



## **Mathematics Policy**

**Written by:** Martess Spiteri

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**This policy should be read in conjunction with the following policies:**

- Maths Calculation Policy
- National Curriculum: Programme of Study for Maths
- Maths Progression of Skills
- Maths Ideas for Depth cards
- SEN Policy
- Marking Policy
- Joydens Wood Curriculum 2023-2024
- Enquiry Led Learning Policy

## **Intent**

### **Statement of Intent**

Mathematics equips children to reason logically, solve problems, explore, calculate and communicate; it is a fundamental life skill. High-quality teaching and a well-planned progression model enable our children to appreciate the power of mathematics as well as developing an enjoyment for the subject.

In Mathematics we promote three key principles. These include; deep understanding, mathematical thinking and mathematical language, with problem solving at the heart of our curriculum.

At Joydens Wood Infant School our children engage in a Mathematics curriculum which develops children's fluency and confidence in Mathematics. It fosters an independent and resilient culture through a growth mind-set approach and allows learning autonomy for all children by ensuring that they can apply these skills in a range of situations including during discrete Mathematical lessons and through enquiry based opportunities. High expectations of key mathematical concepts are the foundations of our curriculum which have been carefully considered and planned for progression. Knowledge and skills are intertwined through complex mathematical challenges that are developing through a fluid model of concrete, pictorial and abstract learning. Through this, we are enabling children to have exposure to rich mathematical language which they can embed, use and apply through a range of situations including both discrete Mathematics lessons and enquiry based opportunities. Children engage in a curriculum which prioritises rich, first hand mathematical learning experiences where they are able to consolidate skills and transform this into knowledge.

### **Aims of National Curriculum**

Mathematics in Joydens Wood Infant School, provides pupils an opportunity to use:

Mathematical thinking:

- To solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

Conceptual Understanding:

- To become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately

Language and Communication:

- To reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

The school builds upon the aims in the National Curriculum by ensuring that each aspect is incorporated into school life. A well thought out curriculum enables skills to be 'layered' in each lesson. Skill fluency, competency and depth of knowledge occurs during both structured and unstructured times of the day. Children are taught Mathematics within a formal environment and their knowledge is embedded by allowing them to explore these concepts during Child Initiated play and Enquiry Led learning.

## **Implementation: Teaching and Learning**

### **Curriculum Planning**

Mathematics is taught in isolation from other subjects daily from EYFS to Year 2. Each school year begins with a focus on the concepts and skills that have the most connections, and this concept is then applied and connected throughout the school year to consolidate children's learning. This supports pupils to become masters in maths. They are able to develop both mathematical fluency and conceptual understanding. The curriculum is designed to meet the requirements of the 2014 National Curriculum for England.

In our school, we follow a bespoke curriculum that has been developed in line with the National Curriculum which outlines the progression of skills taught lesson by lesson, unit by unit and year on year. This ensures that pupils are able to build upon skills and create a depth of understanding for the concepts taught. We follow Development Matters (2021) and the curriculum directly correlates to outcomes within this document in order to support children to achieve ELG by the end of EYFS. **See appendix 1, 2, and 3.**

All year groups are expected to use the curriculum planning provided by the Mathematics Leader. **See appendix 11 and 12.**

### **Home Learning Expectations:**

Due to COVID-19 in 2020 Joydens Wood Infant School have ensured that children can access an age appropriate curriculum both at home and at school.

Upon return to school and throughout the Academic Year of 2020-2021 teachers should plan and record 1 video per week explaining overview of the learning for that week. Teachers should model to parents the strategies used within school and provide ideas for activities for children to practise those skills at home. Alongside this, teachers should set weekly activities, related to the topic which is being taught.

In the event of a local lockdown or school closure, teachers should continue to plan from the Mathematics Curriculum and film daily videos on what would have been taught. This should then be uploaded to class dojo alongside a daily Mathematics activity related to the topic being taught.

