

Vocabulary

- Multicellular
- Unicellular
- Cell Differentiation
- DNA
- RNA
- Stem Cells
- Chromosomes
- Metamorphosis

Cell Differentiation and Specialization

1. What is cell differentiation?
2. Why is cell differentiation necessary for the survival of multicellular organisms?
3. What are stem cells and what role do they play in cell differentiation?
4. If the DNA in each body cell is the same, how do cells become differentiated? Be sure to explain the process of gene expression in your response.

5. Explain how an environmental factor, like temperature, can influence gene expression.
6. Describe an example of a plant cell that is specialized for a specific function. What is special about the cell that allows it to perform this specific function?
7. Describe an example of an animal cell that is specialized for a specific function. What is special about the cell that allows it to perform this specific function?