



Read First: How to Use Getting Nerdy Bundles and Mini-Bundles

Below you will find a general guideline for how to use our lessons in the unit bundle you just purchased. If this is a UNIT BUNDLE, please refer to the Master Lesson Guide in this zipped folder for a more in-depth analysis of this unit which includes the corresponding slide numbers, pdf document titles and an estimate of the amount of time each lesson can take in this bundle.

We spend a great deal of time making our PowerPoints engaging and appealing, as well as functional. **In order to fully appreciate the animations and overlaid text in our presentations, it is important that you view them in SLIDESHOW mode.** If you don't, you will think that there are errors in the text because many text boxes are over other text boxes, which during slideshow mode, will be observed as seamless transitions from one text to the next. We do this to save on the number of slides in a show, but it also helps to reduce the file size and allows you to move through the PowerPoint more quickly. Each PowerPoint is laid out as follows:

- **LESSON TITLE SLIDE:** Title slides will have a Main Heading at the top, usually some sort of catchy name or phrase that will correspond with the PDF with the same title. While we have tried to be consistent with this, you may find that the FILE NAME of the PDF may vary from time to time from the slide or lesson title. **For Unit Bundles, refer to the MASTER LESSON GUIDE to ensure you are using the correct pdf and slides together.** Depending on the nature of the lesson, Title Slides can have an **OBJECTIVE, BACKGROUND INFORMATION**, instruct students to complete a **BELLWORK** or create a **HYPOTHESIS** for the day's lesson. Generally, we will have this slide projected as students walk in the door, so they know that it is expected that they must begin work as they come in get settled.
- **LESSON SLIDES:** Lesson slides may follow notes, lab instructions, project instructions, etc. We like to use our projectors daily, for several purposes. Students love to engage in animations, pictures, and fun interactive websites, so we incorporate as much as we can into our daily lessons. Also, having instructions to labs and projects projected on the board allows for all students to be held accountable as you are going over directions. We often like to have students take turns reading the directions aloud as others follow along on their handouts. We find that this method also assists in creating talking points, while also limiting repetitive questions about projects. Additionally, projecting lesson notes and other information is a great differentiating tool for students of all learning modalities, and especially for students with disabilities.

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**Please watch this product
in slideshow mode to enjoy
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Getting Nerdy product!
Our products often have
overlapping text,
animations, and embedded
hyperlinks. Some slides will
not print clearly.**



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Muscles Move You!

Objective: To learn the structure and function of the Muscular System

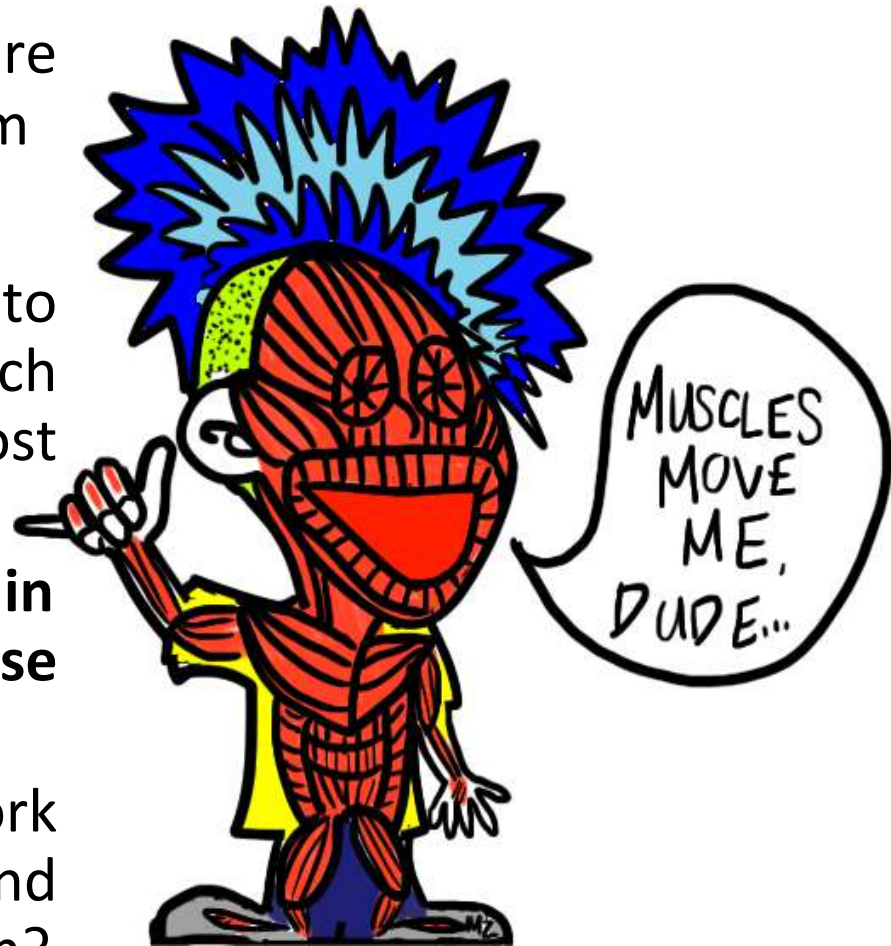
Bell Work:

