

Why are Cells so small?

Part A.

Write a message from a parent cell to a newborn cell. Your message should explain in a very easy to follow manner, why it is critical that the new cell remains small.

Part B.

Create an analogy for your own benefit, that illustrates the significance of small size with respect to SA : VOL ratio.

Part C.

- i. Take your cube clay "cell" and calculate its SA:VOL ratio.
- ii. Find a way to maximize the SA of your clay "cell" without modifying its volume. Calculate the new SA : VOL ratio.
- iii. Describe the technique you used and explain what functions your cell's structure and design lends itself to. Explain.

When you have completed this, please reform your clay into a cube.

Part D.

Research a type of specialized cell that has a large surface area to volume ratio. What is the cells function?

How does its size/shape/structure help it perform its function well?

What strategy does it employ to maximize surface area to volume ratio?

Sketch your specialized cell.