(Copy the following lab activity set up in your science notebook.)

## Title: Activity 14 Mitosis

Challenge Question: How do cells divide?

## Background:

- Reproduction is a characteristic of living things whereby they produce new organisms similar to themselves.
- In a eukaryotic cell, the nucleus is the organelle that contains the genetic information of the cell.

What is the difference in the function of cell division (mitosis) in unicellular and multicellular organisms?

## Vocabulary:

| Term | Definition | Picture or Example |
| :--- | :--- | :--- |
| DNA |  |  |
| chromosomes |  |  |
| cell cycle |  |  |
| interphase |  |  |
| mitosis |  |  |
| cytokinesis |  |  |

## Materials:

Cells and Heredity book
Procedures:

1. Read pages 90-97 in Cells and Heredity book.
2. Answer questions 1-3 and 5-13. Write answers in Data/Results section in science notebook activity
set up.
3. Do Lesson Review on page 99 questions 1-11. Write answers in science notebook set up in Data/Results section.

## Data/Results:

(Write answers to book questions here.)

## Analysis Questions:

1. How do you know if a cell is reproducing asexually when it divides? What role does mitosis play in asexual reproduction?
2. What occurs in a cell when it is not undergoing cell division? (Hint: Think about life processes.)
3. What is mitosis? Why doesn't mitosis occur in prokaryotes?
4. What would happen if DNA did not duplicate during interphase?
5. Sometimes a cell inaccurately duplicates its DNA, and the resulting cells are not identical. What effects might such results have?

Conclusion: How do cells divide? Use data, evidence and examples from the reading to support your answer.

