Multiplication by Division

Stage - Phase	Number of Cells	Percentage of Total Cells
Interphase	57	89.0%
Mitosis - Prophase		
Mitosis - Metaphase		
Mitosis - Anaphase		
Mitosis - Telophase		
Cytokinesis	2	3.1%
Total Cells Counted	64	100%
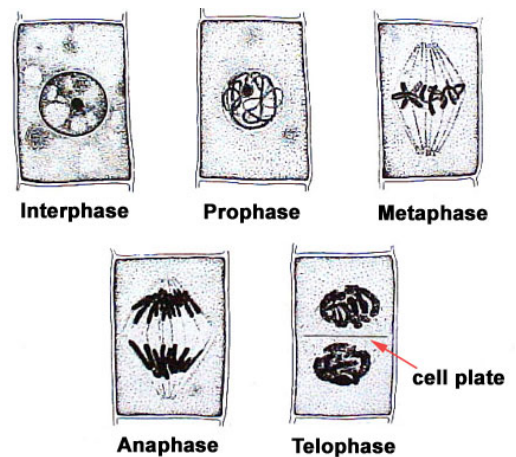
Calculation: (number of cells/total number of cells) X 100 = Percentage of total cells

Do the Math
Step 1: Count the Cells
The micrograph on page 4 shows a sample of onion root tip tissue. Look carefully at micrograph. Circle the cells that are in mitosis. Count the number of cells in each phase of mitosis. Add the data to the table on page 4. Calculate the percentage of cells in in each phase of mitosis.

What stage of the cell cycle are most of the cells in? _____
(Stages are interphase, mitosis, and cytokinesis)

Step 2: Calculate the time an onion root tip cell spends in part of the cell cycle.
The cell cycle for onion root tips takes about 720 minutes (12 hours). Use your data and the formula below to find the number of minutes each stage takes.
Formula

Time for each stage	=	Number of cells at each stage	X 720 minutes
		Total number of cells counted	

Step 3. Calculate the percentage of time spent in each stage of the cell cycle.
Formula

$$\frac{\text{Total time in Stage}}{\text{Total Time}} = \% \text{ of time}$$

Stage	Time (minutes)	Percent of Cell Cycle
Interphase		
Mitosis		
Cytokinesis		

Step 4. Label the Cell Cycle Graph.
Label the cell cycle graph to show the percentage of time spent in each stage of the cell cycle.

During which stage of the cell cycle each of the following occur?

growth _____

DNA replication _____

preparation for division _____

cell division _____

separation to two new cells _____