1. Muscles need lots of energy to complete their job. Which organelle do you think is most abundant inside muscle cells?

Muscles have lots of mitochondria in their cells in order to convert glucose into ATP energy.

2. Which systems of the body work to provide the nutrients and oxygen muscles need to perform?

Digestive, Circulatory & Respiratory



MUSCLE: an organ that can relax and contract, which moves your body. There are two types:

Voluntary muscles: muscles you **can control** (bicep)

Involuntary muscles: muscles you **cannot control** (heart)



THREE TYPES OF MUSCLE TISSUE

1. Skeletal muscle: moves bones

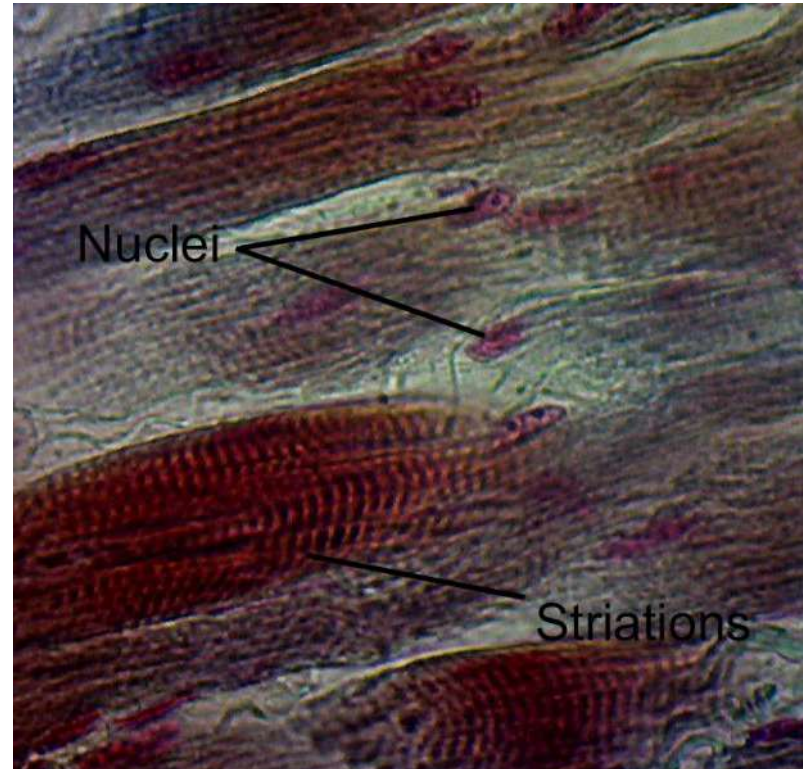
a. Voluntary

b. Tendons connect **muscle** to **bone**

c. Contract quickly and tire more easily

d. Look **striped** or striated

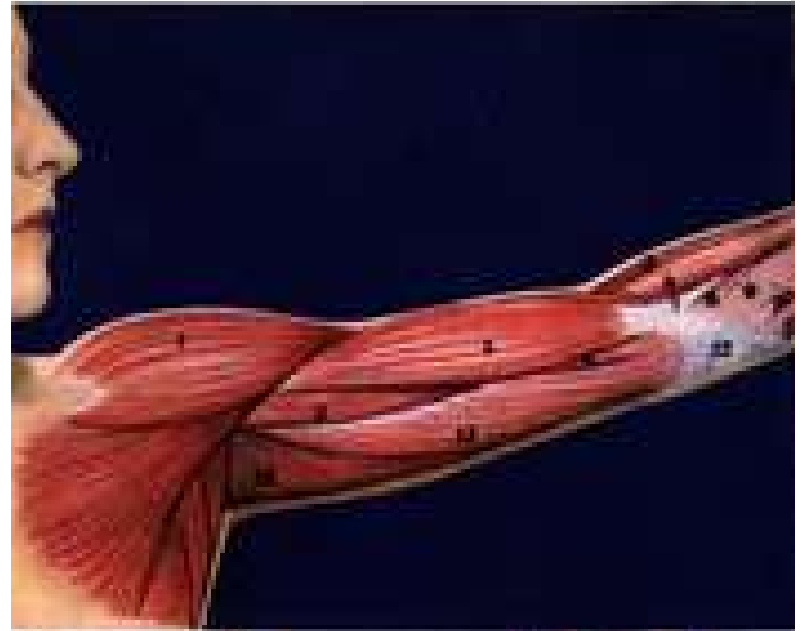
e. Bicep, quadriceps, pectoral



Draw & Label the striated muscle in the circle on your paper

f. You move because pairs of muscles work together

- i. One end of the muscle attaches at the end of a bone by a tendon
- ii. The opposite end of the muscle attaches to an adjacent bone
- iii. Muscles always pull against the opposite bone

