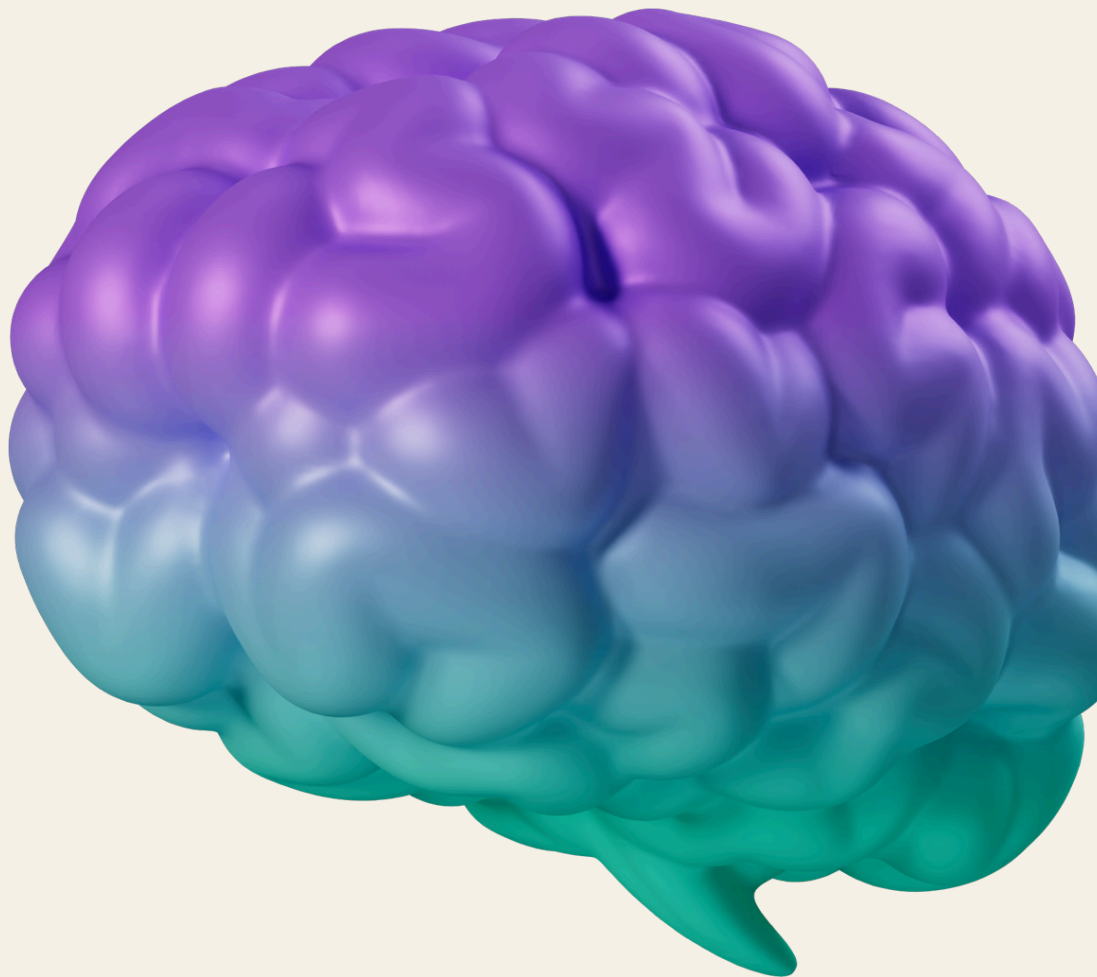


Free pilot for schools

Bedrock working memory test

See how much each pupil can hold in mind, so teaching can work with it.



Verbal

Visuospatial

Central executive

Bedrock Learning 

What is working memory?

Working memory is the mental workspace we use to hold information in mind and work with it for a few seconds. We use it all the time in class: following a set of instructions, keeping hold of the start of a sentence while reading the end, or doing a sum in our heads.

Working memory capacity varies a lot between pupils of the same age. Pupils with a weaker working memory often go unnoticed. It can look like not listening, losing track partway through a task, or slow progress, when the real barrier is how much the pupil can hold in mind at once.

Working memory has three parts. Each plays a different role in learning, and the Bedrock test measures each one with its own task.

Without working memory, the learning process cannot happen. Therefore, it is essential that teachers do not overload students, which prevents information being understood and encoded into long-term memory. Revealing this vital data point to practitioners is intended to make them more effective at ensuring learning is efficient and inclusive.

Why three tasks?

Pupils can be strong in one area and weaker in another. A pupil who struggles with spoken instructions may be strong with visual information, and the other way round. Measuring all three gives staff a profile of each pupil, not a single number, so support can be matched to where the pupil needs it.

About the test

- About 15 minutes per pupil.
- Taken in a web browser on a laptop or PC with a mouse, wearing headphones.
- Spoken instructions guide the pupil. Each task starts with practice.
- Results go to a secure staff dashboard, which your school will be given access to.

What the test does

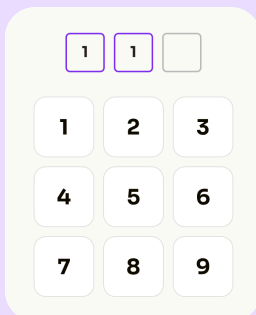
- It helps staff understand how each pupil's working memory affects their learning, so they can adapt their teaching.
- It doesn't improve working memory. The evidence shows working memory can't be trained, so the aim is to teach around it.

How to read the results

- Look at each pupil's profile across all three tasks, not one score on its own.
- Read results alongside what you already know about the pupil in class.



