



The Best Ways to Fasten Things Together Securely

KS2 DESIGN & TECHNOLOGY

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What Does It Mean to Fasten Things?

Fastening means joining two or more materials together so they stay connected. Whether you're building a bookshelf, fixing a bicycle, or constructing a bridge, you need the right fastening method to keep everything safe and sturdy. Different jobs need different fasteners, and choosing the right one is an important part of design and engineering.

Mechanical Fasteners: Nails and Screws

Nails and **screws** are the most common fasteners we use at home. Nails work by being hammered through materials, with friction holding them in place. Screws are twisted into materials using a **screwdriver**, and their spiral thread grips the material much more tightly than a nail.

Think of it like: A nail is like pushing a stick straight into mud, while a screw is like drilling a hole that spirals deeper and deeper, gripping much harder.

Bolts and nuts are heavier-duty fasteners used on machines and structures. A bolt passes through materials and is secured with a nut on the other side, creating a very strong connection.

Adhesives: Glues and Sealants

Adhesives like glue, tape, and epoxy are fasteners that bond materials chemically rather than mechanically. Wood glue, super glue, and industrial adhesives work by creating a sticky surface that holds materials together permanently.

Think of it like: Glue works like two pieces of velcro sticking together—the tiny hooks and loops grab each other and don't let go.

Some adhesives are **permanent**, meaning they can't be undone, while others are **temporary**, like sticky tape.

Clips, Clasps, and Other Methods

Not every fastener is permanent. **Clips, clasps, buckles,** and **Velcro** allow us to join things together and take them apart easily. These are perfect for things like backpack straps, belts, or removable laptop screens.

Choosing the Right Fastener

The best fastening method depends on several factors: what materials you're joining, how much strength you need, whether you want it permanent or temporary, and what tools you have available. Engineers and designers think carefully about these questions to make sure their creations are safe and last a long time.