

Mastering Magnificent Structures with Kit the Fox

Be a Clever Creator: Think Like an Engineer!

- Structures must support their own weight and the weight of the objects they hold; this is known as a load.
- Compression is a force that squeezes materials together, while tension is a force that pulls materials apart.
- Adding diagonal struts to a rectangular frame prevents it from collapsing, turning it into a series of triangles.
- The base of a structure must be wide and solid to keep the center of gravity low, which increases overall stability.
- Materials like steel and reinforced concrete are chosen for their high strength-to-weight ratio in large-scale buildings.
- If a structure is not balanced correctly, it may topple over when a force, like a strong gust of wind, is applied.

Did you know? Did you know? Triangles are the strongest shape in construction! Because a triangle cannot be deformed without changing the length of one of its sides, engineers use them to create rigid frameworks for bridges and towers.

Key vocabulary: Compression · Tension · Reinforcement · Triangulation · Stability · Strut