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| **Lesson Plan:** |

**Prescribed learning outcomes:**

**B1 - 4**

**Big Ideas and Skills learned at end of unit**

**4, 6**

**Learning objectives**

**7, 9   
Using a microscope**

*Please refer to Unit plan\_Reproduction for details.*

**Material and equipment needed**

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| Microscopes | Slides | Pre-designed groups + ppt (clock) | Black board table | Graph paper |

**Assessment Plan:**

**Formative -**

**Summative-** Worksheets to hand in by the end of class

**Hook and Introduction**

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| **Time** | **Activity** | **Teaching notes** | **Assessment** |
| 1:45- 2:00 | * Instructions for the lab | * Using a microscope - safety tips - slides can break (show them broken glass location) - don't touch lens with your fingers - make sure the lens does not touch the slide when using fine/course adjustments * Go over the steps of using the microscope briefly 1) turn on light, adjust diaphragm 2) Take slide and snap it under the lens and center the sample over the light 3) Turn lens to lowest power and center your image 4) Focus with course knob 5) Focus with Fine knob 6) Turn to medium focus 7) Fine tuning only 8) Turn to highest power 9) Fine tuning only * Draw diagrams * Frequency table -> transfer to class table on board and we calculate together * Graphing -> instructions later * Groups of 4 - preassigned | * What are the steps to using microscopes? * How should you focus your image? * What are the components of a microscope? * What should you watch out for when using microscopes? * "What frequency are you measuring?" * "How do you measure the frequency?" |

**Development**

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| **Time** | **Activity** | **Teaching notes** | **Assessment** |
| 2:00-2:45 | * Lab | * Have students go set up their microscopes then give the next set of instructions: - Groups 1, 2, 3, 4, 5, 6 start on different stages of mitosis when first drawing them, then work clockwise - Every group member should get a turn drawing a different phase - Want diagram to take up the entire box you drew - Don't forget to label the phase, chromosomes, and spindle fibre - When everyone is done at least 1 drawing, move on to procedure 6, finish the other drawings in the end or copy off another group after/outside of class * Broken glass? |  |

**Closure**

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| **Time** | **Activity** | **Teaching notes** | **Assessment** |
| 2:45-3:03 | * Frequency tables and clean up | Graphing and questions instructions:  - Use graph paper  - Graph must start from 0, max 100% (probably not)  - Label both axis  - Example on ppt  Clean up - microscopes turned off, covers on, unplugged, slides put away  Assignment due:  Project due:  Mitosis wkst due:  Lab due next Friday  New assignment - assignment 2 due next Friday  Read 6.1 Meiosis (skipping 5.2 for Mr. Scorda) |  |