### **Teaching**

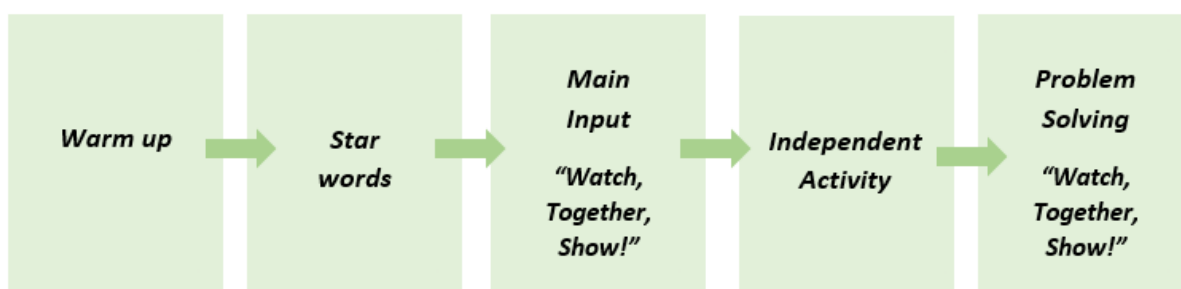
Teachers will need to plan and teach following Joydens Wood Infant School curriculum map and progression of skills. Teachers will need to use their professional judgement to map out a number of lessons outlined from the curriculum map and progression of skills. Teachers to ensure that they follow the outlined structure of each lesson.

### **Teaching and Learning Requirements:**

- All children should engage in a Mathematics lessons daily.
- Resources must be adapted to individual needs to provide support and challenge as necessary.
- Star Words and vocabulary linked to the unit will be shared at the start of the lesson to ensure the children have a strong understanding of what they are learning as well as the language required for that unit of learning. This language should then be echoed throughout the lesson.
- All classes within the year group should be teaching the same unit at the same time (unless sharing of equipment is needed). The units should be taught in the order provided by the Mathematics Leader and Curriculum Overview.
- Resources for the unit should be researched and prepared for prior to the unit being taught by the teachers within that year group.

## EYFS/Reception Teaching and Learning Requirements

Mathematics in Reception is taught using the shorter 6-part lesson model. The lessons are focused adult-led sessions with direct teacher input which should be taught using the appropriate resources outline of the Maths Progressions in Calculations.



Teachers should ensure that during the main input they use a fluid model of CPA and support children to secure the skills taught through a 'I do, you do, we do' approach. Children should then complete an independent activity where they can **practically** display the skills that have been taught. The lesson should finish with a complex maths problem based on a real life context in order to deepen children's understanding as well as extend their reasoning skills.

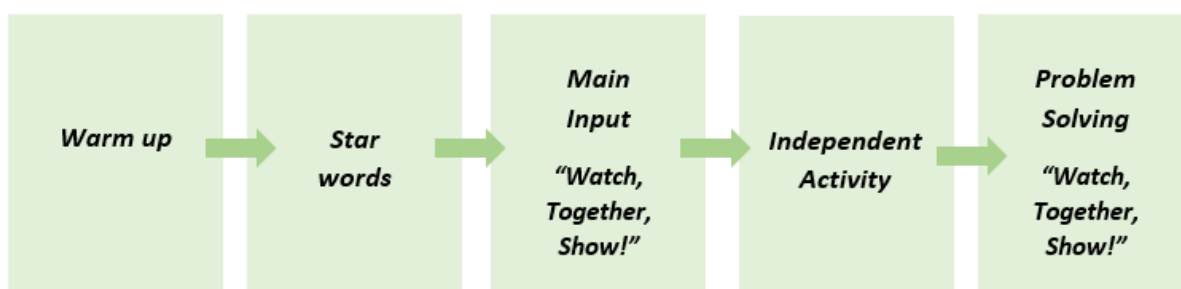
In EYFS the provision will be designing to support children to consolidate their mathematical skills in order to use and apply their mathematical knowledge. When working in continuous provision, adults should observe, question pupils and pose problems for pupils to solve that specifically relate to the key learning from the adult-led session or from the unit that has been taught or from the skills outlined on the Progression of Skills.

