fractions | - Measure – time- Measure – perimeter and area- Geometry – position and direction - Statistics |
| **Year 5** | - Number and place value- Decimals | - Geometry – Properties of shapes- Addition and subtraction - Multiplication and division – powers of 10 | - Multiplication and division- Geometry – Position and direction | - Fractions, decimals and percentages- Measure – length, mass and capacity | - Fractions – calculating- Measure – time- Geometry – position and direction | - Measure – area and volume- Geometry – Properties of shapes- Statistics |
| **Year 6** | - Number and place value- Multiplication and division- Geometry – position and direction | - Negative numbers- Fractions, decimals and percentages- Addition, subtraction, multiplication and division- Geometry – Properties of shapes | - Fractions – calculating- Geometry – Angles- Statistics – handling data | - Ratio and proportion- Measure – converting units- Measure – area and volume | - Statistics – averages- Algebra- SATs week | - Fractions, decimals and percentages- Addition, subtraction, multiplication and division- Algebra |