



Add cover

10/13/2026 Unit Internalization

▼ Attendees

Click the +New below the chart to add more lines for more team members

	☰ Staff Name	🔖 Staff Role	🔖 Compass P	🔖 Attendance	🔖 PLC Role
1	Tayler Roberson	LEAD Teacher	North	Present	Resource Support
2	Rachel Coleman	Teacher	South	Present	Participant
3	Donna Gray	Teacher	West	Present	Recorder
4	Susan Allen	Teacher	South	Present	Participant
5	Lydia Cummins	Teacher	East	Present	Participant
6	Aubri Workman	Instructional Coach	Southeast	Present	Activator
7	Rey Montemayor	Other	East	Present	Participant
8	Cori Brown	SpED push-in partner		Present	

	☰ The Role	☰ Who is doing it
1	Facilitator: Keeps the team focused on the PLC+ question, supports flow, and invites multiple voices.	(Aubri) Susan
2	Activator (press record button): keeps focus on student learning and impact, ensures the team answers the 5 questions, pushes thinking beyond surface level, ensures strategies are evidence based, monitors alignment to TEKS and rigor	Aubri

3	Recorder: Captures key thinking, decisions, responsibilities and next steps in Microsoft Loop.	Donna
4	Time and Participation Monitor: Keeps the meeting on track by monitoring agenda times and topics.	Rachel
5	Resource Support: Helps surface relevant resources, tools, or data that support the conversation.	Tayler
6	Reporter: Shares team thinking and key takeaways during whole group debriefs when needed.	Aubri volunteered Lydia
7	Encourager: Recognizes positive contributions, keeps team present (Can be multiple!)	Susan Rachel Rey

Pre-Work

PLC+ Question : 3

Pre-Work for  Tue, Oct 13, 2026

1. Create one potential level 4 question for 11A.
2. Add your question to the table below.

	 Teacher	 Level 4 Question	 Notes
1	 Allen, Susan	Question: A plant receives less water than usual, and an animal has less food available. How could these changes affect their cells? A. The plant may produce less sugar through photosynthesis, and the animal may have less glucose available for cellular respiration. B. The plant will produce more sugar through photosynthesis, and the animal will release more energy through cellular respiration. C. The plant will stop cellular respiration, and the animal will begin performing photosynthesis. D. Neither organism will be affected because cells can produce energy without matter. Correct Answer: A	Hits the "predict" target Chosen - add justify your response.



2

An **Elodea** plant is placed under a light source. Students observe oxygen bubbles being released from the plant. They create a model showing how the **chloroplasts** and **mitochondria** work together to support the plant's survival.

Which statement best explains how matter is conserved and energy is transferred between these organelles?

- A. Chloroplasts use oxygen to make glucose, and mitochondria use sunlight to produce carbon dioxide.
- B. Chloroplasts convert light energy into chemical energy stored in glucose, and mitochondria break down glucose to release energy for the cell. The atoms in carbon dioxide, water, glucose, and oxygen are rearranged and recycled between the two organelles.
- C. Chloroplasts create matter from sunlight, and mitochondria destroy matter after energy has been released.
- D. Mitochondria produce glucose for the plant, while chloroplasts release stored energy from glucose.

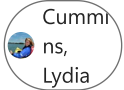
Level 4 Constructed Response Question:

A plant is grown in a sealed terrarium that contains only water, carbon dioxide, oxygen, and sunlight. Using models and the chemical equations for photosynthesis and cellular respiration, explain how the mass of the plant can increase over time even though no matter is added to the system. In your explanation, trace the movement of carbon, hydrogen, and oxygen atoms and describe how energy is transferred and transformed during both processes.

We like it!

A Terrarium without dirt (terra) sounds like a trick question or problem. A container with "only water" describes an aquarium.