The three tasks



The pupil taps the numbers back on screen.

Task 1

Digit Recall

Verbal short-term memory

What the pupil does

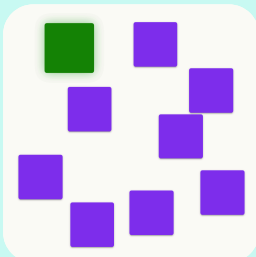
Hears a list of numbers through headphones, then taps them back in the same order. The lists get longer as the pupil succeeds.

What it measures

How much spoken information a pupil can hold in mind. This part of working memory stores anything that can be put into words: numbers, words, and sentences.

Why it matters in class

Pupils rely on it to remember spoken instructions, learn new vocabulary, and hold words in mind while reading. A pupil with low verbal short-term memory may lose the second half of an instruction, or struggle to keep up with a long sentence.



A block lights up as part of the sequence.

Task 2

Block Recall

Visuospatial short-term memory

What the pupil does

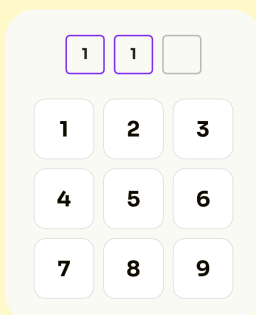
Watches blocks light up one at a time on screen, then taps them in the same order. The sequences get longer as the pupil succeeds.

What it measures

How much visual and spatial information a pupil can hold in mind: what things look like, where they are, and how they move.

Why it matters in class

It is especially important in maths (number lines, shape, and space), in science (diagrams and spatial reasoning), and in art and design. A pupil with low visuospatial memory may lose their place in a diagram, or find it hard to copy from the board.



The same keypad. The numbers are tapped back in reverse order.

Task 3

Backward Digit Recall

The central executive

What the pupil does

Hears a list of numbers, then taps them back in reverse order. The pupil has to hold the numbers in mind and rearrange them at the same time.

What it measures

The central executive, the part of working memory that controls attention and handles the information being held. It is the difference between simply storing information and working with it.

Why it matters in class

This is the part of working memory most closely linked to learning. It is used whenever a pupil has to think and remember at the same time: mental arithmetic, planning a piece of writing, or following a multi-step task. It is also the hardest task, so every pupil completes practice first.

Why we are running a pilot

At the moment, pupils' scores are compared against established norms that stop at 15 years 9 months. We are building Bedrock's own norms from today's pupils, across every age between 7 and 16 years old, including the older age groups those norms don't cover. To do that we need results from a wide range of schools and pupils.

What your school gets

- Free use of the test during the pilot.
- A working memory profile for every pupil who takes part, on a secure staff dashboard.
- A say in shaping a new tool built for UK schools.

What we ask of your school

- Test pupils aged between 7 and 16 years old.
- Test each pupil twice: Test 1 and Test 2, with a two-week gap between each test.
- Follow the testing guidance below closely. The quality of the results depends on it.



Test 1 and Test 2

- **Test 1:** each pupil takes the full test once.
- **Test 2:** the same pupils take the test again about two weeks later **but no later than 30 days.**
- Comparing the two shows us how consistent the results are, which is a key part of building trustworthy norms.
- Please test in the same room, at a similar time of day and on the same type of device both times.
- A pupil's name and date of birth must be typed exactly the same way at both tests.
- Your school runs both tests itself. Bedrock gives guidance and support remotely.

How we use the data

- Results are used to build Bedrock's norms and to check how consistent the test is.
- Norms are built from anonymised results: age and scores, never names.
- Data from your school is only ever shown to your school's staff.

Getting the testing environment right

We learned this in earlier pilots: the room and the equipment matter as much as the test. Every task depends on the pupil hearing clearly and concentrating without interruption.

1 Before any pupil starts

- **Check the headphones on every pupil.** Make sure sound comes through both ears. In earlier pilots we found many headphones working in one ear only due to broken equipment. A pupil who can't hear properly will score lower for reasons that have nothing to do with their memory. It frustrates them and affects the data.
- **Use wired headphones, not Bluetooth.** Wireless headphones can cut off the first number a pupil hears.
- Turn the volume up and complete the sound check at the start of the test. Pupils can press a button to replay the sound as many times as needed, and should only start when they can hear clearly in both ears.
- We highly recommend that one location is used for all testing, with the same devices and equipment. This means all variables are being controlled for by way of equipment and you have a stable environment to run both testing sessions.

2 The room

- Calm and quiet, with an adult present throughout. Background talk is especially disruptive, because it competes with the spoken numbers the pupil is trying to remember.
- Add a sign on the door stating 'Examination in progress. Do not disturb.'
- Pupils know they must not talk to or distract each other.
- Testing happens in school, never at home.
- Run the test in smaller groups if certain classes or students might be more disruptive. The test simply cannot be done with background noise or distractions.
- We suggest a book be read once a student has finished the test so that others who have longer span scores can complete without other students becoming bored/disruptive. If they have a Bedrock account, they can log into Bedrock and continue their learning while others finish the test.

3 The device

- A laptop or PC **with a mouse.**
- **Not a trackpad.** A trackpad makes Block Recall harder to answer accurately, which lowers the score.

4 During the test

- Let the test give the instructions. Please don't add your own explanations during the tasks.
- Don't close the screen until it shows 'Results saved'.

Taking part

Register your school's interest online and we will be in touch with next steps.

Register your interest

bedrocklearning.org/working-memory-pilot

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