

Sample Demo Lesson Plan

Teacher:	Mr. Baltimore		Date:	9/27/18	
Standard:	HS-LS1-4. Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.			Objective:	SWBAT represent the stages of mitosis using models.
Subject:	Science (Biology)	Grade Level:	9th	# of Students:	3
Vocabulary/Academic Language:	Revisit definitions of mitosis and each phase of mitosis within the class packet. Mitosis Interphase Prophase Metaphase Anaphase Telophase Cytokinesis			Pre-made Materials:	Three baggies of materials labeled “Oldest: interphase and prophase, Second Oldest: metaphase and anaphase, and Third Oldest: telophase and cytokinesis,” respectively. Provide pipe cleaners in each bag to form models of mitosis steps. Premade posters with objective, grade/subject, my name, and class rules. Paper packets for students to follow along with each section of class.
Anticipated Student Misunderstandings:					
Confusing phases of mitosis with one another.					
Differentiation Strategies, Grouping of Students, IEP Requirements, etc.					
<ul style="list-style-type: none"> ➤ Planning for students with disabilities/IEPs ➤ Planning for ELL Students ➤ Planning for Fast Finishers 					
<p>Provide students who need greater scaffolding during group practice with paper-based models of their phases of mitosis to line their physical models on top of.</p> <p>If possible, try to provide several copies of the lesson’s key points and directions in the two most common regional languages (aside from English). Provide visual aids for directions, questions, and/or key points whenever possible.</p> <p>Provide at least 1-2 challenge questions per section of the lesson for students to complete if they finish early.</p>					
Students:					
<ul style="list-style-type: none"> ▪ What students should be doing, how, and for how long. ▪ What differentiation/scaffolding will be provided? 					
Teacher:					
<ul style="list-style-type: none"> ▪ What YOU will be doing during this time and how you will check for understanding throughout the lesson. ▪ What student-friendly directions you will provide. 					
OPENING					
TIME ALLOTTED: 1-2 min		<p>“Hi! My name is Mr. Baltimore, and I’m going to teach you all today how to use a model to demonstrate cellular division. We only have 10 minutes, so I have just a few rules first.</p> <ol style="list-style-type: none"> 1.) Please raise your hand to speak unless we’re doing pair or group work, 2.) Follow my attention signal (all raise hands silently when I silently raise my hand—practice once). 3.) Do your best work. 4.) Don’t touch your materials until instructed to.” 			
Purpose: Introduce yourself, set expectations, and review the day’s learning objective, provide an engaging hook.					

	<p>“Last Friday we defined the process of creating new cells through replication as mitosis and wrote paragraphs describing each step. Today, we’re going to build off that prior knowledge.”</p> <p>“Quietly raising your hand, can I please get a volunteer to read today’s objective?” (<i>Call on a student, thank them.</i>)</p> <p><u>Hook</u>: “On the count of 3, quietly show me a thumbs up if you agree or a thumbs down if you disagree with the following statement. We are born with all of the same cells that we will ever have and never create new ones. 1, 2, 3!”</p>
CONTENT MINI-LESSON	
<p>TIME ALLOTTED: 3-4 mins</p> <p>Purpose: <i>Provide students with key content knowledge/skills needed to achieve the day’s objective.</i></p>	<p>“Now quietly watch me as I show a model of each step of mitosis. You can also follow along with the diagrams in your packet notes. I’ll let you all practice with your own models in a few minutes while I come around and check.”</p> <p>Demonstrate each step with pre-created models while re-defining each step. As you define each step, ask for a volunteer to remind the class what that step is called based upon their notes from last class.</p>
GUIDED PRACTICE	
<p>TIME ALLOTTED: 3-4 mins</p> <p>Purpose: <i>Pair, group, or whole-class activity that allows students to practice mastering the objective.</i></p>	<p>“Great! Next, at each table you’ll notice a baggie of materials for each of you. You’ll each be assigned two phases of mitosis, based upon your ages.</p> <ul style="list-style-type: none"> ▪ The oldest student will create the model for interphase and prophase ▪ The second oldest student will create the model for metaphase and anaphase. ▪ The third oldest student will create the model for telophase and cytokinesis. <p>Please use the diagrams from your “Intro to New Material” section of your notes packet as a guide to help you. You’ll have 3 minutes to complete this section.”</p> <p>Circulate the room with a checklist and the Modeling Mitosis Rubric to check for understanding and record the percentage of students arriving at the correct answer. Provide guidance as necessary.</p>
INDEPENDENT PRACTICE / EXIT TICKET	
<p>TIME ALLOTTED: 1-2 mins</p> <p>Purpose: <i>Allow students to independently demonstrate their individual mastery of the objective.</i></p>	<p>“Great! It looks like you all are getting the hang of this. Now it’s time to show me what you know individually on your exit tickets, which I’ll be collecting in 1.5 minutes. Please just do your best—if you get any portions wrong, that just helps me better understand what I can teach better next time. Go ahead and silently get started on your exit slips now, then fold it in half once complete so I know when everyone is done.”</p> <p>Exit slip asks students to draw a model of each stage of mitosis. Collect exit slips upon completion.</p>
CLOSING	
<p>TIME ALLOTTED: .5-1 min</p> <p>Purpose: <i>Reflect with students on their mastery of the objective, thank them for their engagement, and provide any final announcements.</i></p>	<p>“Thanks everyone for your participation today! Can someone quietly raise their hand to volunteer to remind us of the objective we achieved today?” <i>Choose student and thank them.</i></p> <p>“Excellent. I’ll let Ms. Smith take it from here. Thanks again for hosting me today!”</p>
SUPPLEMENTAL ACTIVITY	
<p>Purpose: <i>This is intended for students who finish early.</i></p>	<p>Have an extension activity at the end of the exit ticket where students can summarize each step of mitosis in their own words.</p>
LESSON/CLASS TRANSITION	