

CAREERS THROUGH MATHS: TEACHING ASSISTANT



JOB DESCRIPTION

A Teaching Assistant (TA) in the UK is a vital professional within the educational ecosystem, providing essential support to qualified teachers and enabling a more personalised and effective learning experience for pupils. The role is multifaceted, extending far beyond simple classroom supervision. A TA's daily responsibilities are highly varied and can include working with small groups of children who require extra support in core subjects like maths and English, preparing classroom resources, assisting with the implementation of Individual Education Plans (IEPs) for pupils with Special Educational Needs and Disabilities (SEND), and managing behaviour according to the school's policy. The work environment is predominantly within primary or secondary schools, but also includes special educational needs schools, alternative provision settings, and early years foundations stages (EYFS).

Mathematics is central to the role, not just in direct teaching support but in the analytical and organisational aspects of the job. A TA uses mathematical reasoning to break down complex curriculum topics, such as fractions or geometry, into manageable steps for learners. They employ data analysis to track pupil progress, meticulously recording assessment scores and using this quantitative data to help the teacher identify trends, such as a group struggling with times tables, which then informs future lesson planning and targeted interventions. This data-driven approach is crucial for supporting the teacher in meeting national curriculum objectives and Ofsted inspection frameworks.

Specific tasks include leading a 'maths mastery' session using concrete resources like

Cuisenaire rods or base ten blocks to demonstrate place value, administering and marking standardised assessment tests (SATs) practice papers, and using visual timetables and countdowns to help pupils with autism spectrum disorder (ASD) manage their time. The role is fundamentally about using logical, structured, and often mathematical thinking to solve the daily challenge of making education accessible and engaging for every child in a diverse classroom setting.

HOW MATHEMATICS IS USED

- **Numeracy and Arithmetic Fluency:** This is the most direct application of mathematics. TAs must have an exceptional grasp of the national curriculum for maths to provide accurate support. This includes confidently explaining and demonstrating operations with fractions, percentages, and decimals; calculating ratios and proportions for science experiments; and understanding basic algebra to support Key Stage 3 pupils. For example, a TA might use a bar model to visually solve a word problem: "If a recipe for 12 scones requires 300g of flour, how much is needed for 18 scones?" This requires understanding ratio and proportional reasoning.
- **Data Analysis and Statistics:** TAs are instrumental in the assessment process. They help record, collate, and analyse quantitative data on pupil performance. This involves calculating averages (means) for reading ages or maths test scores, creating simple graphs and charts to visualise class progress for staff meetings, and interpreting data from standardised assessments like the Phonics Screening Check. This statistical analysis helps teachers identify if a Year 4 cohort is performing below the expected standard in mental maths, prompting a whole-school intervention strategy.
- **Logical Reasoning and Problem-Solving:** The role demands strong logical skills to deconstruct problems and devise effective solutions. This is not always pure maths but a mathematical mindset. For instance, a TA supporting a pupil with dyscalculia must logically sequence the steps of a long division problem, identifying where the child's understanding breaks down. Similarly, they use logical frameworks like the ABC (Antecedent, Behaviour, Consequence) model to analyse and manage challenging behaviour, which is a form of systematic problem-solving.

- **Spatial Reasoning and Geometry:** When supporting subjects like design technology (DT), art, or maths itself, TAs use geometric principles. They might help pupils understand symmetry by folding paper, calculate areas and perimeters for a project designing a school garden, or work with 3D shapes to build models. In early years (EYFS), this involves guiding children in sorting shapes by their properties, a foundational skill for later geometric understanding.
- **Statistical and Analytical Methods:** Beyond basic data handling, TAs in larger schools or specialist roles may engage with more formal analysis. They might use tracking software like SIMS, Arbor, or Classroom Monitor to run reports on pupil premium cohorts, analysing the data to see if the additional funding is having a measurable impact on closing the attainment gap. This involves interpreting trends, calculating progress measures, and presenting findings to the SENCO (Special Educational Needs Co-ordinator) or senior leadership team to influence strategic decisions.

KEY SKILLS & TOOLS

Skill/Tool	Application
Interactive Whiteboard Software (e.g., SMART Notebook)	Used to create engaging and interactive maths lessons. A TA might develop a drag-and-drop activity for sorting 2D and 3D shapes or use the built-in calculator and protractor tools to demonstrate solving angle problems to a whole class.
Assessment Tracking Software (e.g., SIMS Assessment)	Used to input, track, and analyse pupil data mathematically. A TA will calculate average points scores, monitor progress against age-related expectations (ARE), and generate graphs to visually represent attainment data for pupil progress meetings.
Data Analysis Tools (Microsoft Excel)	Used for creating bespoke tracking grids and performing calculations. For example, a TA might use formulas to calculate the percentage of pupils achieving the expected standard in a mock SATs paper or create a pivot table to analyse reading progress by pupil premium eligibility.

Specialist SEND Resources (e.g., Numicon, Talking Tins)	These physical and technological tools are used to make abstract mathematical concepts concrete. A TA uses Numicon shapes to teach number bonds visually and tactilely or uses a visual timer to help a pupil with ADHD manage their time on a task, applying concepts of time and duration.
Communication Tools (Seesaw, Class Dojo)	Used to share pupil achievements with parents and carers. A TA might upload a photo of a child's completed maths work alongside a calculated score and a comment on their reasoning skills, translating numerical achievement into qualitative feedback for stakeholders.
Behaviour Management Systems (e.g., Positive Behaviour Support plans)	While not a software, these are analytical tools. TAs use them to quantitatively track the frequency and triggers of behaviours (e.g., tally charts), analysing the data to see if interventions are mathematically reducing incidents over time.

Typical Pathway: The most common entry point is via an Level 2 or Level 3 Teaching Assistant apprenticeship, which combines practical work in a school with formal study. Alternatively, many candidates secure a position as a volunteer or midday supervisor to gain experience before applying for a paid TA role. While not always mandatory, employers strongly value GCSEs (or equivalent) at grade 4/C or above in English and Maths. From a base-level TA, progression can lead to a Higher Level Teaching Assistant (HLTA) status, a nationally recognised qualification that allows for greater responsibility, including covering classes and planning lessons. Further career development could include undertaking a part-time degree, such as the Open University's BA (Hons) in Primary Education, to become a fully qualified teacher. Specialising in supporting SEND, often through courses accredited by the National Association for Special Educational Needs (nasen), is another key progression route.

Industry Demand: Demand for Teaching Assistants in the UK remains consistently high. According to the Department for Education's workforce census, over 270,000 full-time equivalent TAs were employed in English state schools alone. Growth is driven by an increasing emphasis on inclusive education and the integration of pupils with SEND into mainstream schools, requiring specialised support. While budgets are a constant pressure, the role is seen as essential for improving educational outcomes, particularly in areas of social deprivation, ensuring steady demand across the country.

Real-World Impact: Teaching Assistants are on the frontline of improving social

mobility and educational equity in the UK. Their mathematical and pedagogical support directly contributes to raising literacy and numeracy standards, which are critical for the future UK workforce. By providing targeted intervention, they help close the attainment gap for disadvantaged pupils and those with SEND, ensuring every child has the opportunity to succeed. The work of TAs in schools across the nation, from multi-academy trusts like Harris Federation to rural village primaries, is fundamental to building a skilled, literate, and numerate society, directly impacting the country's future economic and social prosperity.