AP Topic 2.3 Cell Size Video Notes

1. All cells are dependent on _____

   - Obtanining _____, - Eliminating _____, - Gain/lose _____

2. A cell's size plays a big factor in its _____

3. Cells rely upon diffusion (_____) to exchange with their _____

4. This process can be slow – nutrient may not _____

5. Look at the small and large cell diagrams in the video (around 3:00 min), which cell is more efficient with exchanging with the environment? Why? _____

_____



6. Why is the cell above better able to exchange materials? _____

_____

7. Cells' ability to exchange materials is dependent on its _____

8. More surface area = _____

Created By: Chivas & Jordan Spivey

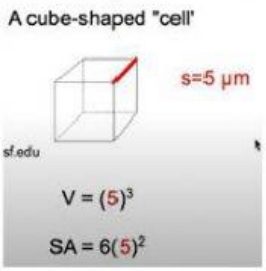
LIVEWORKSHEETS

Calculating Surface area to volume.

Volume of a cube = $V = s^3$

Surface area of a cube: $SA = 6s^2$

Surface area:volume ratio: Write as sa:v or sa/v

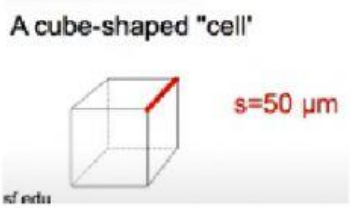


V = _____

SA = _____

SA/V = _____

Calculate the Surface area to volume ratio for the following cell. SHOW YOUR WORK!



V = _____

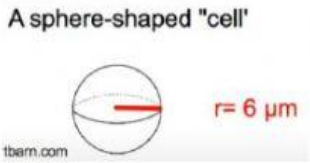
SA = _____

SA/V = _____

9. Which cell is less efficient at exchanging materials, the five-micrometer cell or the fifty-micrometer cell? Explain why. _____

_____

Calculate the Surface area to volume ratio for the following sphere shaped cell. SHOW YOUR WORK!

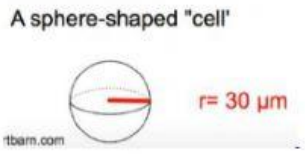


V = _____

SA = _____

SA/V = _____

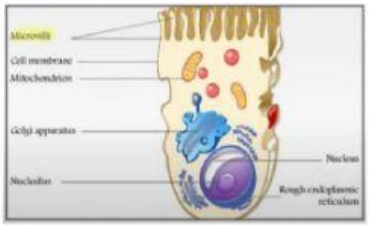
Calculate the Surface area to volume ratio for the following sphere shaped cell. SHOW YOUR WORK!



V = _____

SA = _____

SA/V = _____



10. Higher SA:V ratio = _____

11. Some cells are specialized to _____

12. Have surfaces designed for _____

13. How do your intestinal cells look, and how do they work? _____

_____

14. How is surface area increased in the mitochondria? _____

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LIVEWORKSHEETS