How Pupils Learn (Standard 2 – 'Promote good progress')

Learn that…	Learn how to…
1. Learning involves a lasting change in pupils' capabilities or understanding. 2. Prior knowledge plays an important role in how pupils learn; committing some key facts to their long-term memory is likely to help pupils learn more complex ideas. 3. An important factor in learning is memory, which can be thought of as comprising two elements: working memory and long-term memory. 4. Working memory is where information that is being actively processed is held, but its capacity is limited and can be overloaded. 5. Long-term memory can be considered as a store of knowledge that changes as pupils learn by integrating new ideas with existing knowledge. 6. Where prior knowledge is weak, pupils are more likely to develop misconceptions, particularly if new ideas are introduced too quickly.	**Avoid overloading working memory, by:** • *Receiving clear, consistent and effective mentoring in how to take into account pupils' prior knowledge when planning how much new information to introduce.* • *Discussing and analysing with expert colleagues how to reduce distractions that take attention away from what is being taught (e.g. keeping the complexity of a task to a minimum, so that attention is focused on the content).* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Breaking complex material into smaller steps (e.g. using partially completed examples to focus pupils on the specific steps).* **Build on pupils' prior knowledge, by:** • *Discussing and analysing with expert colleagues how to sequence lessons so that pupils secure foundational knowledge before encountering more complex content.* • *Discussing and analysing with expert colleagues how to identify possible misconceptions and plan how to prevent these forming.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Encouraging pupils to share emerging understanding and points of confusion so that misconceptions can be addressed.*

7. Regular purposeful practice of what has previously been taught can help consolidate material and help pupils remember what they have learned. 8. Requiring pupils to retrieve information from memory, and spacing practice so that pupils revisit ideas after a gap are also likely to strengthen recall. 9. Worked examples that take pupils through each step of a new process are also likely to support pupils to learn.	• *Linking what pupils already know to what is being taught (e.g. explaining how new content builds on what is already known).* **Increase likelihood of material being retained, by:** • *Observing how expert colleagues plan regular review and practice of key ideas and concepts over time (e.g. through carefully planned use of structured talk activities) and deconstructing this approach.* • *Discussing and analysing with expert colleagues how to design practice, generation and retrieval tasks that provide just enough support so that pupils experience a high success rate when attempting challenging work.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Balancing exposition, repetition, practice and retrieval of critical knowledge and skills.* • *Increasing challenge with practice and retrieval as knowledge becomes more secure (e.g. by removing scaffolding, lengthening spacing or introducing interacting elements).*

Notes

Learn that… statements are informed by the best available educational research; references and further reading are provided below.

Learn how to… statements are drawn from the wider evidence base including both academic research and additional guidance from expert practitioners.

Other key definitions can be found in the introduction.