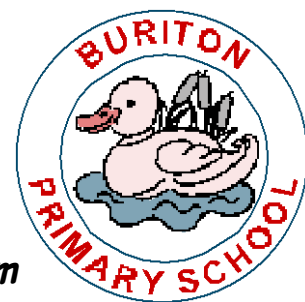


# Memory and Learning



*'Learning is defined as an alteration in long-term memory. If nothing has altered in long-term memory, nothing has been learned.'*

Memory is essential for learning and our curriculum is designed in a way to help our pupils to embed their learning into their long-term memory. We plan learning based on their prior learning, we revisit and apply this learning whilst making learning fun and engaging through our 'hooks', and we explicitly teach subject vocabulary to support them to develop greater understanding of their learning. Both knowledge and skills are developed over time and are interlinked so that authentic, deep learning can take place.

In order for a child or an adult to really learn, there needs to be a firm foundation of prior knowledge and understanding to build upon. Knowledge cannot be retained as isolated information in anyone's minds. This is why we plan our curriculum and teach in such a way that the children use and apply their prior learning alongside practising the new learning within the curriculum units of work: when learning something new, the more links we can make to things we already know, the greater chance the children have of remembering it and for this new skill or knowledge to 'stick' and to make sense.

## **What is memory?**

Memory is the ability to take in, store and retrieve information.

**Attention and remembering:** is the prioritising of information in order to remember.

**Memories are not necessarily fact,** we fit them into our constructs - what we know or have learned. But memory can play tricks on us. That's

why two people can recall the same event but will remember it a different way as they have different constructs.

## **Why is memory important?**

Memory is a powerful cognitive tool which allows us to embed, store and recover information when it is required. For pupils, memory is an essential tool for internalising the knowledge and skills taught in the classroom.

More than 80% of children with poor working memory fail to achieve expected levels of attainment in either reading or maths, typically both which, of course, also impacts on all other subjects. (*Gathercole & Alloway, 2008*)

## **Strategies used to help develop working memory in the curriculum at Buriton school.**

- ✓ Chunk instructions and tasks - break down instructions and tasks into several steps, reducing the overall amount of information to be recalled.
- ✓ Relate the topics to the child and the things they are interested in.
- ✓ Repeat key words in an instruction.
- ✓ Encourage the use of taught strategies.
- ✓ Play educational games - these are focused on the learning objective to engage the child's interest, such as matching games.
- ✓ Unscramble Games- leading on from sequencing, unscrambling games require an understanding of sequencing as well as the ability to problem solve. Unscramble games include moving letters around to reveal a hidden word and even whole sentences.
- ✓ Sequencing - arrange things in a set order such as finding number patterns and ordering numbers on a number line; using pictorial representations and putting them in the correct order and piecing a story back together segment by segment.
- ✓ Using visual cues and stimuli - this helps children form an image in their minds for a short time. In this short time, the brain transfers the information to working memory. Therefore, visual resources are extremely helpful for helping children to internalise methods and

information.

- ✓ Recaps and lesson overviews: at the beginning of each lesson, recap previous lessons with the children and explain the learning objective.
- ✓ Planning sheets: It is useful for children to make a plan for their work before beginning a task. Planning sheets allow children to make a note of objectives and the things they should be doing to achieve them. They can note down their ideas and a brief summary of what they are going to do. The children can then refer back to the planning sheet when they begin the task to jog their working memory and increasing the probability of retaining useful information.
- ✓ Word banks, e.g. sentence starters, adjectives, verbs, conjunctions: Word banks are fantastic for reminding children of new vocabulary and knowledge they have been taught in class. Word banks are a visual cue and engage the working memory as well as aiding organisation and foresight.
- ✓ Number lines and multiplication squares: Similarly to word banks, resources such as number lines and multiplication squares are a visual cue to support children in their learning. Such resources make it easier for children to complete tasks and solve problems. By removing the element of remembering a times table fact, for example, you are freeing up space in their minds to complete the problem at hand.
- ✓ Key vocabulary introductions: When introducing new vocabulary, go through the definitions with your pupils. This can be done in a variety of ways from using a thesaurus to define words on a vocabulary list or working as a whole class. It is important to contextualise new vocabulary, using it in a sentence to model the correct use and then allowing the children to use it in context as well. You can also make notes of key vocabulary on working walls and integrate vocabulary games into the classroom; the more engaging the better it is for working memory.
- ✓ Utilise the senses: The senses are key to activating working memory. Use a range of methods which utilise all the senses for an immersive and memorable learning experience.
- ✓ Plenaries, e.g. refresh, repeat, recap, check in: Use plenaries to regularly check in with the class whilst they are working. Ask them to remind each other of the learning objective and success criteria. Ask children to read some of their work aloud or encourage children who are feeling a little

stuck to ask their class mates for advice. Plenaries ensure pupils are kept on task and that the knowledge is internalised.

- ✓ Partner talk: Encourage discussion between pupils to bounce ideas off one another. Talking is a great way to make a learning experience memorable.
- ✓ Allow processing time (typically 10 seconds) and encourage children to repeat key ideas and objectives back to you to check their understanding. Moreover, repeating things aloud helps information to stick.
- ✓ Get and direct the children's attention.
- ✓ Be concise in our use of language.
- ✓ Check understanding (assessment) through open ended questioning, marking, open ended tasks/problems, use this information to guide your planning.
- ✓ Reduce the amount of information they need to process to complete the task - short, concise instructions.
- ✓ Provide a clear structure (visual/written).
- ✓ Provide examples for them to refer to.
- ✓ Use visual memory aids; for example:
  - Literacy or written subjects: 'useful spellings' card, quizzes as on the website and vocabulary cards
  - Numeracy: printed number lines, counters, cubes, real money, real objects (e.g. baking).
- ✓ Provide electronic resources (e.g. iPads, laptops)
- ✓ Encourage repetition (e.g. have a catch phrase or short song).
- ✓ Reduce audio, audible, physical and social distractions.
- ✓ Ensure everything in the environment is fit for purpose.