

# Lesson Plan

Year 8

## Geometric Folding Shapes Set

Year 8: Volume and Surface Area of 3D Shapes

### Curriculum Links:

+ **AC9M8SP03:** Solve problems relating to the volume of prisms and cylinders.

### Lesson Objectives:

- + Calculate volume using **formulas** and real-world applications.
- + Compare volume and surface area across different prisms and cylinders.

### Lesson Activities:

- + **Formula Practice:** Students use the **volume formula** to calculate the space inside their 3D solids.
- + **Volume Estimation:** Compare how different shapes hold volume differently (e.g cube vs cylinder).
- + **Optimisation Challenge:** Students design a **container that maximises volume while minimising surface area.**

### Assessment:

- + Solve volume-related word problems.
- + Justify choices in the **Optimisation Challenge.**

### Differentiation:

- + **Support:** Work with cubes and rectangular prisms first.
- + **Extension:** Introduce **spheres and cones** in volume comparisons.



### 3D solids with their corresponding 2D nets

