**Eukaryotic Cell Electron Micrograph Analysis**

**Part A: Identifying Cell Structures in Micrographs**

Recreate this table in your lab book and add a descriptive title. Place a ✔ in in the box if you think the structure is visible in [the micrographs](https://drive.google.com/file/d/0B7EoydxcWA7pcUVWNkQtT0RadG8/view?usp=sharing).

(*note, no micrograph A or N in table*)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MICROGRAPH | **Nucleus** | **Vacuole** | **Chloroplast** | **Mitochondria** | **Cell Wall** | **Cell Membrane** | **Golgi** | **Vesicle** | **Endo. Reticul.** |
| **B** |  |  |  |  |  |  |  |  |  |
| **C** |  |  |  |  |  |  |  |  |  |
| **D** |  |  |  |  |  |  |  |  |  |
| **E** |  |  |  |  |  |  |  |  |  |
| **F** |  |  |  |  |  |  |  |  |  |
| **G** |  |  |  |  |  |  |  |  |  |
| **H** |  |  |  |  |  |  |  |  |  |
| **I** |  |  |  |  |  |  |  |  |  |
| **J** |  |  |  |  |  |  |  |  |  |
| **K** |  |  |  |  |  |  |  |  |  |
| **L** |  |  |  |  |  |  |  |  |  |
| **M** |  |  |  |  |  |  |  |  |  |
| **O** |  |  |  |  |  |  |  |  |  |

**STAMP**

**Part B: Predicting Cell Function**

Now that you are an expert at identifying structures...see if you can match cellular STRUCTURES with cell FUNCTION given [these micrograph images](https://drive.google.com/file/d/0B7EoydxcWA7pRlJNQ3BMUVo1NzA/view?usp=sharing)

* Which cell is would be found along the lining of a mammalian small intestine? How do you know?
* Which cell is a pancreatic cell responsible for secreting insulin (a hormone) into the bloodstream? How do you know?
* Which cell is from a leaf and is responsible for photosynthesis? How do you know?
* Which cell in an immune system cell responsible for engulfing invading bacteria? How do you know?

To answer, match the picture number with one of the functions and create a table to explain what structures the cell has than make you think it performs the selected function.

|  |  |  |
| --- | --- | --- |
| **CELL #** | **FUNCTION OF CELL** | **STRUCTURAL EVIDENCE of FUNCTION** |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |

**STAMP**

**Part C: Review of Drawing Magnification**

Calculate drawing magnification (how much larger than life size is the picture) for [these micrograph images](https://drive.google.com/file/d/0B7EoydxcWA7pRlJNQ3BMUVo1NzA/view?usp=sharing) given the information provided in the table. Please *show your working in your lab book.*

|  |  |
| --- | --- |
| ***PICTURE*** | ***IMAGE MAGNIFICATION*** |
| *1* | *Calculate using scale bar in image.* |
| *2* | *Calculate knowing that cell nucleus is 10um in width.* |
| *3* | *Calculate knowing that an average mitochondria is 1 um in width.* |
| *4* | *Calculate knowing that the typical chloroplast is 6 um in length.* |

**STAMP**

**Part D: Drawing Images from a Micrograph**

Pick any three images from this activity (Part A, B or C) and practice drawing an image from a micrograph.Try labeling the parts etc. There is an example of how this is done in intro to electron micrographs.

**STAMP**