



# Great Marsden St. John's Primary - a Church of England Academy. Our Curriculum Statement for Computing

## Our Vision

Our children will experience love, respect, faith and success as unique individuals within our school community and the wider world, now and in the future.

## Our Mission

We ask that Christ will live in our hearts through faith making us rooted and grounded in LOVE.

Ephesians 3

## Our Values

LOVING God

LOVING Others

LOVING Ourselves

LOVING Learning

LOVING Life

At GMSJ we believe that the basic principle of an effective curriculum is that learning makes a change to long term memory. The intent is that our Computing curriculum facilitates the delivery of this basic principle. In order to do so a strategic approach, based on pedagogical research, must be in place.

## CURRICULUM INTENT

**Our Computing Curriculum is broad and ambitious.** It is built upon the National Curriculum coupled with defined development of cultural capital “the knowledge that children need to be effective citizens”. Where possible we expose the children to experiences they are unlikely to encounter in other parts of their lives. To achieve this we have a comprehensive and deep knowledge of our families and community that enables us to strategically plan life enrichment.

**Our Computing Curriculum is well planned and sequenced,** it contains the right knowledge in the right order, providing pupils with the building blocks of what they need to know and be able to do to succeed in Computing. The Computing Curriculum is a spiral curriculum (Jerome Bruner) where subject **big concepts, procedural and declarative knowledge** are reencountered throughout the child's life at GMSJ.

**Procedural Knowledge** refers to the knowledge of **how** to perform a specific skill or task, it is automatic. Examples of procedural knowledge in Computing are:

- Programming
- Coding and Debugging
- Animation
- Office
- Communication
- Digital Safety



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**Declarative Knowledge** involves “knowing that”. Recalling information from declarative memory involves some degree of conscious effort – information is consciously brought to mind. **It is the Who, what, where, when and why of learning.**

Examples in Computing are:

- What is an algorithm?
- What is programming?
- How do we stay safe online?

The two work together. For example, to know the declarative knowledge of ‘What is programming?’ procedural knowledge of writing and debugging code would be necessary to answer this question.

**Big concepts** are complex and abstract, such as 'place', 'chronology' or 'grammar'. These **big concepts** hold declarative and procedural knowledge. They tie together Computing topics into a cohesive framework. Examples of big concepts in Computing are:

- Algorithms
- Programming
- Logical Reasoning
- Uses of Technology
- Online Safety

By encountering the same **big concept** over and over children gradually build understanding of them.

**Our Computing Curriculum has a coherently planned assessment sequence** to measure the impact of the Computing curriculum on the outcomes achieved by children. Children should be building a body of knowledge that they are able to commit to long-term memory, draw from and build on.

**Our Computing Curriculum is inclusive.** We ensure that adjustments are made to the learning environment that allows all pupils to access the learning taking place in the first instance regardless of need whether EAL, SEND or gifted and able.

**Our Computing Curriculum ensures that the Golden Thread runs through it.** The Computing curriculum provides children with opportunities to develop their reading, writing and speaking and listening skills.

### **CURRICULUM IMPLEMENTATION.**

**How we implement our broad and ambitious Computing curriculum.** From entry into school in EYFS, all children experience the Computing curriculum. An outside agency called Junior Jam comes into school every Thursday to teach KS1 and KS2 one hour of Computing



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a week. EYFS children are given the opportunity to experiment with technology, through continuous provision and adult-led activities.

We weave high quality activities which increase cultural capital throughout the Computing curriculum for example:

- Use of iPads, Chrome books and laptops which they might not have access to at home
- Access to different software

### **How we implement our well planned and sequenced Computing curriculum.**

**Big concepts** are charted on the Computing **Curriculum Map**. This careful process ensures that Computing learning is sequenced to build upon prior knowledge.

This map identifies the order in which the planning, which is provided and taught by Junior Jam, is taught.

Each Computing topic states the number of hours that should be spent delivering that learning. Such rigour ensures that learning is focused and diverse.

The timetabling of Computing looks like this:

In EYFS, through continuous provision.

In KS1, 1 hour is taught by Junior Jam, every Thursday.

In KS2, 1 hour is taught by Junior Jam, every Thursday.

For the majority of Computing **lessons a defined structure is in place**. This is not dictatorial however, it is expected to see some aspects of the outlined framework in each lesson. In Computing lessons, the lesson would start with a recap of what the children have been taught so far. This is then followed by an introduction to the new learning, which will be modelled. The children will then have the opportunity to practically experiment with the new learning. At the end of the lesson the teacher will formatively assess the children's learning from the lesson.

**Assessment** sits at the heart of Computing teaching and learning at GMSJ. Minute by minute assessment of understanding, or indeed misunderstanding, is fundamental to our teaching model. It informs future teaching, identifies starting points and exposes gaps in procedural and declarative knowledge. Adults use a variety of strategies to obtain information. These strategies are not specified but a minimum use of 'hands up' is encouraged.

In Computing we assess children's declarative and procedural knowledge half termly. In Computing, Junior Jam assesses the children's understanding at the end of each topic (half



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term) and sends a report through to the school via the Junior Jam website. This is a summative report, however during the lessons Junior Jam will use formative assessments to quickly assess the children's learning.

Pupil Conferences -

This will take place termly. Groups of children will be invited to a discussion with the subject leader, about their learning.

Marking and Feedback is a crucial aspect of assessment but this must be manageable. In Computing verbal feedback is given instantly throughout the lesson.

**How we implement an inclusive Computing curriculum.** We have high expectations of all our pupils, and although we understand not all children will be working at their age related standard, we do not assume that this applies across all subject areas. We recognise that all pupils have strengths and preferences for learning. We aim to identify and cater to these strengths. All our pupils will experience a curriculum with breadth, however children may not all access an identical curriculum. Learning in all subject areas builds on the knowledge and skills the pupils have already secured.

In our inclusive Computing curriculum, we have intentionally included experiences that reflect the diversity of the community we serve. For example, we introduce children to a wide range of equipment and software.

When working within the classroom children may have access to visual support- enlarged resources and any other provision that they may require in their school day. We aim to identify and challenge those more able students, this may come in the form of directing them to the library to develop their curiosity within a subject area or raise point questions so that they can explore their understanding further.

**How we implement the Literacy Golden Thread through our Computing curriculum.**

In recognising that Literacy skills form an essential basis on which the rest of our curriculum is built, it is fed through the Computing curriculum. This is achieved by:

- Encouraging to develop their speaking and listening skills through group work within observations and sharing opinions
- Providing purposeful opportunities for the children to write, this can be done in a variety of ways and contexts, such as a storyboard for animation.

The Golden Thread emphasizes the teaching of vocabulary. We know that this is often a barrier for our children and therefore requires more input. Technical vocabulary that is essential for the understanding of Computing is taught and displayed in each classroom.



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We know that access to books is sometimes an issue for our families. To this end we have well stocked classroom libraries so that the children can always read in school and Key Stage libraries which allow children to select books to take home. Books related to Computing are available for children to access.

### **CURRICULUM IMPACT**

To measure the impact of the Computing curriculum at GMSJ we use qualitative and quantitative information.

What we measure:

- Pupils procedural and declarative knowledge across the curriculum.

How we measure:

- Reviewing and evaluating the work pupils produce.
- Pupil voice via pupil conferencing
- Observation of teaching and learning
- Reviewing progress from the beginning of a unit and at the end of a unit.

Why we measure:

- To identify strengths in our Computing curriculum delivery and set goals for improvement.