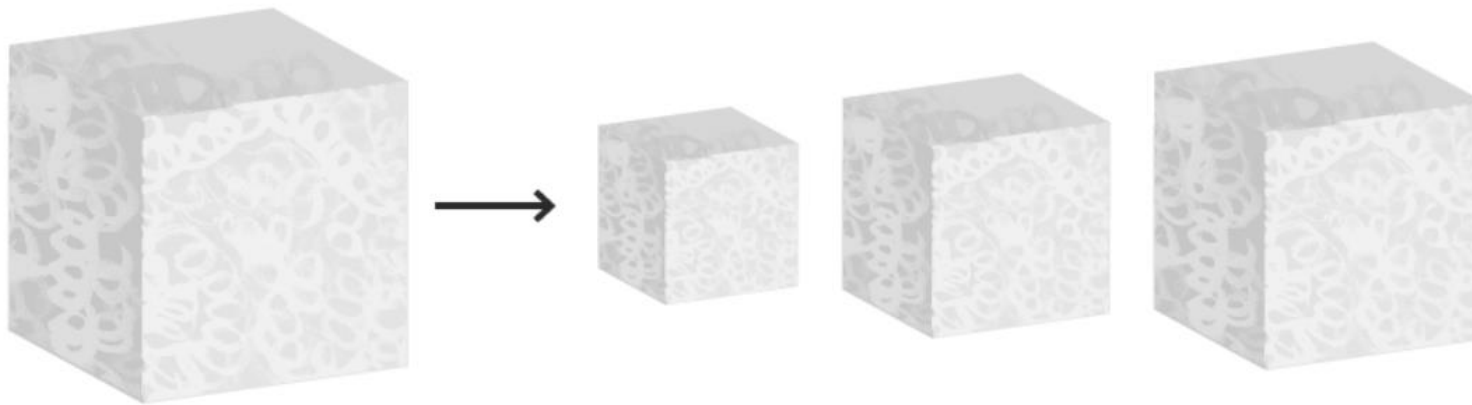


## Mind Workout

Date: \_\_\_\_\_

A metal cube is melted down and made into three cubes of different sizes. The side length of each cube is a whole number. Find the smallest possible volume of the original cube.



The problem states that each cube has a different size and that all the sides are whole numbers, so the smallest cube will have a side length of 1 cm as this is the smallest possible whole number. Therefore, the volume of the original cube would be made from a cube with 1 cm sides, a cube with 2 cm sides and a cube with 3 cm sides.

The volume of the original cube is  $1 \text{ cm}^3 + 8 \text{ cm}^3 + 27 \text{ cm}^3 = 36 \text{ cm}^3$