

Mitosis and Meiosis Lab Worksheet Assignment
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Mitosis

1. Use your micrograph slide to count 50 dividing cells. Tally the numbers of those 50 cells that are in each stage of mitosis (prophase, metaphase, anaphase, and telophase). Record the data below.

Number of cells in prophase _____ 40 _____ **10 pt**

Number of cells in metaphase _____ 1 _____ **10 pt**

Number of cells in anaphase _____ 1 _____ **10 pt**

Number of cells in telophase _____ 1 _____ **10 pt**

Based on this data, what conclusions could you draw as to the length of time a cell spends in each of these respective stages?

_____ It spends a lot of time in prophase _____ **10 pts**

2. Select, at random, two separate areas in the zone of multiplication. In each area, count about 50 cells in the field of view, and record how many of those cells are undergoing mitosis. Record the data in Table 1 and compute the percentage of dividing cells. The average of these two fields of view will give a close approximation of the mitotic index for an onion root tip.

Table 1. Onion Root Mitotic Index

10 pts

Field of view	Area 1	Area 2	Area 3	Area 4	Area 5	Average
Total # of Cells	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>
# of Cells in Mitosis	<u>13</u>	<u>14</u>	<u>16</u>	<u>18</u>	<u>18</u>	<u>16.2</u>
Percentage of Cells in Mitosis	<u>26%</u>	<u>28%</u>	<u>32%</u>	<u>36%</u>	<u>36%</u>	<u>32.4%</u>