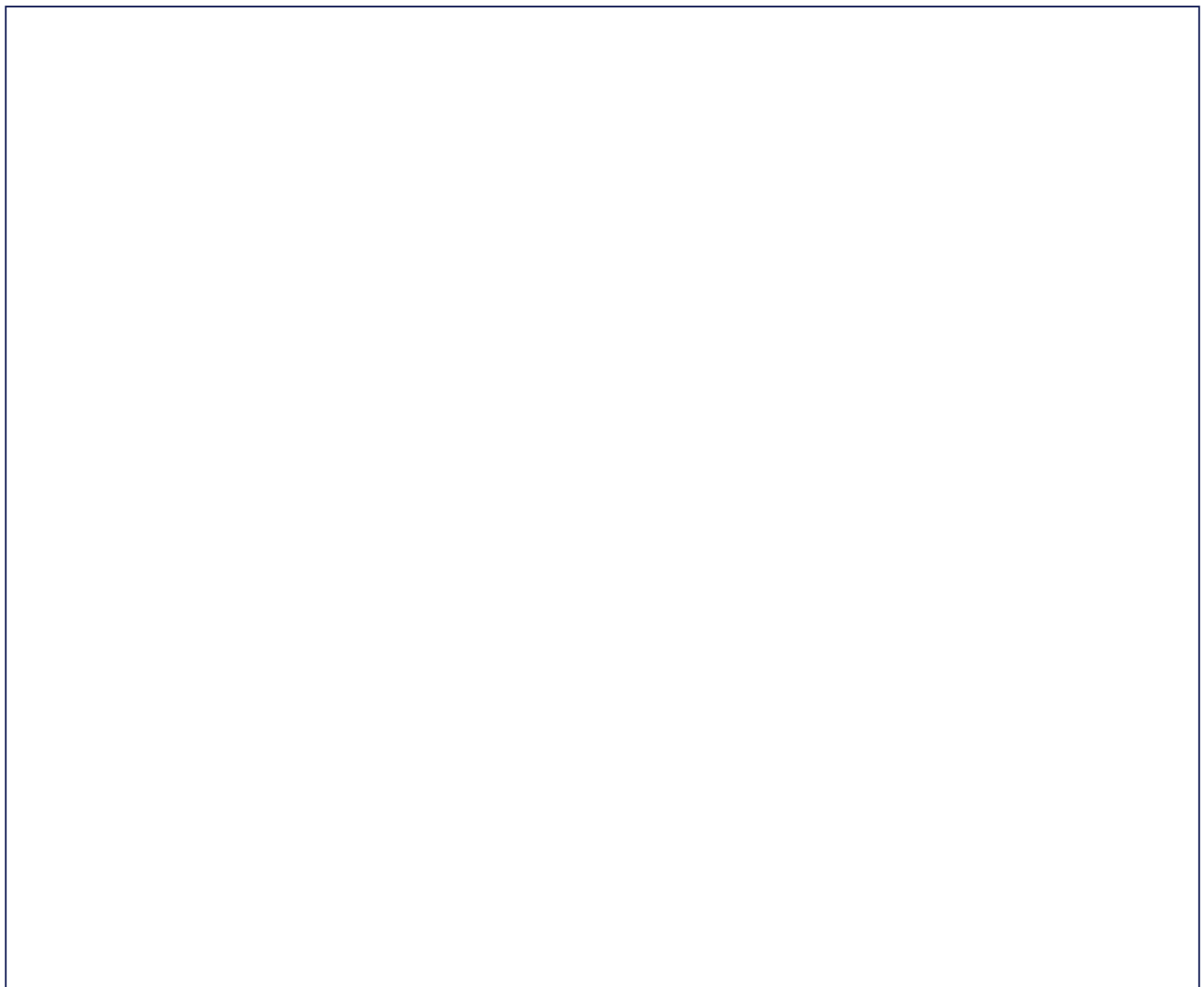


Design Technology: Building Strong Structures with Max

Learning objective: To understand how to make structures stable and strong by applying knowledge of shapes and materials.

Max the monkey is helping build a new lookout tower for the forest. Use your knowledge of structures to design a tower that can support a heavy fruit basket. Follow the drawing steps carefully and use the word bank to label your design features.

Draw: Draw a tall lookout tower for Max the monkey. Use a ruler to ensure your vertical supports are straight. Include diagonal beams (struts) inside the frame to create triangular shapes. The base should be wider than the top to ensure the structure is stable. Add a small platform at the very top for Max to sit on.



Label words: Triangulation · Reinforcement · Base · Strut · Stability · Rigidity

Steps:

1. Step 1: Draw a wide, square base for your tower at the bottom of the page. Why is a wide base important for a structure?
2. Step 2: Draw a series of triangles within the walls of your tower. Label these as 'struts'. Why are triangles used instead of squares for the frame?

3. Step 3: Label the 'base' and the 'struts' on your drawing using the provided word bank.
4. Step 4: If you were building this tower in real life, which material would you choose to make it rigid? Explain your choice.
5. Step 5: Look at your finished tower. If Max placed a heavy basket of bananas on top, what might happen if the structure lacked 'stability'?