

Ten Frames Explained: Why This Picture Helps Every Sum to 10

A ten frame is a simple visual tool that helps children understand how many things make 10 and how numbers fit together. It's a grid of 10 boxes (usually arranged in two rows of 5) that children fill with counters or objects. Ten frames help children see quantities at a glance and discover the different ways to make 10—called number bonds—without drilling or pressure. Many parents see them in homework or photos from school but may not have used them as children themselves, so this explains how they work and why they matter.

What is a ten frame?

A ten frame is simply a rectangle divided into 10 boxes, normally arranged as two rows of 5. It's a visual thinking tool used in Reception and Key Stage 1 classes across England. Children place counters, objects or drawn dots into the boxes to represent numbers and quantities. The 'frame' creates a clear boundary and structure that helps children see patterns. For example, if a child puts 3 counters in and leaves 7 spaces empty, the frame shows at a glance that 3 and 7 make 10. It's not a formal test—it's a practical picture that children work with during play and guided learning.

What happens when children use a ten frame?

In class, children move counters into the frame's boxes one at a time, or drop a handful and count what lands in the boxes. They might be asked, 'How many empty spaces are left?' This helps them understand that 10 is 'a whole' and every number relates to that whole. Over time, children can look at a partly-filled frame and say the number without counting every box—this skill is called subitising, or 'seeing' the quantity instantly. They also see that 5 and 5 always make 10, or that 6 and 4 fit together, or 2 and 8. These patterns stick in their mind because they can see them clearly, rather than being told them.

Why teachers use ten frames

Ten frames are used because they turn abstract numbers into a concrete picture. Young children learn better when they can see, touch and move objects than when they're just told facts. The frame's fixed size (always 10 boxes) helps children understand that 10 is a stable, important number—it's the foundation for how we count in groups of ten, and later for understanding tens and ones in larger numbers. This method is recommended in the Department for Education's Early Years Foundation Stage framework because it supports children's natural way of learning through play and exploration. It's about building a solid, visual understanding they can rely on.

How you can help at home

You don't need to buy anything. An empty egg box (with 10 compartments) or an ice cube tray works perfectly as a ten frame. During everyday moments—snack time, bath time, tidying up—you can play with filling and counting. For instance, ask your child to put buttons, pebbles or pasta shapes into the egg box compartments one by one, then ask, 'How many spaces are left?' or 'Can you fill it up?' This is play, not practice—no pressure, no right answer that matters. You might notice your child starting to see quantities without counting. That's the magic happening. Keep it light, stop if it stops being fun, and celebrate the small moments of discovery.

Questions parents often ask

****Will my child fall behind if they find this tricky?**** No. Understanding comes in its own time. Some children grasp patterns in a few weeks; others take months. Both are completely normal. ****Isn't this too complicated?**** Not at all—children often find it easier than abstract counting because they can see and touch the quantities. ****Does this help with later maths?**** Yes. Understanding that 10 can be split into different pairs (5+5, 6+4, 7+3) is the foundation for addition, subtraction and multiplication later. ****Do I need special materials?**** Your egg box or ice cube tray is enough. Everyday objects are more interesting to children than bought resources, and the hands-on discovery is what matters.

Sources

- Department for Education: Statutory Framework for the Early Years Foundation Stage
- National Curriculum in England: Key Stage 1 – Mathematics