Why We Need a Ruler: Moving from Paper Clips to Centimetres in Year 2 Maths

In Year 2, children move from measuring with everyday objects like paper clips to using a ruler with standard units like centimetres. This shift matters because it helps them compare measurements fairly and builds the foundation for the measuring and problem-solving they'll need in Year 2 tests. Lining up the zero and reading the marks are new skills that take practice, and that's completely normal.

What it is

In Reception and Year 1, children measure using whatever's handy: paper clips, cubes, hand spans. These are called non-standard units. In Year 2, the National Curriculum asks them to move to standard units—centimetres (cm) and metres (m)—measured with a proper ruler or tape measure. This isn't about getting to the 'right' answer faster. It's about fairness: if one child measures a pencil with paper clips and another uses blocks, they might get different answers just because paper clips and blocks are different sizes. A ruler gives everyone the same language to talk about length, so anyone can check their work.

What happens

Your child will learn to use a ruler with a numbered scale. The trickiest bit for most children is lining the ruler up so the zero mark sits exactly at the start of what they're measuring—not the edge of the ruler itself. They'll practise repeatedly, and that's the point; it takes time to build the muscle memory. They'll measure classroom objects: pencils, books, whiteboard widths. They'll compare results ('this pencil is 15 cm; that one is 12 cm'). Teachers will also introduce the idea that some things are easier to measure in metres (a door) and others in centimetres (a pencil). Making mistakes is part of learning, and noticing 'that doesn't look right' is a real skill.

What it means for your child

This is a big thinking step. Your child is moving from 'about as long as five paper clips' to 'exactly 15 centimetres'—a more precise, grown-up way of describing the world. In Year 2 maths tests (known as SATs), children answer questions about measurement, and many of those involve reading a ruler or working out lengths from diagrams. Getting comfortable with rulers now means they can focus on the problem-solving later, not wrestling with the ruler itself. More broadly, standard units are part of everyday life: you see them on food packets, building sites, clothes labels. This is how children learn to make sense of that.

How you can help at home

Start small and playful. Ask your child to measure a toy, a spoon or a piece of paper using a child-safe ruler. Let them record what they find—'the toy car is 8 cm'—and don't worry about neatness. If they're struggling to line the zero up, show them that the first number on the ruler is '0' (some children think it's 1), and gently guide the ruler into place. Measure a few things together and compare: 'This pencil is 12 cm; my pencil is 18 cm. Mine is longer.' Keep it to five or ten minutes; short and fun beats long and frustrating. If they get it wrong, that's the work—say 'let's have another look' and try again together. Praise the effort, not the answer.

Questions parents often ask

'Why can't they just use non-standard units if they understand that?' Because in maths, everyone needs to speak the same language. If a recipe says 200ml and you used teacups instead, the cake wouldn't turn out the same. Standard units let children solve problems that depend on fair comparison. **'My child keeps getting it wrong. Should I worry?'** No. Ruler skills are taught across Year 2 and beyond; there's no rush. Some children take longer to master the hand–eye coordination. **'Does this affect their SATs?'** Year 2 SATs do include measurement questions, but children are not expected to produce a perfectly measured line to the millimetre. They practise in class; your job is just to keep it low-key and positive at home.

Sources

- Department for Education, National Curriculum in England: mathematics programmes of study
- GOV.UK, Key Stage 1 assessment arrangements