

From a Cell to an Organism



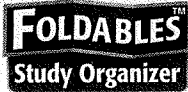
Grade 7 Science Content Standards—5.a: Students know plants and animals have levels of organization for structure and function, including cells, tissues, organs, organ systems, and the whole organism. Also covers: 1.c, 1.e, 1.f

Before You Read

Before you read the chapter, think about what you know about the topic. List three things that you already know about cells and organisms in the first column. Then list three things that you would like to learn about cells and organisms in the second column.

K What I know	W What I want to find out

MANDATORY!



Construct the Foldable as directed at the beginning of this chapter.

Science Journal

Predict what other functions the root might have for the new plant.

From a Cell to an Organism

Lesson 1 The Cell Cycle and Cell Division



Grade 7 Science Content Standards—1.e. Students know cells divide to increase their numbers through a process of mitosis, which results in two daughter cells with identical sets of chromosomes. Also covers: 1.c

Scan the What You'll Learn statements for Lesson 1 of your book. Predict three topics that will be discussed.

1. _____
2. _____
3. _____

Review Vocabulary

eukaryotic cell

Define eukaryotic cell *using your book or a dictionary.*

New Vocabulary

Read the definitions below. Write the correct vocabulary term on the blank to the left of each definition.

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

- process by which a cell nucleus divides
- pair of similar chromosomes
- copy of a chromosome made during the cell cycle
- identical cells formed during cell division
- phase of the cell cycle during which the cell prepares to reproduce
- first phase of mitosis
- phase of mitosis during which chromosomes move to the middle of the cell
- final phase of mitosis
- phase of mitosis during which sister chromatids begin to separate

Academic Vocabulary

establish

Use a dictionary to define establish.

Lesson 1 The Cell Cycle and Cell Division (continued)

Main Idea

The Cell Cycle

I found this information on page _____.

I found this information on page _____.

Mitosis and Cell Division

I found this information on page _____.

Details

Model the phases of the cell cycle as a circle graph. Label each section of your graph.

Sequence and describe the stages of interphase.

Stage	Description
G1	The cell grows and carries out its usual functions.
S	
G2	

Analyze the importance of mitosis and cell division. List four functions that mitosis and cell division perform.

1. _____
2. _____
3. _____
4. _____

SUMMARIZE IT

Summarize the main ideas of the above sections.

Lesson 1 The Cell Cycle and Cell Division (continued)

Main Idea

I found this information on page _____.

I found this information on page _____.

I found this information on page _____.

Details

Complete the table about the phases of mitosis.

Phase	What Happens
	DNA of replicated chromosomes twists into coils; membrane around nucleus breaks apart.
Metaphase	
	Sister chromatids begin to separate and move to opposite ends of the cell.
Telophase	

Draw a cell during each phase of mitosis.

Prophase	Metaphase	Anaphase	Telophase

Contrast cytokinesis in cells with and without cell walls.

SUMMARIZE IT

Summarize two main ideas of the above section.
