

Muscle Madness: Project Based Learning for the Middle School Student

Essentials:

1. Students perceive work as personally meaningful
2. Work done fulfills desired educational purpose
3. Meet standards

Educational purpose:

Knowledge:

- Students will identify major muscle groups within a designated area of the body
- Students will identify strengthening exercises/lift each muscle group
- Students will identify flexibility exercises for each muscle group
- Students will design a muscular strengthening workout for the designated area of the body
- Students will demonstrate knowledge by applying key principles (FITT, Progressions, Specificity and Overload)
- Students will understand the importance of nutrition on muscles and developing strength

Performance:

- Students will be able to demonstrate strengthening exercises for each muscle group
- Students will be able to demonstrate flexibility exercises for each muscle group

Skill practice desired:

- Knowledge of muscular system
- Nutrition impact on muscular system
- Safe performance of the exercises (lift/stretch)
- Ability to work within a group
- Public communication

Resources needed:

- Depending on the level of implementation the resources needed will vary from no equipment to full furnished weight facility (school weight room, exercise balls, exercise bands, free weights, etc.)
- Presentation equipment (projector, computers, etc.)
- Computers for student research

Project evaluation:

- Using a rubric the following items will be assessed (see rubric for details)
- Student peer assessment

Element	Low tech (simplest form)	Medium	High Tech (more complex)
1. Create the need to know (anticipatory set)	A passionate story about developing strength	Video about the importance of muscles	
2. Possible driving questions a. Captures heart of project b. Sense of challenge c. Linked to purpose d. Linked to desired skills e. Answers for students what is the point of all this	<ul style="list-style-type: none"> • What does it means to be strong? • What strategies are used to develop flexibility and strength? • What are ways to improve muscular strength and flexibility? • What does it mean to care for the body? 		
3. Student voice & choice a. What can students choose b. What is required	<ul style="list-style-type: none"> • Choose activities that strengthen different muscles • Students will select a flexibility and muscular strengthening exercise (no equip) for each major muscle group • The Student will provide a picture or example depicting the exercise 	<ul style="list-style-type: none"> • Choose activities that strengthen different muscles • Students will select a muscular strengthening and flexibility exercise for each major muscle group, utilizing minor equipment (items found at home, exercise bands, stability balls, etc.) • The student provides choice activities to involve others in presentation 	<ul style="list-style-type: none"> • Choose activities that strengthen different muscles • Students will select a muscular strengthening and flexibility exercise for each major muscle group, utilizing any exercise equipment available (universal gyms, etc.) • The student demonstrates choice by creating a presentation that can involve parents and community members
4. 21 st Century skills a. Needed b. Explicitly taught	<ul style="list-style-type: none"> • Learning about their own body and how it functions • Creating independent knowledge of how to increase flexibility and strength • Developing cooperation and team work skills • Public presentation skills and lifelong communication skills 		
5. Inquiry & Innovation a. Possibilities for own research b. Ways to create culture of hypothesizing	<ul style="list-style-type: none"> • Students could extend this project by creating their own personal plan that is a goal to increase their own muscular strength 		

<p>6. Feedback & Revision</p> <ul style="list-style-type: none"> a. Formalized feedback process b. Rubrics needed- c. Self /peer assessment opportunities (coach how to use rubrics) d. Teacher checks e. Feedback from others 	<ul style="list-style-type: none"> • Feedback <ul style="list-style-type: none"> ○ Students will have group checks with the teacher ○ Students will have peer group checks and suggestions ○ Students will evaluate each other on their group communication skills • Assessment rubric 		
<p>7. Publicly presented product</p>	<p>Present an oral presentation on what they discovered while researching the Muscle Madness project</p>	<p>Design an activity station that focus on a muscle group for class in which the whole class will have the opportunity to experience each station. The station must be informative yet engaging.</p>	<p>PE Fair/parent night or open house where each group presents an assigned muscle group (a portion of the project).</p>

Muscle Madness Sample Block Plan

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	Introduction to Muscle Madness Project	<ul style="list-style-type: none"> Identify the muscle group Muscle name and location Body location 	Muscle Function <ul style="list-style-type: none"> Describe how the muscle functions What does it mean to be strong? 	Continue with muscle function	<ul style="list-style-type: none"> Benefits of muscular strength and endurance Benefits of flexibility
Week 2	Nutrition How are muscles fueled?	Making healthy choices	Hydrating	Nutrition myths	Nutrition
Week 3	Training Principles Designing a workout	FITT	Overload	<ul style="list-style-type: none"> Progression Specificity 	<ul style="list-style-type: none"> SAFETY Breathing and spotting
Week 4	Muscle strength and endurance	<ul style="list-style-type: none"> Biomechanical principles The anatomy of a lift 	Lifts with out equipment or props	Lifts with minimal equipment	Using weight machinery
Week 5	Flexibility	<ul style="list-style-type: none"> Biomechanical principles The anatomy of a stretch 	Stretching activities without props or equipment	Stretching activities with props or equipment	
Week 6	Presentation <ul style="list-style-type: none"> Practice presentation Peer review 	<ul style="list-style-type: none"> Practice presentation Peer review 	Muscle Group Work (Modifications and edits)	Presentation	Presentation

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¹ This block plan is a guide for organization and structure.