

Working Memory Exercise Cards

Age-appropriate exercises to strengthen your child's mental workspace

Working memory is the brain's mental scratchpad — the ability to hold and manipulate information in mind for short periods. It's one of the strongest predictors of academic success, stronger than IQ in many studies. Unlike long-term memory, working memory capacity is limited (about 4 items in children). But the efficiency of working memory CAN be improved through targeted practice. Aim for 10–15 minutes of focused working memory exercises, 4–5 days per week.

Ages 3–5: Foundation Exercises

EXERCISE	HOW TO DO IT	DURATION	PROGRESSION
Simon Says	Give 2-step commands ('touch your nose AND jump'). Child must remember both steps.	5–8 min	Increase to 3 steps, then 4
What's Missing?	Place 3–5 objects on table. Child closes eyes, you remove one. 'What's missing?'	5 min	Add more objects (up to 8)
Backward Animal Names	Say 2 animal names. Child repeats them in reverse order. ('Cat, dog' → 'dog, cat')	3–5 min	Increase from 2 to 3 to 4 words
Clap Patterns	Clap a rhythm (2–3 claps). Child repeats the exact pattern.	5 min	Add complexity: mix claps with table taps
Story Sequencing	Tell a 3-event story. Child retells in correct order.	5–8 min	Increase to 4–5 events

Ages 6–8: Building Capacity

EXERCISE	HOW TO DO IT	DURATION	PROGRESSION
Digit Span	Say a string of numbers (e.g., 4-7-2). Child repeats them back. Start with 3 digits.	5 min	Add 1 digit each week. Target: 5–6 forward, 3–4 backward
Backward Spelling	Say a 3-letter word. Child spells it backward. (CAT → T-A-C)	5 min	Progress to 4 and 5 letter words

EXERCISE	HOW TO DO IT	DURATION	PROGRESSION
Category Switching	Alternate naming: an animal, a food, an animal, a food. No repeats.	3-5 min	Add a 3rd category. Speed up.
Following Multi-Step Directions	Give 3-step instructions for a task ('Get the book from the shelf, open to page 5, read the title').	Throughout day	Increase to 4-5 step instructions
Mental Math Chains	Start with a number, give a chain: '3 + 2 - 1 + 4 = ?' Child solves in their head.	5 min	Longer chains, larger numbers
Card Memory (Concentration)	Lay cards face down. Flip 2 at a time to find matches. Must remember locations.	10 min	Start with 8 pairs, increase to 12-15

Ages 9-12: Advanced Training

EXERCISE	HOW TO DO IT	DURATION	PROGRESSION
N-Back Verbal	Read a list of words. Child raises hand when current word matches the one 2 words ago.	5-8 min	Progress from 1-back to 2-back to 3-back
Mental Arithmetic	Solve 2-digit addition/subtraction without paper. '47 + 28 = ?'	5-10 min	Add multiplication, multi-step problems
Sentence Span	Read 3 sentences aloud. Child must answer a question about each AND recall the last word of each sentence.	5-8 min	Increase to 4-5 sentences
Spatial Working Memory	Show a grid with dots (4x4). Remove it. Child recreates dot positions from memory.	5 min	Increase grid size and number of dots
Dual-Task Training	Child sorts cards by color while counting backward from 20.	5 min	Add complexity to either task
Chess or Strategy Games	Must hold board state in mind and plan 2-3 moves ahead.	15-20 min	Increase from 1-move to multi-move planning

Weekly Exercise Tracker

DAY	EXERCISE USED	DIFFICULTY LEVEL	MINUTES	NOTES
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				

Working memory training should be challenging but not frustrating. If your child gets 80% correct, the difficulty is right. If they get 100%, it's too easy — increase the load. Below 60%, scale back. The sweet spot is where they have to really concentrate but still succeed most of the time.

IMPORTANT

Working memory exercises improve working memory efficiency, but transfer to academic performance requires combining these exercises with content-based learning. Don't treat them as a standalone intervention — pair them with the study techniques from the other tools in this section.