

Max's Structural Design Challenge

Learning objective: To evaluate and describe the stability and strength of a freestanding structure using technical vocabulary.

Use this writing frame to describe your bridge or tower design. Max the monkey needs your help to explain why your structure is strong enough to hold weight. Remember to use technical words from the word bank.

My design for the structure focuses on creating a stable base to ensure the object remains upright when weight is applied.

Word bank: stability · reinforcement · triangulation · compression · base · therefore · consequently · furthermore · in addition · structural integrity

1. The Design Goal: What are you building and what is its primary purpose? Start with: My structure is designed to... (2 marks)

2. Materials and Methods: Which materials did you choose and why are they suitable? Start with: I selected these materials because... (2 marks)

3. Ensuring Strength: How did you use shapes like triangles to make your structure rigid? Start with: To improve the strength of my design, I used... (3 marks)

4. Stability and Balance: How does your base help the structure stay standing? Start with: The base of my structure is important because... (2 marks)

5. Evaluation: If you could improve one part of your design, what would it be? Start with: If I were to build this again, I would change... (2 marks)

Extension challenge: Max has challenged you to calculate the cost! If your main support beams cost £1.50 each and you used four of them, plus £2.25 for the base, what is the total cost of your structure?