## Year 1 Teaching and Learning Requirements

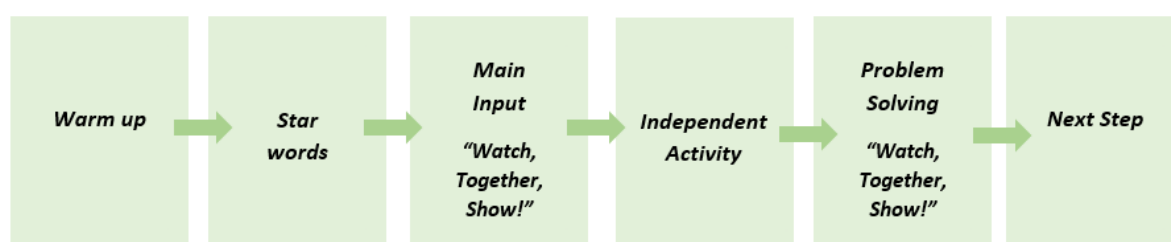
Mathematics in Year 1 follows the six-part progression model. Year 1 builds upon stamina through progression towards the six-part lesson.

The lessons are focused adult-led sessions with direct teacher input which should be taught using the appropriate resources outlined on the Maths Progressions in Calculations.

### Autumn 1 and 2:



### Spring 1 onwards:

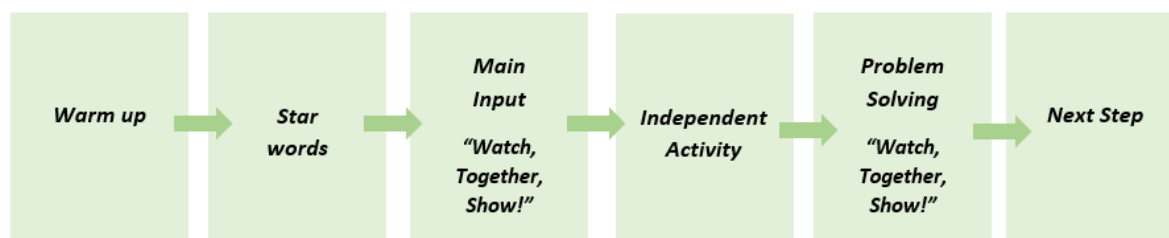


Teachers should ensure that during the main input they use a fluid model of CPA and support children to secure the skills taught through a 'I do, you do, we do' approach. Children should then complete an independent activity 'pitched at the age expected level where they can display the skills that have been taught through differentiation of resources used and adult support. The lesson should develop with a complex maths problem based on a real life context in order to deepen children's understanding as well as extend their reasoning skills. The lesson should finish with a next step which is related to problem solving, differentiated to children's academic level. Next steps can be directly taken from White Rose.

When working in enquiry based learning, adults should observe, question pupils and pose problems for pupils to solve that specifically relate to the key learning from the adult-led session or from the unit that has been taught or from the skills outlined on the Progression of Skills.

## Year 2 Teaching and Learning Requirements

Mathematics in Year 2 follows the six-part lesson structure which enables children to learn new skills and transfer this into knowledge. The lessons are focused adult-led sessions with direct teacher input which should be taught using the appropriate resources outlined on the Maths Progressions in Calculations.



Teachers should ensure that during the main input they use a fluid model of CPA and support children to secure the skills taught through a 'I do, you do, we do' approach. Children should then complete an independent activity pitched at the age expected level where they can display the skills that have been taught through differentiation of resources used and adult support. The lesson should develop with a complex maths problem based on a real life context in order to deepen children's understanding as well as extend their reasoning skills. The lesson should finish with a next step which is related to problem solving, differentiated to children's academic level. Next steps can be directly taken from White Rose.

## Maths Meetings

Maths Meetings are an addition to the daily Mathematics lesson. Maths Meetings have been planned in correspondence with our progression of skills to support develop children's fluency through repetitive activities to embed key mathematical skills such as their fluency, confidence and mental arithmetic. Maths meetings should and can be used as an opportunity to pre-teach or consolidate understanding from the discrete Mathematics lessons taught previously.

### EYFS & Year 1

3 out of 5 Maths Meetings should be taught linked to the topics.

2 out of 5 Maths Meetings should be planned for a pre-teach or consolidation on what has been taught that week.

### Year 2

3 out of 5 Maths Meetings should be taught linked to the topics.

2 out of 5 Maths Meetings should be planned for greater depth, a pre-teach or consolidation on what has been taught that week.

### Maths Meeting Learning Requirements:

- Maths Meetings should be taught in correspondence with the Mathematics Policy including each skill within each term.
- Maths Meeting boards should be adapted termly according to what needs to be taught.
- Mathematics Meetings should be taught daily for 15 minutes.

