

<b>CHAPTER 16</b>	<b>Surface Area to Volume Ratio Worksheet</b>	<b>BLM 16.1.2</b>
<b>HANDOUT</b>		

## Questions

1. Complete the following table.

Dimensions of Cell	Surface Area	Volume	Surface Area to Volume Ratio
1 mm × 1 mm × 1 mm	6 mm <sup>2</sup>	1 mm <sup>3</sup>	
2 mm × 2 mm × 2 mm		8 mm <sup>3</sup>	3:1
3 mm × 3 mm × 3 mm	54 mm <sup>2</sup>		
5 mm × 5 mm × 5 mm			
2 mm × 3 mm × 4 mm			2.2:1

2. Circle the correct answer.

- a) A smaller cell has a greater surface area to volume ratio than a larger cell. True or False
- b) As a cell grows in size, the volume of its cytoplasm increases at a slower rate than the surface area of its plasma membrane. True or False
- c) As the volume of a cell's cytoplasm increases, its plasma membrane becomes too small to absorb the amount of nutrients the growing cell requires or excrete the increasing amount of waste it produces. True or False
- d) A cell can grow as large as it wants, as long as its environment provides enough nutrients. True or False