

# WHAT IS A CELL?

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1. Cell theory is one of the fundamental principles of modern biology, but it was not formulated until the \_\_\_\_\_ when the \_\_\_\_\_ was invented.

2. According to the cell theory:

- a. A cell is the \_\_\_\_\_
- b. All living things are \_\_\_\_\_
- c. New cells arise only from \_\_\_\_\_

3. Unicellular organisms show all seven characteristics of living things. List them below.

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_
- f. \_\_\_\_\_
- g. \_\_\_\_\_

4. Cells in multicellular organisms are different in structure and function, but they all have \_\_\_\_\_

5. During the formation of a zygote, both parents pass on a copy of their \_\_\_\_\_ to the new \_\_\_\_\_.

6. What mathematical concept explains why cells are so small? \_\_\_\_\_

7. Explain the difference between the surface-area-to-volume ration between a "cell" that is 1mm and one that is 2mm (refer to fig. 3.1): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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