See appendix 7.

## Resources

All of the necessary resources to deliver the curriculum successfully are located in each classroom. An audit of resources is carried out once per year and any extra resources are ordered when necessary for teacher's to successfully deliver their curriculum. Teaching teams are responsible for informing the Mathematics Leader of any resources that they may need, and the Mathematics Leader is responsible for ordering these.

**Year 1 and Year 2** have Maths boxes which include the full list of resources to ensure that lessons are fully prepared.

See **appendix 8**.

## Assessment

### Planning

- Medium term planning should be taken directly from the Scheme of Work and Whole School Curriculum. Teachers should ensure that the skills are being covered across the term.
- Short term planning should be completed weekly and should be adapted week on week based on teacher's judgements. Teachers should take into consideration misconceptions that have arisen and plan directly for these.
- Consolidation lessons have been outlined on the Mathematics Curriculum Map, identifying when teachers should consolidate learning and for how long. Teachers are to use their professional judgement of when and what to teach depending on the need of the class or year group.

### Marking

- Green highlighter should be used to highlight the learning objective when this has been achieved. Pink highlighter should be used to mark incorrect answers.
- If there is pink highlighter, children should be given additional time to go back and correct their answers in a purple pen.
- If children have completed all their work and their next step, they should be given pink next step questions to move their learning on or the use of an idea for a depth card to extend their learning appropriately.
- When a high level of support has been provided this should be outlined on the work including a TA assisted/T assisted stamp.
- When feedback has been given to a child, this should be outlined with the use of 'VF' written next to the piece of work or question.
- If children have used concrete resources to heavily support their learning, this should be written next to the piece of work or question.

### Formative

- Teachers carry out assessment for learning via the pupils' responses within their lessons and within any cross curricular opportunities that arise.
- Both verbal and age appropriate written feedback should be evident in the books to allow children to make progress.

### Summative

- Teachers maintain a record of attainment and progress in Mathematics across the year; this is shared regularly with SLT and with parents three times a year at each parent consultation meeting. An entry is made each half term determining whether children are working towards (WTS), working at expected (EXS) or working at greater depth (GDS) for the expected standard. Similarly, in EYFS, they will assess children as to whether they are emerging, expected or exceeding, by the end of EYFS.
- Teachers maintain a record of children's attainment in progress in line with the NEST Assessment document for mathematics. Here children who are (WTS) and (GDS) for each topic are highlighted and monitored.
- Children in EYFS will be assessed against the Early Learning Goals by the end of the year, their progress and attainment is tracked from their starting point throughout the year.
- At the end of KS1 children will sit their SATs tests which assist the final teacher assessment.

## Moderation

- Teachers should participate in moderation across year groups to share good practice as well as monitor progress. KS1 to moderate the children's Maths books, EYFS to monitor portfolios to ensure children are being challenged appropriately as well as tracking their next steps.
- Teachers attend NEST moderation sessions where they are able to share good practice with other trust schools as well as monitor progress.

## Recording

In EYFS children are encouraged to record work through games, role play and mathematical activities within play which will be uploaded to dojo on children's portfolios. Teachers should give a brief description of the children's work directly relating to the Maths Progression of Skills and provide children with a next step to move their learning on.

Teachers should record and share any WOW moment learning of Maths (formal lessons) on dojo or via a class story post.

In Year 1 children will have a Mathematics Book whereby they will be encouraged to record Mathematical activities within the lesson from Spring Term. Teachers should complete WOW moments and observations on dojo linked to Mathematics. Teachers should give a brief description of the children's work directly relating to the Maths Progression of Skills and provide children with a next step to move their learning on. Activities/provision should reflect the Maths Curriculum to support them in making progress and recording their learning.

In Year 2 there should be Mathematics evident within their books and there should be a clear progression in both problem solving, and fluency.

Teachers should ensure that they are using the Maths Non-Negotiables for children's recording of information.

See **Appendix 8**.

