Tens and Ones on a Bead String: Making Two-Digit Numbers Visual in Year 1

A bead string (a simple counting tool with beads in groups of ten) helps Year 1 children see that numbers like 34 are made of three tens and four ones, not just a pattern to memorise. This guide explains why it works, what to expect, and how to use one at home with beads, pasta, or buttons on string.

What it is

A bead string is a piece of string or wire with beads threaded on it, usually arranged in groups of ten (often in two different colours to show each group clearly). It's sometimes called a '100 bead string' or abacus. It brings place value to life—the idea that a two-digit number like 34 is made of tens and ones, not just the digits 3 and 4 next to each other. Your child has probably already worked with ten frames (a 2-by-5 grid used to show groups of ten) in class. A bead string does the same job but in a way children can hold, move and count. Moving a group of beads helps children understand the structure of numbers in a way pictures alone sometimes don't. It fits directly into the Year 1 National Curriculum aim of understanding place value within 20, moving towards 100.

What happens

A parent or teacher shows the child a number like 34 on the bead string. They might say: 'Show me 34. That's three tens and four ones.' The child slides three complete groups of ten beads away from them, then slides four more single beads. They can see and touch: three bundles and four extras. The physical act of counting in tens and ones—grouping and regrouping—is what builds understanding. The child might then try different numbers: 25 (two tens and five ones), 41 (four tens and one one). The bead string stays visible and moveable, so the child can check their thinking. There's no pressure to be quick. The aim is to help the child's brain recognise the pattern: every number to 100 is made this way.

What it means for your child

This activity helps your child think in tens, not just count from one. That shift—seeing a group of ten as a single unit, not just ten separate ones—is crucial for maths. It helps them understand how our number system works. Later on, it makes addition and subtraction with bigger numbers easier because they can visualise the bundles. A child who understands that 34 is three tens and four ones will find 34 + 5 much more manageable than one who only sees the digits. Bead strings also help children who find it hard to imagine groups without seeing them. Some children find counting on their fingers tricky or confusing; bead strings give them a different way to check and explore. It's a tool that makes thinking visible and less lonely.

How you can help at home

You don't need to buy anything. You can make a bead string with a needle and thread, using pasta tubes, buttons with holes in them, or even beads from an old necklace. Separate them into groups of ten (you can use a different colour to mark each group, or just a knot between groups). Sit together and pick a number. Ask your child to show you the tens and ones on the string. Let them move the beads. Ask simple questions: 'How many tens? How many ones left over?' Try a few numbers, then stop—short, playful practice is better than long sessions. You might do this while waiting for dinner, or on a wet afternoon.

There's no rush. Some days your child might not feel like it, and that's fine. The point is to make the tens-and-ones idea concrete and normal, not stressful. If your child finds it tricky, that's okay too—teachers see a huge range in how quickly children grasp place value, and bead strings are just one tool among many.

Questions parents often ask

Isn't this too hard for Year 1? No. Year 1 is exactly when children are learning to understand place value, and concrete tools like bead strings are designed for this age. **What if my child just wants to play with the beads?** That's fine. Playing with beads—counting them, arranging them, moving them—is still maths learning and builds familiarity. **Should we do this every day?** No. A few minutes once or twice a week is plenty. **What if my child already 'gets' tens and ones?** Then this tool might not be needed for your child, and that's great. **What if my child keeps forgetting which is tens and which is ones?** They're not alone. Remembering takes time. Keep it playful and patient. If your child seems frustrated, move on and try again another week.

Sources

- Department for Education (2013). National Curriculum in England: Mathematics programmes of study. Key Stage 1.
- Department for Education (2021). Early adopter schools and colleges: statutory assessment in phonics and mathematics.