



Learning Guide #2: Mitosis and Asexual Reproduction

BIG IDEA: Cells are derived from cells

Fundamental Knowledge (I know)

- What cells are made of
- The process (Step by Step) AND products of Mitosis
- The different methods of asexual reproduction
- Examples of organisms that utilize asexual reproduction

Curricular Competencies (I can)

	Proficiency Scale Teacher and Student self assessment (Circle one)	Evidence (How do you know?)
<p>I can:</p> <p>Select and use appropriate equipment, including digital technologies, to systematically and accurately collect and record data</p>	<p>Emerging (EMG) Initial Understanding</p> <p>Developing (DEV) Partial/Near Complete Understanding</p> <p>Proficient (PRF) Complete Understanding</p> <p>Extending (EXT) Sophisticated Understanding</p>	<p>.</p>
<p>Consider social, ethical, and environmental implications of the findings from their own and others' investigations</p>	<p>Emerging (EMG) Initial Understanding</p> <p>Developing (DEV) Partial/Near Complete Understanding</p> <p>Proficient (PRF) Complete Understanding</p> <p>Extending (EXT) Sophisticated Understanding</p>	

Instructions: To help guide your learning, make your way through the activities in Option 1, Option 2, or Option 3. You may “mix and match” between the different Option columns.

TOPIC	OPTION 1	OPTION 2	OPTION 3
Cells (Review from Science 8)	A. Complete the Cell Organelles Review worksheet. You can pick up this worksheet from the Science Kiosk.	A. Create a set of illustrated/picture flashcards for plant and animal cell organelles. Make sure to include both the name of the organelle and its function.	Choose your own adventure!
Cell Theory (Review from Science 8)	B. Watch the following videos on the Cell Theory: Google: “Introduction to Cells: The Grand Tour” AND “The Wacky History of the Cell Theory” and take notes . Answer the following questions on a separate sheet of paper: <i>What are the three parts of the cell theory?</i> <i>Which part tends to be the hardest to support with evidence?</i>	B. Read the following article on the Cell Theory and take notes : https://www.thoughtco.com/cell-theory-373300 Answer the following questions on a separate sheet of paper: <i>What are the three parts of the cell theory?</i> <i>Which part tends to be the hardest to support with evidence?</i>	Pick up a planning sheet from the Science Kiosk. Create a plan! Make sure you read through the first page of this LG, as you will need to design ways to learn/practice and show your understanding of the topic(s) and skill(s) (competencies.)
Nucleus, DNA, and Chromosomes	C. Watch the following videos: Search: “Nucleus Cell Don’t Memorize” AND “DNA, Chromosomes, Genes, and Traits Amoeba Sisters” Complete the video recap worksheet.	C. Use the provided Notes Template to take notes from 4.1 (pp. 125-129.) You can pick the worksheet up from the Science Kiosk.	You will need to have a teacher approve your plan before beginning the LG.
Mitosis	D. Mitosis: Find a website/video that explains the purpose and steps and products of mitosis. Create/ label a diagram or model of the steps and products of the cell cycle. Reference your website. E. Complete the “Microscopes 101” sheet using the PowerPoint on the website. F. Complete the Onion Root-Tip Microscope Lab	D. Read text p. 150-159 make notes on the purpose and steps of mitosis and the cell cycle. Answer questions on pg. 165 #1-9 OR create a labelled diagram of the steps and products of Mitosis. E. Complete the “Microscopes 101” sheet using the PowerPoint on the website. F. Complete the Onion Root-Tip Microscope Lab	Interview with your teacher for evaluation Don’t forget to do the lab!
Cell Cycle Check Points	G. Find a website/video on the cell cycle check points. Complete the “Cell Cycle” worksheet.	G. Read through BC Science 9 Chapter 5.1 to complete the “Cell Cycle” worksheet.	
Asexual Reproduction and Cloning	H. Watch several videos on asexual reproduction and cloning (reproductive cloning, therapeutic cloning, stem cells etc). Make notes by completing the Asexual Reproduction Notes Scaffold . Be sure to include examples. Include your references.	H. Read text 5.2 pages 167-178. Then complete the Asexual Reproduction Notes Scaffold . Be sure to include examples. Include your references.	
Interview or Quiz	See your teacher for an interview or to have a quiz slip signed for the test center. Bring your work and staple it to your quiz when complete.		