

Clarice Cliff Guide to Core Knowledge

Intent - The Why

At Co-op Academy Clarice Cliff, we are committed to delivering ambitious and highly focused Core Knowledge sessions in mathematics. These sessions prioritise number and calculation fluency, enabling pupils to recall key facts and apply efficient strategies with confidence. By developing automaticity, pupils reduce cognitive load, allowing them to approach complex reasoning and problem-solving with greater independence and success. This secure foundation ensures smooth progression into areas such as fractions, algebra, ratio, and wider curriculum content.

Our approach is one of precise teacher intervention. Core Knowledge sessions are short, regular, and sharply focused on addressing gaps in learning and strengthening recall. Teachers model strategies, revisit key facts, and use structured routines such as chanting, flashcards, oral rehearsal, and a range of manipulatives to embed fluency. Pupils are supported to practise and consolidate learning in an inclusive and engaging way, ensuring every child has the opportunity to master the mathematical fundamentals.

The aims of Core Knowledge sessions in mathematics are to:

1. Raise Standards in Mathematics: Strengthen number and calculation fluency to drive higher attainment and secure strong outcomes across the curriculum.
2. Build Recall and Automaticity: Ensure pupils confidently recall key facts and apply them accurately and efficiently.
3. Enhance Confidence and Engagement: Develop positive attitudes towards mathematics through consistent and achievable routines.
4. Support Long-Term Learning: Provide essential building blocks that underpin progression into advanced mathematical concepts.
5. Promote Equity and Inclusion: Ensure all pupils achieve fluency through teacher-led, scaffolded support and intervention.
6. Strengthen Curriculum Progression: Equip pupils with secure foundations to access higher-order problem-solving and reasoning.
7. Develop Lifelong Numeracy Skills: Give pupils the fluency and confidence to use mathematics in real-life contexts and future learning.

Implementation – The How (**including how/when we assess*)

What do we use to support our curriculum delivery?

At Co-op Academy Clarice Cliff, our Core Knowledge approach is designed to secure arithmetic fluency, strengthen recall, and close gaps in understanding so that every child can access the curriculum with confidence. The approach is structured, consistent, and highly responsive to pupil need.

Each session follows a clear cycle:

1. Whole-Class Completion: All pupils complete a worksheet taken directly from the Core Knowledge tracker, focused on a specific objective.
2. Tracking Progress: Pupils' understanding is assessed and recorded as 0 (not understood), 1 (partially understood), or 2 (fully understood) on the tracker.
3. Targeted Consolidation: In the following session, the same objective is revisited. The majority of the class continue with independent practice, while the teacher works directly with pupils who scored a 0 or 1 (or just 0 if many pupils need support).
4. Updating Records: Scores are updated on the tracker so progress is clearly visible over time.

5. Moving Forward: Once the majority of pupils achieve a score of 2, the class progresses to the next objective. Where a child has specific needs and has not yet reached a 2, targeted support can be provided separately, for example by a TLA, ensuring their progress continues at an appropriate pace.

This approach ensures that no child is left behind, and that teaching is consistently adapted to meet need. It builds mastery of essential number and calculation skills, enabling pupils to approach more complex concepts with confidence. Over time, this process not only improves arithmetic fluency but also develops resilience, independence, and long-term mathematical confidence.

Weekly

Core Knowledge sessions will run three times per week for 15 minutes and are timetabled for all pupils in Years 3–6. Each session will follow the agreed cycle of whole-class completion, targeted consolidation, and progress tracking. Teachers are expected to complete the tracker after each session to record pupil outcomes (0, 1, or 2).

The Maths Lead will review the tracker weekly to ensure consistency across classes and to identify where additional support may be required. Where pupils are not yet secure in an objective, targeted follow-up can be provided, including support from a TLA where appropriate, to help children consolidate their learning before moving on.

Assessment for Learning

During whole-class Core Knowledge sessions, teachers draw on pupils' worksheet scores and apply strategies from the Teaching and Learning Framework (including active observation) to identify which children may require additional support.

Progress is recorded systematically using the Core Knowledge tracker, available on the Clarice Cliff Google Drive. This tracker captures pupils' level of security in key arithmetic skills (0 – not understood, 1 – partially understood, 2 – fully understood) and is reviewed regularly to ensure targeted intervention.

In-session Assessment for Learning (AfL) is central to the approach: teachers adapt their input and groupings based on pupil responses, ensuring that misconceptions are addressed promptly and that all children have the opportunity to achieve fluency before moving on.

Where will you see and find evidence of our learning?

- Core Knowledge sessions take place three times per week in Years 3–6.
- Evidence of progress is captured through the Core Knowledge tracker (Google Drive), where pupils' scores are recorded and updated after each session.
- Improvement in attainment over time will be demonstrated through the tracker.
- Progress in Core Knowledge will be reflected in end-of-term assessments and overall maths attainment, demonstrating that pupils are on track and making sustained progress.

Impact – The So What

Core Knowledge sessions are designed to strengthen pupils' fluency and recall of key arithmetic facts through regular, structured practice and precise teacher intervention. Pupils will develop greater speed, accuracy, and confidence in number and calculation, allowing them to access more complex concepts with independence and resilience.

The consistent use of this approach is intended to secure rapid recall and deep understanding,

creating strong foundations for success in division, fractions, algebra, and multi-step problem-solving. Gaps in understanding will be identified quickly and addressed through targeted support, ensuring that all pupils make sustained progress.

Pupil voice should reflect increased confidence and enjoyment in mathematics, with children recognising how Core Knowledge supports their success in lessons. The clear routines are intended to promote a sense of achievement, enabling pupils to celebrate progress and feel more positive about their learning.

Over time, this approach is expected to lead to improved classroom fluency, higher levels of engagement, and stronger outcomes across the maths curriculum and statutory assessments, including KS1 and KS2.

Cultural Capital and Enrichment

Core Knowledge sessions provide cultural capital and enrichment beyond mathematical fluency. By securing strong foundations in number and calculation, pupils develop logical reasoning, resilience, and problem-solving skills; key life skills that are valued in education, the workplace and wider society.

These sessions also nurture perseverance, confidence, and a positive mindset towards challenge. Enrichment opportunities, such as cross-curricular links (e.g. applying arithmetic in Science experiments to measure and compare results, or using calculation in Geography to interpret climate data) and real-life problem-solving tasks (such as budgeting for a project or scaling recipes in DT), ensure that learning feels purposeful and relevant.

Through this approach, pupils are not only equipped to succeed academically but also to apply mathematics meaningfully in everyday life, preparing them for future education, careers, and participation in the wider world.