

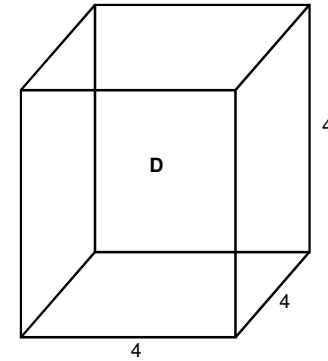
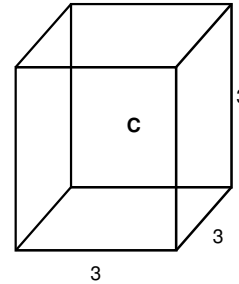
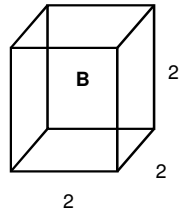
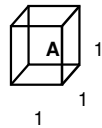
Calculation of surface area-to-volume ratio

Calculate (1) the surface area, (2) the volume, and (3) the surface to volume ratio for the following four cubes. (Show your work!)

FORMULAS:

Surface Area (SA) = length X height X number of sides [How many sides on a cube? (6)]

Volume (V) = length X height X width



SA for Cube A: 6

SA for Cube B: 24

SA for Cube C: 54

SA for Cube D: 96

V for Cube A: 1

V for Cube B: 8

V for Cube C: 27

V for Cube D: 64

SA / V Ratio = 6/1=6

SA / V Ratio = 24/8=3

SA / V Ratio = 54/27=2

SA / V Ratio = 96/64=1.5

Question:

What happens to the surface area to volume ratio as the cube gets larger?

Answer:

SA / V decreases as the cube gets bigger

Student's worksheet

created by Kimo Morris, UCLA

name: _____

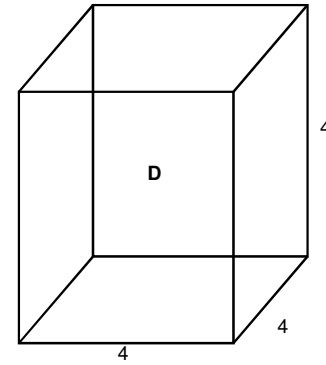
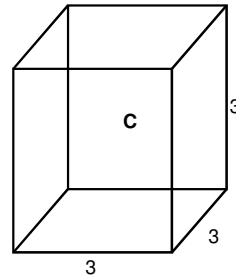
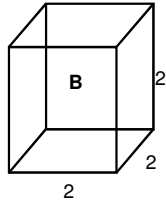
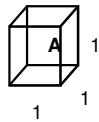
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V for Cube D: _____

SA / V Ratio = _____

SA / V Ratio = _____

SA / V Ratio = _____

SA / V Ratio = _____

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What happens to the surface area to volume ratio as the cube gets larger?
