

Lesson Plan Template

Grade: High School		Subject: Anatomy	
Materials:		Technology Needed:	
Instructional Strategies: <ul style="list-style-type: none"> <input type="checkbox"/> Direct instruction <input type="checkbox"/> Guided practice <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> Learning Centers <input type="checkbox"/> Lecture <input type="checkbox"/> Technology integration <input type="checkbox"/> Other (list) 		Guided Practices and Concrete Application: <ul style="list-style-type: none"> <input type="checkbox"/> Large group activity <input type="checkbox"/> Independent activity <input type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) Explain:	
Standard(s) Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.		Differentiation Below Proficiency: Above Proficiency: Approaching/Emerging Proficiency: Modalities/Learning Preferences:	
Objective(s) Students will be able to define fast-twitch, slow-twitch muscles, the three types of contractions, and muscle strength and endurance. Students will be able to match and describe exercises to their respective outcome for the muscles.			
Bloom's Taxonomy Cognitive Level:			
Classroom Management- (grouping(s), movement/transitions, etc.) Students will be paired in their lab groups for this lesson. This can also be completed over Zoom using breakout rooms.		Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)	
Minutes	Procedures		
	Set-up/Prep:		
3	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) Start with a few gifs or funniest home videos of weightlifting/ exercising. Discuss initial thoughts about the movements people are performing and how they might need to improve the exercises.		
10	Explain: (concepts, procedures, vocabulary, etc.) The previous days students have learned about muscle physiology including slow/fast-twitch and isometric/eccentric/concentric contractions. I will review what muscle strength and endurance mean before students break into groups to complete the worksheet. Ask students to summarize what is the difference between slow and fast-twitch muscles. Have students define the 3 types of contractions. Muscle strength is how much force a muscle can produce in a single rep. It is built through short reps		

Lesson Plan Template

	<p>of high weight where you are engaging the type 1 muscles that specialize in short bursts of exercise. This can also be attributed to anaerobic exercise.</p> <p>Muscle endurance is the ability to repeatedly exert force against a form of resistance. This is attributed to long reps of less weight and engages aerobic exercise.</p> <p>The learning is mostly student driven and will allow time for debriefing when everyone has completed the assignment.</p>
25-30	<p>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</p> <p>Students will identify which exercises stimulate the fast twitch muscles and which are slow twitch exercises. They will also identify if the lifts are for endurance or strength purposes, and whether they are concentric, eccentric, or isometric muscle contractions where applicable. They will then give their reasoning behind each answer.</p> <p>The students will be given a worksheet where they will identify each of the exercises under the above criteria.</p> <p>Fast twitch muscles (quick movements for improved strength)</p> <ul style="list-style-type: none">Box jumps: 6in 2x15 single leg, 8in 2x15 single leg, 12in 2x20 double legDepth jumps: 12in box drop to squat and jump straight up 3x8Sprint-jog intervals around the track (sprint 50m, jog 50m) repeat for 1 mile before resting for 2 minutes, complete 2 miles <p>Slow twitch muscles (aerobic exercises to improve endurance)</p> <ul style="list-style-type: none">20-minute bike ride30-minute jog (65% max speed)Bench press: 3x12 50% maxSquat press: 2x15 50% max <p>Endurance exercises (above 12 lighter weight get into rhythm)</p> <ul style="list-style-type: none">Dumbbell lunges: 5x15 each legPushups: 3x15Sit-ups: 2x25 <p>Strength exercises (5-12 with heavy weight)</p> <ul style="list-style-type: none">Plank: 3x45 secBicep curls: 3x8 medium wghtFront row: 3x10 medium wghtGlute raise: 3x5 single leg, each leg
5	<p>Review (wrap up and transition to next activity):</p> <p>Debrief worksheet and discuss its tie back to previous lessons and how we will be going forward in</p>

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	the unit. what did you find interesting about this worksheet? Any answers you are still unsure of?
Formative Assessment: (linked to objectives) Progress monitoring throughout lesson-clarifying questions, check-in strategies, etc. Consideration for Back-up Plan:	Summative Assessment (linked back to objectives) End of lesson: Completed worksheet and debrief If applicable- overall unit, chapter, concept, etc.:
Reflection (What went well? What did the students learn? How do you know? What changes would you make?): Breaking the students into their lab groups worked great for small groups. The students were actively engaged in completing the worksheet, but none of the groups were able to complete it due to the shortened class period. They also asked great questions about 1 exercise containing more than 1 form of contraction. I would make sure the students and I are clear on the types of slow and fast- twitch muscles and my expectations for that in this worksheet. The short review is very important for students' memory and learning.	