



The volume of a cube is given by the formula  $V = s^3$ , where  $s$  is the side length.

For the large cube, the side length is  $L$ , so its volume is  $V_L = L^3$ .

For the small cube, the side length is  $l$ , so its volume is  $V_l = l^3$ .

The ratio of the volumes of the large cube to the small cube is:

$$\frac{V_L}{V_l} = \frac{L^3}{l^3} = \left(\frac{L}{l}\right)^3$$

This shows that the ratio of the volumes is the cube of the ratio of the side lengths.

## VOLUME



The area of a square is given by the formula  $A = s^2$ , where  $s$  is the side length.

For the large square, the side length is  $L$ , so its area is  $A_L = L^2$ .

For the small square, the side length is  $l$ , so its area is  $A_l = l^2$ .

The ratio of the areas of the large square to the small square is:

$$\frac{A_L}{A_l} = \frac{L^2}{l^2} = \left(\frac{L}{l}\right)^2$$

This shows that the ratio of the areas is the square of the ratio of the side lengths.