

Mastering Magnificent Structures with Max the Monkey

Think Like an Engineer: Build Strong, Build Bold!

- Why do engineers use triangulation to prevent a structure from collapsing or changing shape?
- How does the choice of material, such as wood versus metal, affect the stability of a tall structure?
- In what ways do struts and ties work together to resist the forces of compression and tension?
- Why is the base of a structure often wider than the top to ensure it remains balanced?
- What is the importance of joining techniques, like using bolts or gusset plates, in keeping a frame rigid?

Did you know? Did you know? The triangle is the strongest shape in engineering! Because its angles are fixed, it cannot be distorted without breaking the sides. That is why you will see triangles everywhere in the frames of bridges and cranes—they provide incredible strength without adding too much weight.

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