



## Staff Briefing (Primary Phase) : Coordinating Mathematical Success

<https://www.gov.uk/government/publications/subject-report-series-maths/coordinating-mathematical-success-the-mathematics-subject-report>

**Focus:** Key Findings from the 2023 Ofsted Mathematics Report

**Target:** All Teaching Staff (EYFS – KS2)

### 1. The Core Philosophy: Knowledge Before "Doing"

The report highlights that mathematical "fluency" is not just about speed; it is about reducing the cognitive load on a child's working memory. If a child has to struggle to remember, they have no mental space left to solve a multi-step word problem.

**Action:** Prioritise Automaticity. Ensure pupils have instant recall of number bonds and times tables before they are expected to apply them to complex reasoning.

### 2. The Three Pillars of Mathematical Knowledge

To be successful, our curriculum must balance three distinct types of knowledge:

Knowledge Type	Definition	Primary Example
Declarative	"I know that..." (Facts/Rules)	Knowing that a triangle has 3 sides; $5+5=10$ .
Procedural	"I know how..." (Methods)	Knowing the steps for column addition or long division.
Conditional	"I know when..." (Strategies)	Identifying which operation to use in a word problem.

### 3. Systematic "Small Steps"

Success is built on a "well-sequenced" curriculum. If a child misses a small step (e.g., understanding place value), they will struggle with everything that follows (e.g., decimals).

**Action:** When planning, identify the prerequisite knowledge for every lesson. If the class hasn't mastered the prerequisite, do not move on. It is better to go slow and secure than fast and fragile.

#### 4. Direct Instruction & Modelling

The report found that the most effective teachers use explicit instruction.

**Avoid "Discovery Learning":** Do not expect pupils to "discover" mathematical rules on their own; this often leads to misconceptions that are hard to unlearn later.

#### 5. Using Examples and "Non-Examples"

To truly understand a concept, children need to see what it *isn't*.

**Action:** When teaching "even numbers," show a set of numbers and include "odd" ones to discuss why they don't fit. When teaching "squares," show a diamond (rotated square) and a rectangle to test their definitions.

#### 6. EYFS: The Bedrock of Success

The report emphasises that the Early Years should focus heavily on the composition of numbers.

**Focus:** Subitising (recognising a quantity without counting) and understanding that "5" is made of "4 and 1" or "3 and 2." This "number sense" is the strongest predictor of later success in Key Stage 2.

#### 7. Meaningful Practice vs. Keeping Busy

Practice should be "intelligent." It isn't just about doing 20 of the same sums; it's about varying the questions slightly to force pupils to think.

**Action:** Ensure "independent practice" is long enough for the method to move into long-term memory. Avoid "cutting to the chase" (the word problem) before the calculation method is secure.

#### 8. The "Keep-Up" Model

The gap between the highest and lowest achievers often widens because of delayed intervention.

**Action:** Use "same-day intervention" where possible. If a child struggles in the morning lesson, a 10-minute session in the afternoon to address that specific misconception is more effective than a generic "catch-up" program weeks later.

**Key Takeaway:** Our goal is to develop "procedural flexibility." We want pupils who don't just know *a* way to solve a problem, but the *most efficient* way because their foundations are rock solid.

Read more at

<https://transformingmaths.co.uk>

