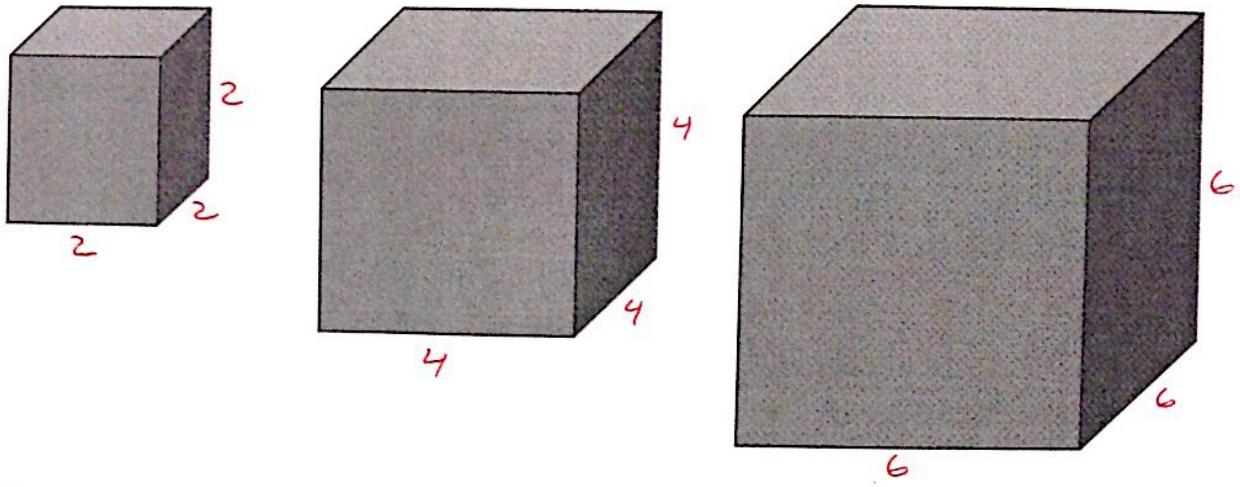
Similar Volume Exploration



SHAPE	SIDE LENGTHS	AREA OF FRONT	VOLUME OF SHAPE
1			
2			
3			

1) What is the scale factor of the sides from shape 1 to shape 2? How about shape 1 to shape 3?

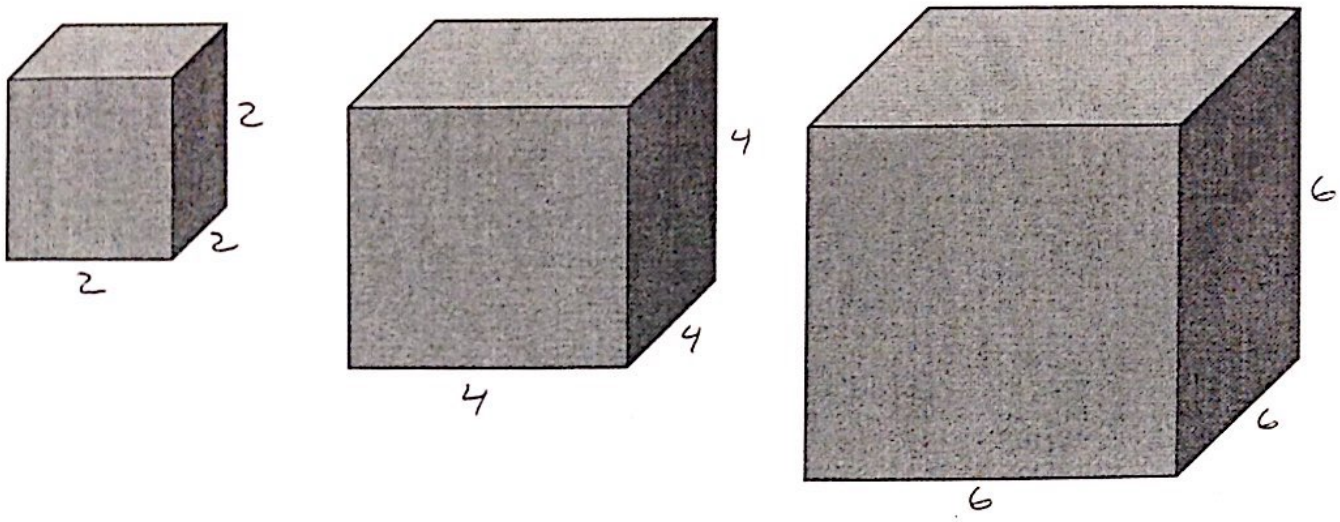
2) What is the area ratio of shape 1 to shape 2? How about the area ratio of shape 1 to shape 3?

3) What is the volume ratio of shape 1 to shape 2? How about the volume ratio of shape 1 to shape 3?

4) If a cone can hold 500 mL of water, then how much water could a cone 5 times the size of it hold?

5) What is the ratio of the sides of two figures that have volumes of 64 cubic inches and 729 cubic inches?

Similar Volume Exploration



SHAPE	SIDE LENGTHS	AREA OF FRONT	VOLUME OF SHAPE
1	2	4	8
2	4	16	64
3	6	36	216

1) What is the scale factor of the sides from shape 1 to shape 2? How about shape 1 to shape 3?

$\frac{1}{2}$ $\frac{1}{3}$

2) What is the area ratio of shape 1 to shape 2? How about the area ratio of shape 1 to shape 3?

$\frac{1}{4}$ $\frac{1}{9}$

3) What is the volume ratio of shape 1 to shape 2? How about the volume ratio of shape 1 to shape 3?

$\frac{1}{8}$ $\frac{1}{27}$

4) If a cone can hold 500 mL of water, then how much water could a cone 5 times the size of it hold?

$\frac{1}{5} \rightarrow \frac{1}{125} = \frac{500}{x}$ 62500

5) What is the ratio of the sides of two figures that have volumes of 64 cubic inches and 729 cubic inches?

$64/729 \rightarrow \sqrt[3]{64}/\sqrt[3]{729} = 4/9$