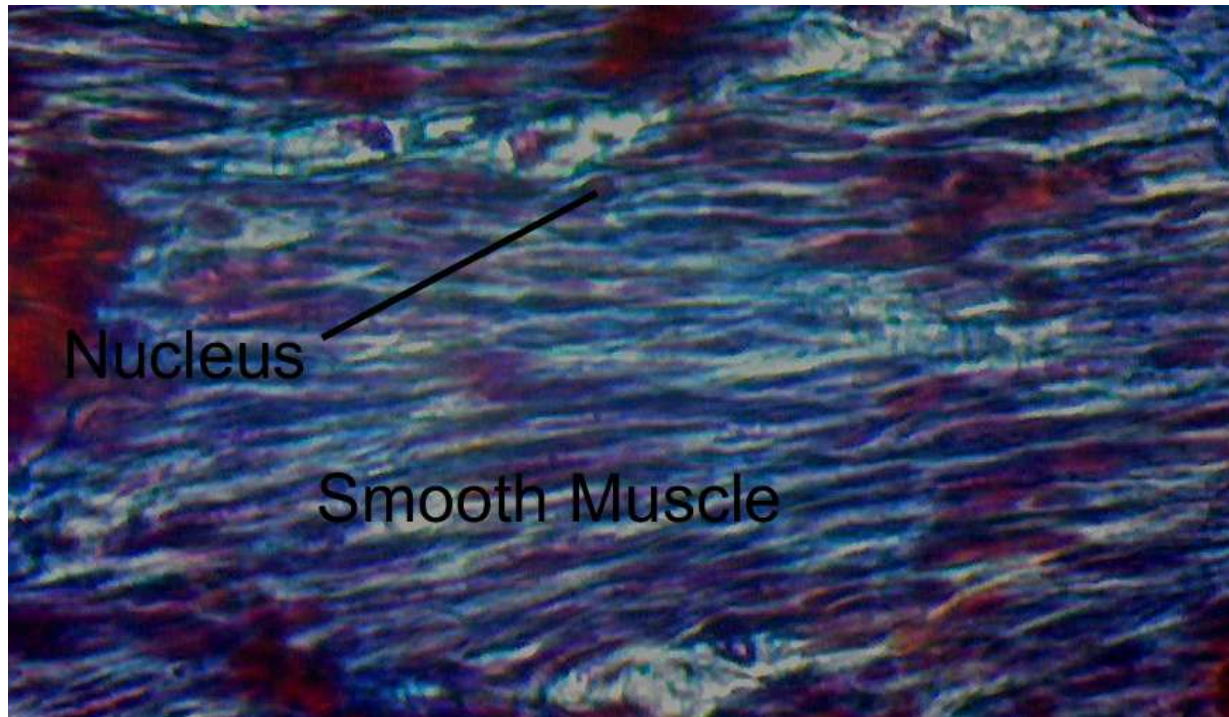


2. Smooth Muscles: responsible for regulating blood pressure, digestion, and other internal functions

a. Involuntary

b. Muscles in the stomach, bladder, blood vessels

Draw & Label the smooth muscle in the circle on your paper



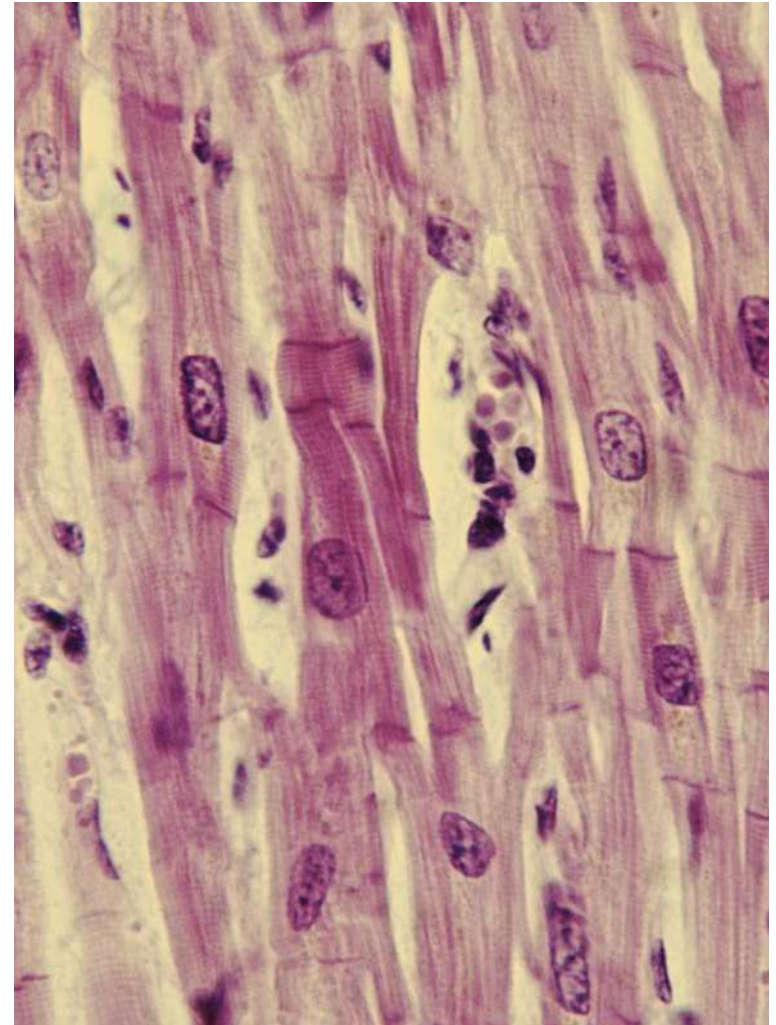
3. **Cardiac Muscle**: Found only in the **heart**

a. Involuntary

b. Can beat independently of input from the brain

c. Striated (striped)

Draw and Label the cardiac muscle in the circle on your paper



In a Blink...

Muscle Action Lab

Objective: To determine if blinking is voluntary or involuntary

Here's What You'll Need to Conduct This Experiment:

Partner

Transparent film such as saran wrap, a blank overhead transparency, or goggles

Wadded up paper balls

Stopwatch or timer

Hypothesis: Make a hypothesis about whether blinking is a voluntary or involuntary muscle action.

What You Do: You're going to complete three different tasks during this lab to determine if blinking is a voluntary or involuntary muscle action.



In a Blink...

What You Do:

Part 1: Have your partner read a book or do an everyday activity. The point is to not think about blinking. Count the number of times your partner blinks in one minute. Record that information in the chart on your paper. Change roles. Complete this activity for a total of two trials.

Part 2: Record the length of time your partner can go without blinking. Record that information in the chart. Change roles.

Part 3: Obtain a transparent piece of saran wrap or an overhead transparency. Have your partner hold the transparency in front of their eyes, about 6 inches away from their face. Instruct them to try and keep their eyes open as you gently toss a wadded up piece of paper at the transparency. Watch their eyes carefully and



In a Blink...

Muscle Action Lab

What Happened?:

Now that you have completed each task, use your data to analyze your results and answer the questions that follow.



What did YOU find?