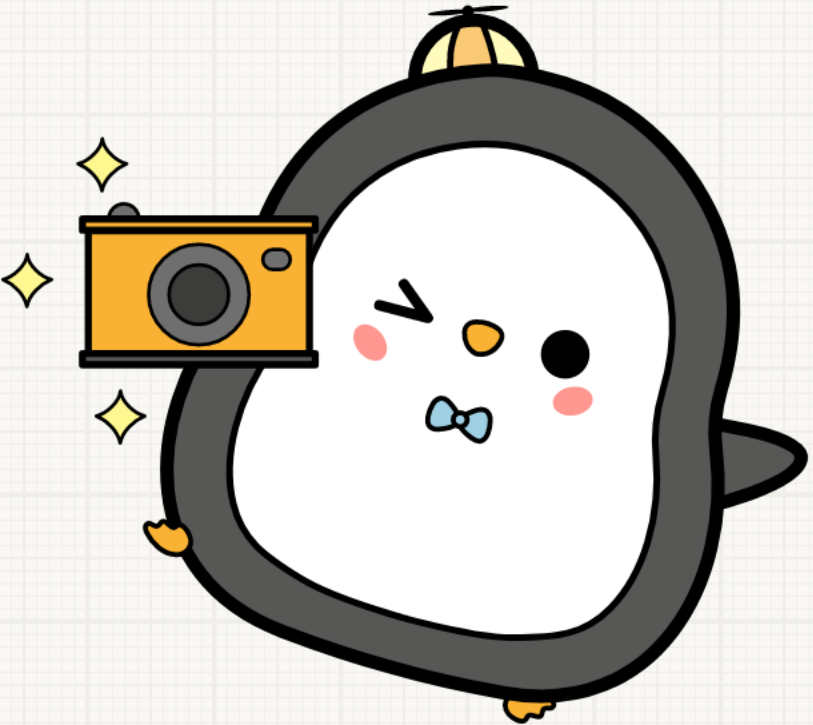
AP Bio Math Mondays

Surface Area: Volume Cube

Surface Area and Volume

$$SA = 6s^2$$



$$V = s^3$$

Cube

Identification of Variables

Surface Area and Volume

$$SA = 6s^2$$

$$V = s^3$$

Cube

s = length of one side of a cube

Math Monday #5

SA/V: Cube

Determine the surface area-to-volume ratio for a cube with side length of 2 cm

$s = 2$ cm

Surface Area and Volume

$SA = 6s^2$

$V = s^3$

Cube

$SA = 6(2)^2$

$SA = 6(4)$

$SA = 24$

$V = (2)^3$

$V = 8$

$$\frac{SA}{V} = \frac{24}{8} = 3$$

Example Problem

SA/V: Cube

Determine the surface area-to-volume ratio for a cube with side length of 4 cm

$s = 4$ cm

Surface Area and Volume

$$SA = 6s^2$$

$$V = s^3$$

Cube

$$SA = 6(4)^2 \qquad V = (4)^3$$

$$SA = 6(16) \qquad V = 64$$

$$SA = 96$$

$$\frac{SA}{V} = \frac{96}{64} = 1.5$$

Which cell is more efficient?

SA/V = 3

SA/V = 1.5