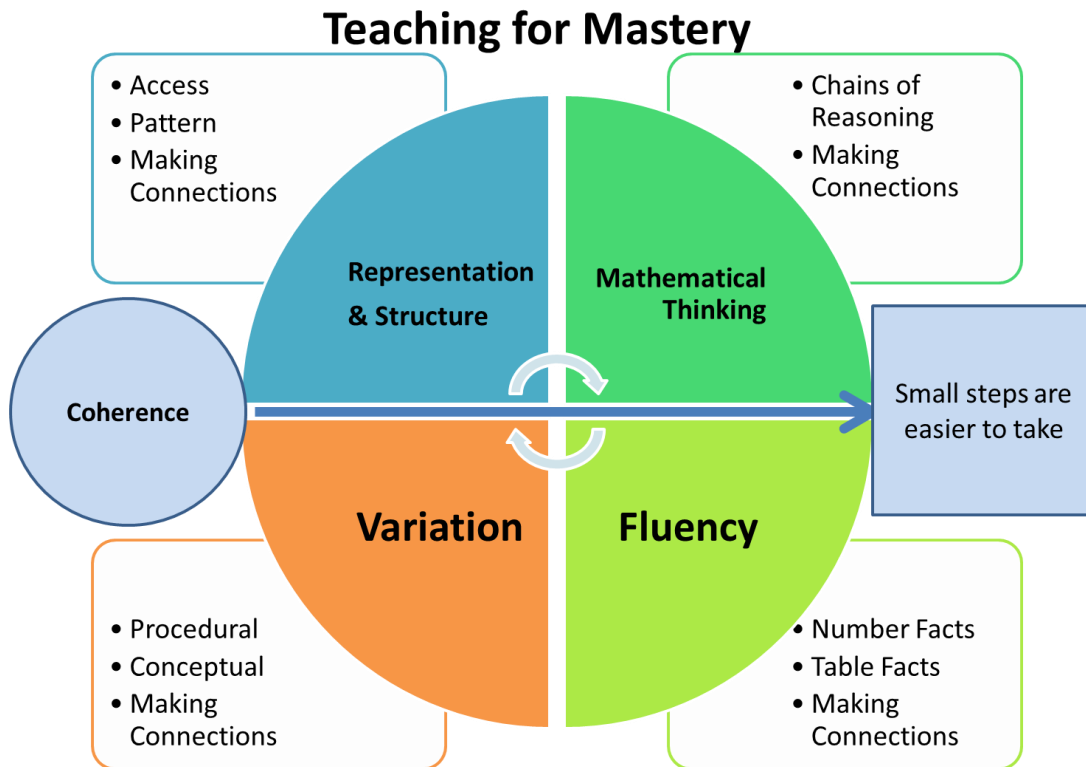


# Teaching for Mastery: Fluency



## Key Messages

1. Fluency demands more of students than memorisation of a single procedure or collection of facts. It encompasses a mixture of efficiency, accuracy and flexibility.
2. Quick and efficient recall of facts and procedures is important in order for students to keep track of sub-problems, think strategically and solve problems.
3. Fluency also demands the flexibility to move between different contexts and representations of mathematics, to recognise relationships and make connections, and to make appropriate choices from a whole toolkit of methods, strategies and approaches.

Calculate

$$174 \div 3$$

$$272 \div 8$$

$$810 \div 10$$

$$906 \div 6$$

Calculate  $23 \times 17$

$$\begin{array}{r}
 23 \\
 \times 17 \\
 \hline
 230 \\
 161 \\
 \hline
 391
 \end{array}$$

$$\begin{array}{r}
 20 \quad 3 \\
 \times \\
 10 \quad \boxed{\begin{array}{|c|c|} \hline 200 & 30 \\ \hline 140 & 21 \\ \hline \end{array}} \quad \begin{array}{l} 230 \\ 161 \\ \hline 391 \end{array} \\
 7
 \end{array}$$

What's the same and what's different?