## Book Expectations

- Children should have a yellow squared book for Maths which should be recorded daily. If activities are practical these should be recorded via children's dojo portfolios or on the class story page.
- All independent tasks/activities in books should have a child friendly LO, date and challenge that children are currently on. All tasks to be completed in font; Collins handwriting size 12.
- As children progress through Y1 teachers should actively encourage and model children to display workings out and using taught strategies in the books using the squares. This should continue throughout Y2 whereby children are recalling upon strategies and independently drawing/writing these in their books. Some topics may not allow this flexibility therefore worksheets are appropriate.
- Year 2 greater depth work should be highlighted using a purple dot sticker.
- Ideas for depth should be used in books based on the task that is being carried out.
- Pink Pen questions should be used to further extend children's learning **when** they are fully secure within that unit of work.



### Cross Curriculum Links

Opportunities are provided to expand and extend children's knowledge and experience of maths through a range of contexts and subjects. An important element to Mathematics is the application to real life which enables pupils to assign purpose to their learning.



At our school children engage in a child-led curriculum through Enquiry Led Learning or child initiated play. During this time activities and areas are designed to practise and apply key skills taught in the discrete, teacher led, Maths lessons. Children are able to directly link Maths to a range of subjects such as History, Geography, Science, Art and DT. Children can use and apply mathematical skills such as measuring, capacity, ordering, patterns and much more through a range of scenarios, therefore consolidating their understanding and deepening their mathematical problem solving skills.



### **Vulnerable Learners**

The curriculum has been designed to ensure that all learners are able to access teaching and learning. The curriculum is carefully differentiated to suit the needs for all children within the school. Our school ensures that children's 'barriers to learning' are carefully considered and understood by teachers to ensure that these are taken into consideration in the planning and delivering of lessons.

- SEND and EAL pupils: resources and support should be planned to suit the needs of individual children. Children are encouraged to participate within the classroom setting however; teachers must plan suitable aids to ensure the child is accessing Maths. Personalised plans outline the key strategies used to support SEND children which teachers should be consistently implementing during their Maths lessons.
- Disadvantaged pupils: children that have external circumstances that affect their development. The school are expected to identify these contributing factors rapidly to ensure every child has the same opportunities to access their learning. This may involve discussing the child's home life with the DSL or FEL. Teachers should post weekly dojo posts outlining what has been covered so far that week in Maths to ensure that disadvantaged pupils and parents can remain up to date.
- In Year Admissions and Persistent absentees: children who have not attended our school previously or have poor attendance are at risk of not being able to access the learning. They may have significant gaps in their skills and knowledge that prevent them from being able to access specific skills/games. All children that are new/returned to school following a period of absence should be carefully monitored to ensure support is implemented without delay. Teachers should ensure that they are allowing time for interventions for persistent absentees. Teachers should post weekly dojo posts outlining what has been covered so far that week in Maths to ensure that persistent absentee pupils and parents can remain up to date.

## **Impact**

### **The Role of Subject Leader**

The role of the subject leader is to:

- To lead in the development of Mathematics within the school
- Support and offer advice to colleagues on issues related to the subject
- Monitor pupil learning in that subject area
- Provide efficient resources for that subject
- An understanding of developments within the subject both locally and nationally
- To monitor the planning, teaching and learning of mathematics within the school

Subject Leader to monitor teachers when working through the curriculum and Scheme of Work.

It is the subject leader's responsibility to ensure that all new staff to Joydens Wood Infant School are introduced to the programme and given induction training to support their professional development. The subject lead should ensure new teachers have access to the Mathematics Mastery toolkit.

The subject leader will keep a portfolio which may include children's work, lesson observations, learning walks, book looks, recordings and attainment findings.

**Appendix:**

**Appendix 1:** EYFS Curriculum Map

**Appendix 2:** Year 1 Curriculum Map

**Appendix 3:** Year 2 Curriculum Map

**Appendix 4:** EYFS Progression of Skills

**Appendix 5:** Year 1 Progression of Skills

**Appendix 6:** Year 2 Progression of Skill

**Appendix 7:** EYFS Maths Meetings Expectations, Year 1 Maths Meetings Expectations, Year 2 Maths Meetings Expectations.

**Appendix 8:** Maths Non Negotiables including a list of resources to be within KS1 Maths Boxes

**Appendix 9:** Ideas for Depth

**Appendix 10:** Planning Templates for EYFS/YEAR 1/YEAR 2

(Located on Google Drive)