**Days 4 and 5 Lesson Title:** Skeletal and Muscular System Functions

**Learning Goals:**

9.4.1.1.1 Students will explain how cell processes are influenced by internal and external factors, such as temperature, and how cells and organisms respond to changes in their environment to maintain homeostasis. (Practiced)

9.4.1.1.2 Students will describe how the functions of individual organ systems are integrated to maintain homeostasis in an organism. (Practiced)

**Materials:**

 National Geographic's Biology, 2009

 Projector and computer with internet access

 Posterboard and markers for each group

 A rubric for each student

 One notesheet (for the teacher)

***DAY 1:***

\*After presenting this lesson and watching my video, I realized that students will need more time to prepare their presentations, so decided that it would be much better as a two day lesson. I also changed the options for advertisements, because Maggie pointed out that it is important for students to practice using different forms technology. The new options are a commercial performed for the class, a videotaped commercial (played for the class), or a print ad made on the computer. The use of technology also ties into my key idea of “adapting to change.” The first option does not incorporate technology, but I also think it is important for students to learn oral presentation skills.

**1. Anticipatory Set:**

Have the following written on the board as students enter

 “Pick one system: Muscular, or Skeleton. Think about what your body would be like if it did not have this system. Be prepared to share your thoughts with a partner.”

After the bell rings give, students 1 or 2 minutes to think about the prompt. Then get the class' attention.

*Good morning everyone. Hopefully you've been thinking hard about the prompt. At this time, I want everyone to get with a partner that is sitting close to you. Then I want you to tell each other what system you chose and give specific examples of what your body would be like without it. After you've both shared, see if you can ad to your partner's ideas. ” “Thank you, I heard some really good ideas out there. We've been learning a lot about the muscular and skeletal systems this week, and today we are going to focus on their functions. The standard we are working on today is \_\_\_\_\_ (read standard on board). And today's objective is \_\_\_\_\_\_(read objective on board.) As you'll remember, homeostasis is the main theme of the human body unit we just began, and the functions of human body systems are usually directly related to homeostasis.*

**2. Objectives:**

After creating and viewing their classmates advertisements, students will know the primary functions of the skeletal, and muscular systems with 100% accuracy. (A score of 4 for their system on the advertisement rubric)

**3. Input:**

*Right now I want you to get into groups of 3 and decide whether you choose to do either the muscular or skeletal system.*

Hand out a rubric to each student as they are moving to sit by their group members.

*First thing I want you to do is put your name on your rubric, then circle the system your group is doing in the far left column of your rubric. In your groups, you are going to create an advertisement for your system and present this ad tomorrow for the class. It can be a T.V. or a print ad. Print ads must be made on the computer using PowerPoint or the program of your choice. TV commercials may be either videotaped or performed in class. You should create this ad as if you are trying to sell your system to the general public. Because we are focusing on the functions of each system today, you are required to name all the functions of your groups system in the presentation. You will also be writing down the functions of the other systems as groups present. Please keep your presentation under 2 minutes, just like a real commercial would be, so we don't run out of time.*

**4. Modeling**

*I am going to play an excellent example of a commercial for the circulatory system. We haven't gotten to this system yet, but the commercial does a great job stating the functions of the circulatory system and getting all the important information across in a short time. Remember though, that your presentations will be in groups, and each member must play an equal part in the presentation. Ok, I'll let Billy Mays take it from here.*

 http://www.youtube.com/watch?v=HswYrRWmt8g

**5. Check for Understanding:**

Write on the board:

1. Choose ad type
2. Read rubric
3. List functions and check with me

*When I give you time to work, shat I would like you to do first is get with your group members and decide what kind of advertisement your group would like to make: a TV or a print ad. Then, read through your rubric for additional requirements. After that make a list of the functions of your system with your group. Feel free to use your textbook, notes, or the internet throughout work-time today. When you are finished with the list, have one person raise their hand. I will come over and make sure that you have included all the functions that I want you to know for your system.* *Any questions before we get started?*

As I come around to each group I will first ask what type of of ad they are making and have each of them circle that type on their rubric. I will then make sure that they have all the functions for their system written down. If not, I will tell them to keep working and come back to help if necessary. When they have all their functions down I will tell each group individually:

**6. Guided and Independent Practice:**

*You can now plan your advertisement. I will be walking around if you have questions. However, I will also be watching to make sure that all group members are contributing to the creation of your groups ad. If you finish with writing or creating your ad before the end of class, you may practice your presentation.*

**7. Closure**

When there are 5 minutes left of class, get the class' attention.

 *There are have 5 minutes left of class. At this time, you should divide up any work that still needs to be done among your group members. Also, make sure that you will have all the materials you need for your presentation tomorrow.*

***DAY 2:***

**Learning Goals:**

9.4.1.1.1 Students will explain how cell processes are influenced by internal and external factors, such as temperature, and how cells and organisms respond to changes in their environment to maintain homeostasis. (Assessed)

9.4.1.1.2 Students will describe how the functions of individual organ systems are integrated to maintain homeostasis in an organism. (Assesed)

  *Members of the \_\_\_\_\_\_\_\_ system, please come up front bringing anything you need for your presentation and your rubrics. Everyone else remember to record the functions they tell us about in your notebook.*

While watching the other groups present, each student is to record the functions of each of the other systems in their notebook. Pause between each presentation to have students provide feedback. Call on students to provide at least two specific positive comments and one constructive criticism comment. Stress that the criticism must be respectful and something that will help them in future presentations. This is also a good opportunity for me to give specific positive feedback. Then have students come up and list the functions of the system justpresented on the board.

 Muscular system groups write skeletal system functions.

 Skeletal system groups write muscular system functions.

Add to the lists after each presentation. After all presentations, inform students of (and write on the board) any missing functions and clarify any confusion.

**8. Closure:**

*Now you have a list of the functions of the skeletal and muscular systems in your notebook. You should have listed 5 functions of the skeletal**system and at least 1 function for each of the muscle types. This list will serve as a great study guide for the test next week. No homework tonight. However, if you don't already have all the functions we covered today memorized, you should start studying these functions for the test next week. Have a great rest of the day; I'll see you tomorrow!*