# Mitosis in Plant Cells

Name: _____

B2.2 & 2.3          **/32**

## Problem:

How do cells undergoing mitosis appear in a light microscope?

## Materials:

- Microscope
- Pencil
- Ruler
- Onion Root Tip Slide

## Procedure:

1. Set-up the microscope and obtain an onion root tip slide.

2. Using **low power**, examine the onion cell root tip.  Focus and move the slide to examine the area just behind the root tip. Turn the nosepiece to **medium** and refocus; then turn to **high** power and refocus again.  Be careful to not hit the slide when moving the high power objective into place.

3. Locate cells undergoing mitosis. Scan the field of view to find a cell each stage. Take pictures through the eyepiece. Submit these pictures to your OneNote folder and label the stages.

4. Follow the rules for drawing biological diagrams (except size – set page up as shown here).  Label the stage of mitosis and **all the parts of the cell that you can actually observe**.

5. Obtain a slide of animal cells in mitosis. Pick **one stage** from the slide to draw and label.
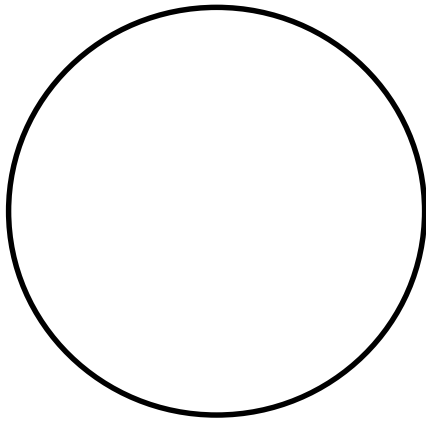
## Analysis:

1. What stage of the **cell cycle** did you observe most frequently? (1) _____

2. Based on your observations, what stage of **mitosis** takes the longest? **Why?** (1)

3. State the function of some cell parts you **were able to see** through the microscope. (3)

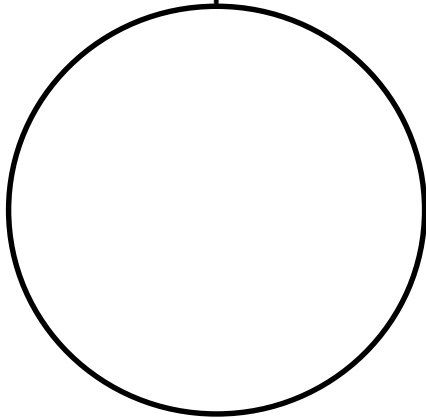| Cell Part | Function |
|---|---|
|  |  |
|  |  |
|  |  |

4. Some important structures involved in mitosis are difficult or impossible to see. List the names of 3 structures **you did not observe** and describe their function. (3)
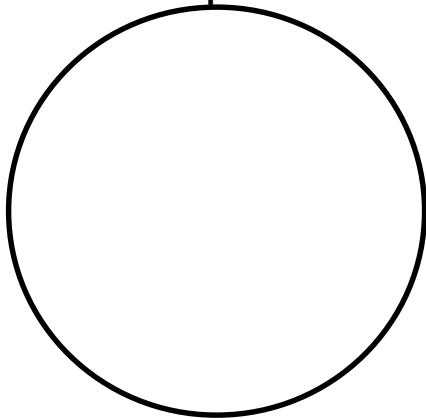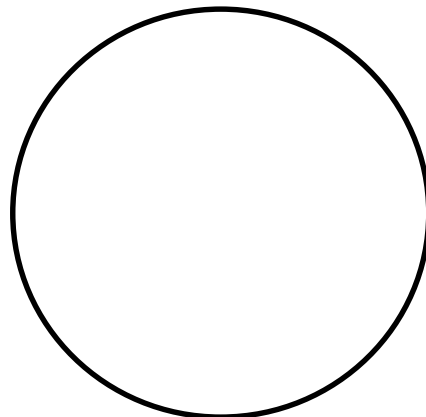
| Cell Part | Function |
|---|---|
|  |  |
|  |  |
|  |  |

## Prophase

## Metaphase
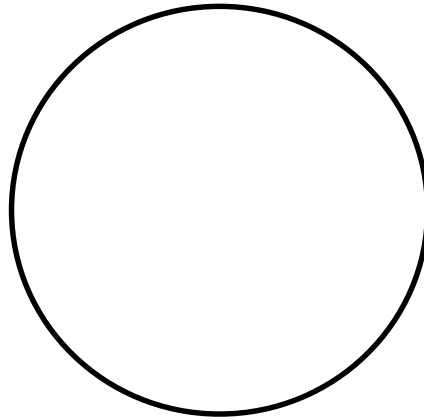
## Anaphase

## Telophase

Stages of Mitosis
Onion Root Tip

Name: _____

Date: _____

## Stage: _____

_____
Type of animal cell

5. What are 2 main differences observed between the plant and animal cells in this lab? Explain (3)

❑ Drawing is done in pencil
❑ Steady clear lines (no sketching)
❑ Stippling used for shading (no colours or solid pencil)
❑ Only relevant & easily seen details are included
❑ Labels are neatly printed
❑ Labels are all located to the right of the diagram
❑ Labels are listed in an even column
❑ Label lines do not cross
①②③Overall quality of drawing
    Correct stages & labels drawn (10)

| | |
|---|---|
| **Total** | **/21** |