Curriculum background:

Over the last three years, the Warriner Multi Academy Trust has been developing a carefully sequenced, knowledge-led curriculum, informed by the best research evidence available.

The curriculum has been constantly refined in light of feedback from both Ofsted and classroom practitioners and has a termly review process built into its delivery. The materials are presented in a consistent manner which support coherence, implementation and enable straightforward approaches to training.

Underpinning research evidence:

Curriculum Research

In 1869 Matthew Arnold said that teachers should provide pupils with, 'an introduction to the essential knowledge they need to be educated citizens. [And] introduce pupils to the best that has been thought and said. In 2013 Moore added, '… some knowledge is more powerful than others, this is knowledge which should be in the curriculum and that all pupils have an entitlement to it'

This entitlement places **subject knowledge at the forefront of teaching and learning** and demands us to plan a challenging, engaging and knowledge led curriculum. Tom Sherrington describes this as, 'We do not merely want to 'do the Romans'; we want children to gain some specified knowledge of the Romans as well as a broad overview. We want children to have more than a general sense of a topic through vaguely remembered knowledge encounters; in addition to a range of memorable, enriching experiences from which important tacit knowledge is gained, we want them to amass a body of specific declarative and procedural knowledge – not ad hoc but planned.'
To this end, all of our subject unit plans identify the specific knowledge to be taught and the order it should be taught in, they identify where links are to be made to other subjects and they provide additional resources to help develop teacher subject knowledge.

Having identified the knowledge, it was then necessary to consider the **coherence** of the curriculum plans. As Mary Myatt says, 'When the curriculum lacks coherence, it is both harder to teach and harder for students to locate and place their new knowledge.' This was central to our thinking as was a quote from Professor Tim Oates, 'careful attention needs to be paid to the underlying knowledge that pupils need in order to access the subject in later years. The plethora of information and stimuli becomes overwhelming if each is encountered without a context into which to place it.' Armed with this understanding we mapped knowledge and concepts both vertically and horizontally across year groups and across the school. Prior learning was identified as was key vocabulary that would be necessary for the unit of study. Alongside this we ensured that our reading curriculum further developed pupil knowledge through the deliberate choice of fiction and non-fiction texts to be taught in whole class reading lessons.

The development of our curriculum was also underpinned by many of the ideas from cognitive science about memory, forgetting and the power of retrieval practice. Our curriculum is designed to be remembered in detail – to be stored in our students' long-term memories so that they can later build on it, forming ever wider and deeper schemas. In order for this to happen it was necessary to deliberately plan for spaced or distributed practice, where knowledge could be rehearsed for short periods over a longer period of time, hence the need to ensure **interleaving** within our curriculum. We have deliberately organised learning into a mixed practice of A, B and C (for example, ABCABCABC).
The **forgetting curve** also demonstrates clearly the need for deliberate and regular opportunities to focus on knowledge and concepts if we are to ensure that our children are able to, 'know more and remember more.'
We also recognise the importance of **retrieval practice** as a strategy for supporting the retention of knowledge in the long-term memory. Retrieval practice strengthens memory and makes it easier to retrieve the information later. To

this end we have built in opportunities for this form of knowledge testing throughout our curriculum be it in the form of quizzes, concept maps or flash cards.

Cognitive load theory also underpins the structure of our curriculum. We have ensured through careful and deliberate sequencing and progression that knowledge and concepts have been broken down carefully, appropriately linked and mapped progressively in order that our children are able to acquire knowledge, create meaning and readily make connections with different schema without risking 'Cognitive overload.'

Teaching Research

Research tells us that the most effective teaching is characterised by:

- Modelling
- Teacher explanation
- Scaffolding
- Dual Coding
- Effective questioning
- Cognitive and Metacognitive strategies
- Flexible Grouping

These strategies are recognised by staff across the WMAT and form the basis of our Teaching and Learning principles. Professional development is provided to support the development of these approaches and Peer Reviews annually assess the impact of this work across our schools.

Subject Leader Research

Recent research carried out by **Ofsted** noted that if curriculum lies at the heart of education, and subject lies at the heart of curriculum, then it follows that, teachers need solid knowledge and understanding of the subject(s) they teach. As well as this, they need to know how to teach that subject, and, more generally, how to teach.

In order for this to happen it is necessary to recognise three types of essential knowledge, **content knowledge, pedagogical knowledge** and **pedagogical content knowledge.**

- Content knowledge can be defined as teachers' knowledge of the subject they are teaching
- Pedagogical knowledge as teachers' knowledge of effective teaching methods
- Pedagogical content knowledge as teachers' knowledge of how to teach the particular subject or topic.

In order to support this, we have developed subject schema that have been planned collaboratively by subject specialists across the Trust. Subject leaders been appointed to lead colleagues across our schools and support the professional development where necessary within their subject area, monitor and quality assure provision of the subject and moderate assessment.

Our belief in the importance of continued professional development and 'Growing Great Teachers' has also led to an alternative approach to Appraisal within the WMAT. All staff are, supported to and expected to, engage fully with research and develop their own learning in key areas which is then shared with all. This leads to a wealth of expertise and knowledge growing across the MAT which significantly benefits all.

Research on reading

We strive to ensure that our children develop a deep knowledge of the 'word and the world' and in order to enable this we have ensured that:

- Reading is prioritised to enable all pupils to access the full curriculum offer.

- Reading books connect closely to the phonics knowledge pupils are taught when they are learning to read.
- Tier 1, 2 and 3 Vocabulary is identified across the curriculum and taught explicitly to all age groups
- The development and implementation of a fiction and non-fiction literature spine is in place
- Reading is modelled by experts who read actively, including by monitoring their understanding, asking questions, making predictions and summarising.

References:

Tom Bennet – The Research ED Series – The Curriculum; An Evidence Informed Guide for Teachers

Jon Brunskill - I'm bringing knowledge back.

Christine Counsell - The dignity of the thing.

Mark Enser. - Knowledge in the classroom.

Michael Fordham - Is it more important to understand than to know?

Rebecca Foster and Claire Hill - On our #rEDDurrington presentation: Practical approaches to bringing research-informed practice to the classroom, the department and whole school.

Kat Howard and Claire Hill - Symbiosis. The curriculum and the classroom

E.D. Hirsch JR - Why Knowledge Matters

Debra Kidd - A rich curriculum.

Doug Lemov - Reading Reconsidered

Mary Myatt - Back on track. Fewer things, greater depth
High Challenge, low threat

Ben Newmark - Planning a knowledge curriculum.

Alex Quigley - Closing the reading gap
Closing the vocabulary gap

Clare Sealy - Memory not memories – teaching for long term learning.

Tom Sherrington - FACE It. A formula for learning.
Rosenshine's Principles in Action

Sweller's - Cognitive Load Theory.

Stephen Tierney - Educating with purpose. The heart of what matters.

Rosalind Walker - My #rEDBrum talk: The nature of school science knowledge.

Yana Weinstein, Megan Sumeracki and Oliver Caviglioli - Understanding how we learn

D Willingham - Why Don't Students Like School?