

Name _____

Mitosis: The Marvelous Mechanism for Growth and Tissue Repair

Open-Ended Response Answer Key

1. Mitosis is essential for growth and development as it creates new cells to increase body size and replace old or damaged cells, contributing to an organism's overall development.
2. Without mitosis, multicellular organisms would be unable to grow, repair tissues, or regenerate lost body parts, limiting their ability to thrive and adapt.
3. Mitosis allows certain organisms to regenerate lost body parts, such as limbs, by rapidly producing new cells to replace the missing tissue.
4. Understanding mitosis can lead to better treatments for diseases related to cell growth and repair, like cancer and tissue damage, by targeting specific aspects of the cell cycle for therapeutic intervention.

