The Muscular System

WebQuest Description: This WebQuest will examine the Muscular System and you will learn about its many aspects such as - the structure, functions and categories of muscles; where the major muscle groups may be found; types of movement allowed and the types of exercise which may strengthen them. You will work in groups to go on a multipath progression through the muscular system through multimedia, active exploration, and multisensory stimulation. Collaboration will be encouraged throughout, but most importantly critical thinking will be promoted through the challenge questions posed.

Grade Level: 9-12
Curriculum: Health / PE
Keywords: Exercise, muscles, adduction, abduction, extension, circumduction, rotation, agonist, antagonistic,
Published On: 2011-07-20 09:05:58
Last Modified: 2011-07-25 17:58:54
WebQuest URL: http://zunal.com/webquest.php?w=108141

Introduction

Have you ever stopped to wonder about how you were able to move, pick up things, kick a ball into the back of a net, run so fast to win a race or ride your bike around the block? Guessed at which muscles moved to make you smile, wave goodbye or beckon to a friend to come closer? Well wonder no more. You are going to delve into the depth of your body, working from the inside out. Follow the guidelines, organize your thoughts, pace yourself, flex those muscles and press forward.......full speed ahead!

Tasks

Following the links provided, you will become experts and complete the muscular system webquest. You will answer given questions, take the challenges presented and have fun as you take time to learn about the muscles. Follow instructions carefully, use textbooks as well as internet sources and feel free to visit more sites than the ones listed.

Identify ten muscles and explain which exercises can be used to strengthen them.
Correctly label both frontal and backward views of the anatomical muscular system.
Correctly answer questions posed with a minimum of 80% accuracy.CHALLENGES:

Choose three (3) single movements that you think can cause most muscles to move at once.
List the number of muscles and the specific names of all the muscles that moved for each movement
Find Five (5) interesting facts on any muscle and create a power point presentation to share your information with your classmates - Do not be perturbed if on presentation day similarity of ideas surface!

Process

Teacher will only act as facilitator, as web quest is totally student oriented. Step 1: Click on the websites - Skeletal Muscles and kids - health.org and read the information provided. Step 2: Click on the word document file and use the information gained to answer the &nbsp;questions on the muscular system. Print the page when you are through answering the questions. Step 3: Under "muscle regions of the body" on the first named website, click on a link to see the different types of muscles in more detail. Step 4: Choose 10 different muscles of your choice. Step 5: Click on the website "strengthening exercises" and read up on different types of exercise and their benefits to muscles. Step 6: Create a table with 5 columns in your notebooks, bearing the following headings - Name of muscle; Origin of muscle; Insertion of muscle; Movement allowed and Exercise which strengthens. Complete the table by inserting the muscles chosen and the related information for each type.

Name of Muscle

Origin of muscle

Insertion of muscle
**Step 7:** Using the website "Detailed labelled anatomy" pay keen attention to the front and back view of the diagram. Click on the website “the Interactive body”. At the bottom of the page is the FLEX SOME MUSCLES activity, click on this link and choose male or female. Click on the muscles in the box on the left and read the description of this muscle in the box on the right. Click on the muscle on the right and drag it to the human body. I will initial it when you have completed it.

**CHALLENGES:**

**Step 8:** Choose three (3) single movements that you think can cause most muscles to move at once.

**Step 9:** List the number of muscles and the specific names of all the muscles that moved for each movement.

**Step 10:** Find Five (5) interesting facts on any muscle and create a power point presentation to share your information with your classmates. Do not be perturbed if on presentation day similarity of ideas surface. The following guidelines should be adhered to:

- A title page that has your name and specific muscle you will discuss.
- A picture of the muscle.
- A description of where it is located and what action(s) it is responsible for.
- Why you choose that particular muscle and two interesting facts that you have learned from researching it that isn’t listed anywhere else in your presentation.
- Resources you used should be on the last page of your presentation. You may add more slides if you like and can make it unique to reflect your individual skills, abilities, and interests. This will be counted as a homework grade.

Click on the video below to remind you of some things you should not do when making a power point. You may click on the link below to get to a tutorial site, in order to answer any unanswered question or cements concepts learned.

http://www.gwc.maricopa.edu/class/bio201/muscle/mustut.htm

### Evaluation

<table>
<thead>
<tr>
<th>Category and Score</th>
<th>Unacceptable</th>
<th>Developing</th>
<th>Proficient</th>
<th>Advanced</th>
<th>Score</th>
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<tbody>
<tr>
<td>Accuracy</td>
<td>4 muscles of the body are named and given the location of, the main function of the muscular system is identified, connections between the muscular system and 2 other body systems are noted, and 3 extra pieces of information about the muscular system are provided with less than completeness and accuracy.</td>
<td>6 muscles of the body are named and given the location of, the main function of the muscular system is identified, connections between the muscular system and 2 other body systems are noted, and 3 extra pieces of information about the muscular system are provided with 60% completeness and accuracy.</td>
<td>8 muscles of the body are named and given the location of, the main function of the muscular system is identified, connections between the muscular system and 2 other body systems are noted, and 3 extra pieces of information about the muscular system are provided with 80% completeness and accuracy.</td>
<td>8 muscles of the body are named and given the location of, the main function of the muscular system is identified, connections between the muscular system and 2 other body systems are noted, and 3 extra pieces of information about the muscular system are provided with 80% completeness and accuracy.</td>
<td>25%</td>
</tr>
</tbody>
</table>
Having faced the challenges and followed set guidelines, you are now better off for having been engaged in this web quest. When all is said and done, you will be an expert on the muscle that you researched and an expert on the muscles your classmates presented on too! You should have achieved the following goals:

- Developed an interest in the study of this body system
- Used the power of the internet for advanced exploration
- Realized that complex topics can be looked at from various perspectives
- Explained through research the importance of the muscular system to everyday life.

Hello Colleagues, This web quest was designed for students at the grade 9 - 11 high school level. It was my intention to foster and enhance discovery learning as I believe that when students “see” they remember, when they “hear” they forget, but when they “do” they understand! This web quest can be modified to effectively reach your target audience. So feel free to use it as a guide if the need arises. After all collaboration is the way forward as we prepare our students to be successful in the twenty first century. I have attached some additional resources that may be effective in your lesson delivery / power point / web quest, depending on the age group and cognitive level being targeted.

Standards

Credits

Other