



## Introduction to Cell Division

*Read the following introduction and answer the questions that follow:*

Welcome to the fascinating world of cellular biology! In this worksheet, we will explore the fundamental concepts of mitosis and meiosis, two types of cell division that are essential for the growth, development, and reproduction of living organisms.

1. What is the main purpose of cell division?

2. What are the two types of cell division that we will be exploring in this worksheet?

## What is Mitosis?

*Read the following text and answer the questions that follow:*

Mitosis is a type of cell division that results in two daughter cells that are genetically identical to the parent cell. It occurs in somatic cells and is essential for growth, repair, and maintenance of tissues.

1. What type of cells does mitosis occur in?

2. What is the result of mitosis?

## What is Meiosis?

*Read the following text and answer the questions that follow:*

Meiosis is a type of cell division that results in four daughter cells that are genetically unique. It occurs in reproductive cells and is essential for the reproduction of living organisms.

1. What type of cells does meiosis occur in?

2. What is the result of meiosis?

## Comparing and Contrasting Mitosis and Meiosis

*Complete the following table to compare and contrast mitosis and meiosis:*

Characteristics	Mitosis	Meiosis
Type of cells		
Number of daughter cells		
Genetic uniqueness		

### Case Study: Mitosis in Action

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*Read the following case study and answer the questions that follow:*

A skin cell is damaged and needs to be replaced. The cell undergoes mitosis to produce two new cells that are genetically identical to the original cell.

1. What type of cell division is occurring in this scenario?

2. What is the result of this cell division?

### Case Study: Meiosis in Action

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*Read the following case study and answer the questions that follow:*

A reproductive cell undergoes meiosis to produce four daughter cells that are genetically unique.

1. What type of cell division is occurring in this scenario?

2. What is the result of this cell division?

## Reflection and Conclusion

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### Individual Reflection:

1. What did you learn about mitosis and meiosis in this worksheet?

2. How do you think mitosis and meiosis are important for living organisms?

3. What questions do you still have about mitosis and meiosis?