Use CR later

3		A sealed terrarium containing a green plant and a small animal is kept in constant light for several days. How do the processes of photosynthesis and cellular respiration cycle matter between the two organisms? • A) The plant produces oxygen and glucose used by the animal, and the animal produces carbon dioxide and water used by the plant. • B) The animal produces light energy and glucose used by the plant, and the plant produces heat used by the animal. • C) Both organisms only perform cellular respiration, consuming all available oxygen. • D) The plant absorbs oxygen and releases carbon dioxide exclusively during the daytime. Correct Answer: A <i>Explanation:</i> The products of photosynthesis (glucose and oxygen) serve as the reactants for cellular respiration, while the products of cellular respiration (carbon dioxide and water) are utilized in photosynthesis, creating a continuous cycle of matter. []	Like that the relationship between plants and animals is shown in this one. CHOOSE - add justify your response
4		A student is analyzing the cycling of matter and flow of energy within a sealed terrestrial biome. The student monitors the gas concentrations and carbohydrate levels of a primary producer and a primary consumer over a 24 hour period. Which statement best describes the biochemical relationship between the 2 organisms? A. The consumer supplies the oxygen needed by the producer to undergo chloroplast bound respiration B. The chemical energy stored in the carbohydrates produced by the producer serves as the direct reactant for the consumer's mitochondrial ATP production C. The radiant energy captured by the consumers mitochondria inhibits the producer's ability to fix carbon dioxide D. The producer relies entirely on the consumer's lactic acid production to yield the water required for photosynthesis Correct Answer: B	Good spiralizing question for later in the ecology unit

INTERNALIZATION (45 Minutes)

Where Are We Going?

Organism Growth and Cell Differentiation			
B.6 Biological structures, functions, and processes. The student knows how an organism grows and the importance of cell differentiation.			
B.6(C)	relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer	B.6(A)	explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models
		B.6(B)	explain the process of cell specialization through cell differentiation, including the role of environmental factors

important words for concept development				
subcluster	standards	new to grade level		previously introduced
Cell Cycle	B.6(A), B.6(C)	anaphase* apoptosis benign* cancer cell cycle* (G0 stage/phase, G1 stage/phase*, S stage/phase*, G2 stage/phase*, M stage/phase*) cell division disease cellular process* centriole* centromere* chromatid* complementary base pair cytokinesis	daughter cell* diploid* DNA (deoxyribonucleic acid)* DNA replication* interphase* malignant* metaphase* mitosis* nucleotide prophase* somatic cell spindle fibers* telophase transcription* tumor*	chromosome hydrogen bond nucleus organelle

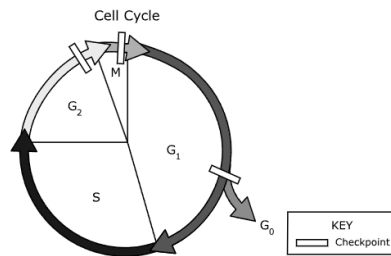
Articulate Learning Goals and Success Criteria

PLC+ Question : 2

Proficiency Scale for 6A and 6C

	≡ Level 1	≡ Level 2	≡ Level 3	≡ Level 4
1	I can identify some stages of the cell cycle with help and understand that cells grow and divide, but not how the cell cycle contributes to growth.	I can explain the importance of the cell cycle in the growth and development and reproduction of organisms. I can recall that DNA replication occurs during S phase. I can identify the purpose of cell cycle checkpoints that help prevent damaged or unprepared cells from dividing. I can recognize that uncontrolled cell division can lead to cancer.	I can identify and describe the stages of the cell cycle. G1, S, G2 and Mitosis I can identify and describe what occurs during each stage of mitosis. I can explain the process of DNA replication. I can explain how cell cycle checkpoints regulate cell division and how failures at these checkpoints can lead to diseases such as cancer.	I can use my understanding of the cell cycle to predict and explain how different disruptions could affect cells and organisms.

A diagram of the cell cycle is shown.



When the checkpoints are functioning properly, how do cells respond to them?

- Ⓐ An abnormal cell proceeds, and a normal cell undergoes apoptosis.
- Ⓑ An abnormal cell undergoes apoptosis, and a normal cell proceeds.
- Ⓒ An abnormal cell and a normal cell both undergo apoptosis.
- Ⓓ An abnormal cell and a normal cell both proceed.

Ensuring that we are showing a variety of visuals and graphics

Expose students to "apoptosis" a-POP-tosis

1

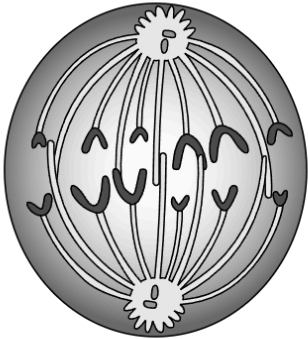
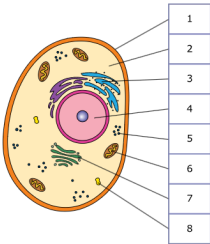


When the axolotl, a type of salamander, loses its legs or tail, it can regenerate the damaged tissue and regrow these body parts. Which statement describes the cellular processes that will **MOST LIKELY** occur when an axolotl loses its tail?

