

# Working Memory Training Exercises

Structured exercises to strengthen working memory across ages, with progression guidelines

Working memory is the brain's scratchpad -- it holds and manipulates information in real time. It's trainable, but gains require consistent, progressive practice.

EXERCISE	AGE	HOW TO DO IT	DURATION	PROGRESSION
Forward Digit Span	3+	Say a sequence of numbers. Child repeats them back. Start with 2 digits.	5 min	Add 1 digit when they get 3 correct at current length
Backward Digit Span	5+	Say a sequence. Child repeats in reverse order. Start with 2 digits.	5 min	Much harder. Expect 1-2 fewer digits than forward span.
Verbal N-Back	6+	Read a list of words. Child claps when they hear a word that matches the one N items back. Start with 1-back.	5-10 min	1-back → 2-back → 3-back. 2-back is challenging for most children.
Visual Pattern Memory	4+	Show a pattern of colored blocks for 5 seconds. Child recreates it from memory.	5-10 min	Increase pattern complexity: more colors, more blocks, shorter viewing time
Story Recall	4+	Read a short paragraph. Child retells with as many details as possible.	5-10 min	Longer stories, more specific detail questions, add a delay before recall
Dual-Task Training	7+	Combine two tasks: sort cards by color while counting backward by 2s.	5 min	Increase difficulty of either task independently
Simon Says (Extended)	3+	Play Simon Says with increasingly long chains of actions (touch nose, spin, jump).	5-10 min	Add more steps per round. Add a delay between instruction and action.
Mental Math Chains	6+	Give a starting number, then a chain of operations: '3... plus 2...	5 min	Longer chains. Mix operations. Use larger numbers.

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		times 4... minus 1.' Child gives final answer.		
Kim's Game	4+	Place 5-10 objects on a tray. View for 30 seconds. Cover. Child names all objects.	5 min	More objects, shorter viewing time, ask what's missing after removing one
Follow Multi-Step Directions	3+	Give 2-3 step instructions: 'Put the cup on the table, then close the door, then clap twice.'	Throughout the day	Add steps gradually. 2 steps at age 3, 3-4 steps by age 6, 5+ by age 8.

### Training Principles

- 1 Practice daily: 10-15 minutes, 5 days per week, for at least 5-6 weeks to see gains.
- 2 Progressive difficulty: Increase challenge only when current level is mastered (80% accuracy).
- 3 Transfer is limited: Working memory training improves working memory tasks. Evidence for transfer to academics or IQ is mixed.
- 4 Make it fun: If it feels like drilling, compliance drops. Gamify it.
- 5 Track progress: Write down the level achieved each session so you can see improvement.

#### WHAT TRAINING CAN AND CAN'T DO

Working memory training can improve performance on working memory tasks, but don't expect it to raise IQ scores broadly. The biggest real-world benefit is in following multi-step directions and holding information during reading and math.