- Ⓐ The area where the tail is growing will have an increased rate of meiosis and a decreased rate of mitosis.
- Ⓑ The rate of somatic cell division and meiosis will decrease in all body cells except the tail.
- Ⓒ The size of axolotl body cells will increase until a larger tail has developed due to an increased rate of mitosis.
- Ⓓ The area where the tail is growing will have an increased rate of mitosis and cell division.

Meiosis won't have been taught yet - focus on Mitosis = Growth

Test taking strategy on eliminating irrelevant answers if used on summative

3	An image of a cell is shown.  Which phase of the cell cycle is this cell in? ☐ A G₀ phase ☐ B S phase ☐ C G₂ phase ☐ D M phase	Mitosis = M Phase Explicitly teach Interphase (G₁, S and G₂), M phase (Mitosis) and its phases (PMAT), cytokinesis and G₀
4	1 Dogs have 39 pairs of chromosomes in their somatic cells. In which part of the cell are these chromosomes replicated during the cell cycle? Select ONE correct answer. 	DNA replication occurs in the nucleus!! Chromosomes=DNA
5	1 The model shows some of the events that take place when a cell reaches the G₂ checkpoint in the cell cycle. How should the model be completed to show the MOST LIKELY outcome for this cell? Move the correct answer to the box. Not all answers will be used. Apoptosis takes place. Cell returns to G₁ checkpoint. Cell turns into a tumor. New DNA is synthesized. DNA damage is found. → DNA repair is attempted. → DNA repair fails. →	Students will be tempted to pick "Cancer". Emphasize that failure at a checkpoint doesn't necessarily mean cancer Make sure that checkpoints are explicitly taught PRIOR to discussion of dysregulation = cancer

6

The intestine is lined with many fingerlike structures called villi, which allow increased absorption of digested materials. The cells within a villus change position and migrate as they mature. Each cell then dies and is sloughed off. For each of three locations within villi, the table shows the number of cells that are undergoing a cellular change called apoptosis, or programmed cell death.

Location within Villi	Number of Cells Undergoing Apoptosis (per 200 Villi Samples)
Base	0
Middle	60
Top	80

Hall, P. A., et al., *Journal of Cell Science*, 1994

Based on the information in the table, how does apoptosis **LIKELY** affect cells?

Move the correct answer to each box. Not all answers will be used. Not all answers can be moved to all boxes.

repairs DNA in

destroys

before it produces DNA for new daughter cells

at the end of its lifespan

reduce its metabolism

become cancerous

Apoptosis is a normal cellular process that cells. A cell may enter apoptosis . Without apoptosis, the cell may .

Read the question first and see what you need.

 **Examine Key Tasks, CFUs and Assessments**

PLC+ Question : 2

Do our lessons (as planned) in Unit 3C (Cell Growth and Reproduction) adequately address the learning objectives and success criteria in our proficiency scale and release questions?

	 Activity	 How does this activity contribute to the learning target?	 What are possible student misconceptions that may surface in this activity?	 What is our instructional response? (supports, scaffolds, connections to prior learning, etc.)
1	Cell Cycle Slides and notes	Align to proficiency scale and vocabulary		
2	Cell Cycle and Mitosis Practice ClassKick	Drag and drop diagram - reinforces identification and explanation of each stage of cycle	On slide 4 - students don't notice arrow on right	Slide 4: explicitly tell them the order to use
3	3C Vocabulary	Vocabulary is essential for level 3 learning targets		
4	Cell Cycle Class Activity ClassKick			

5	Mitosis Lab Microscope - count the cells in each stage Bioman Mitosis Mover Virtual microscope	Virtual Microscope: The student can see the stages of the cell cycle and practice using scientific tools. Bioman: A closer look at the cell cycle and academic vocabulary	All cells look the same.	Academic Vocabulary and Cell Cycle Basics
6	Cancer Information Project			



Plan for Monitoring of Learning

PLC+ Question : 3

- When and how will we check for understanding?
- When will gather formative data?
- What evidence will we gather?

	≡ How will we monitor progress?	≡ Link/Screenshot of CFU or Assessment	≡ When will student complete?	≡ When will we review the data?
1	Exit Tickets:			
2	Warm Ups			
3	Cell Cycle and Cancer Test	TFAR		