



**What to do TODAY**  
**Grade 4 (🌈 A Physical Health Story)**

Your body is made of lots of muscles, so it only makes sense that our bodies were made to move. This story is about how your body moves and how using your muscles to move your body makes both your body and your brain healthy.

- 🌈 You may have heard the phrase “use it or lose it”. “Use it or Lose it” definitely applies to the muscles of our body and the parts of our brain that move these muscles.
  - 🌈 Moving our bodies causes chemicals – endorphins – to be released in our brain. These chemicals do lots of different things that help our body and our brain.
  - 🌈 You may have also heard the phrase “muscle memory”. If you have, FORGET ABOUT IT! There is no such thing as muscle memory – it is cerebellar memory.
- 🌈 For this presentation, you need to have the “**Move It or Lose It**” Story Video. You will only be doing about 10 minutes of the video today and finishing the story in the next session. You will be doing a Physical Activity: Move Your Muscles
- 🌈 Start the story video and stop after the title slide.



Ask the question (incredulously)...Did you know that your body had so many muscle in it???

We cannot see our muscles, but when we move our body we can feel them.

Have the students lift up their arm in front of them – and have them feel the upper arm. (Say...it feels kind of squishy.)

Now, have the students move their lower arm towards their face (flexing the biceps). Ask them...what do you feel? Say...your squishy arm gets harder when you move your body...THAT is you muscle working.

Today we are going to learn more about our muscles move our body and how that is important for our bodies and our brains to stay healthy

- 🌈 Continue playing the Story Video and stop after this screen.



Ok...so now we know that every time we move, and even when we are not moving, we are using our muscles.

The muscles pull on your bones to move your body or to keep your body from crashing to the ground because of gravity.

Let's do Physical Activity called "Move Your Muscles" to learn more about our muscles which are always working.

🎨 The Physical Activity: Move Your Muscles is a series of true and false questions to learn more about our muscles. (You can do as many of the Muscle Facts as you want – as long as the students stay engaged.)

1. For this activity, tell the students that they are going to **Stand Up** at their desks if they think the statement is **True** and they will **Remain Seated** if they think the statement is **False**.
2. Discuss why the students chose their answers.

### Muscle Facts:

- a. There are over 1,000 muscles in your body. **False**. There are over 600 muscles in the body.
- b. Skeletal, or voluntary, muscles are the muscles you can control. **True**. You can control your skeletal muscles to walk, run, pick up things, play an instrument, throw a baseball, kick a soccer ball, push a lawnmower, or ride a bicycle. These muscles are called **SKELETAL** because they move your bones (your skeleton).
- c. Ligaments connect muscles to bones. **False**. Ligaments connect bones to other bones. Tendons connect muscles to bones.
- d. Your heart is a muscle. **True**. The heart is a special muscle called "cardiac muscle." It works constantly to pump blood through your body.
- e. A muscle gets strained when it is stretched too much. **True**. Muscles can be strained by stretching them too much, as when you lift something that is too heavy.
- f. Muscles that are not used can get smaller and weaker **True**. If a muscle is not used, it will get smaller and weaker. This is known as atrophy.
- g. When you exercise and your muscles get bigger, this is due to increasing the number of muscle cells. **False**. You cannot increase the number of muscle cells – but, you can increase the **SIZE** of the muscle cells.
- h. You do not need more than 30 minutes of physical activity every day. **False**. You should get at least 60 minutes of exercise every day. It does not have to be a whole hour all at once, but it does need to be in at least 10-minute increments to count toward your 60 minutes of physical activity per day.
- i. If something hurts when playing sports, you should play through the pain, and it will go away. **False**. If something starts to hurt, stop playing or exercising. You might just need to rest the injured part, or you might need to see a doctor.

In closing, remind the students that our bodies are made of lots of muscles and muscles move our body, so it makes sense that we are supposed to move. Learning about our muscles and how they help our body to move will help us make our body and our brain healthy.

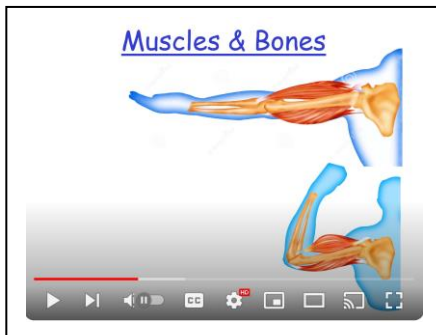
🎨 Continue playing the Story Video and stop after this slide.



As time permits (still about 6 minutes of Pt 1 of the video left)...

Ask the students to tell you what they do to make their muscles stronger and bigger.

🎨 Continue playing the video and stop after the question, "What is controlling all the moving of the muscles?".



Ok...so who thinks they know what is controlling all the moving of the muscles???. Discuss this with the students.

That's right, the BRAIN is controlling all the moving of the muscles!!!

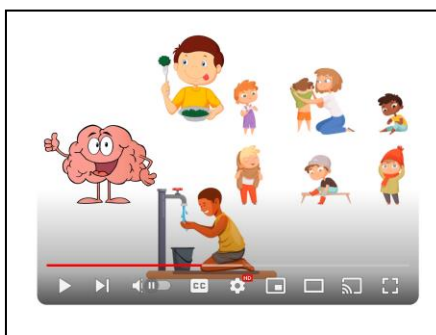
🎨 Continue playing the video and stop after "You can see that there are some differences in the body".



Ask the students...What is something about the body of the homunculus that is different than your body? (Discuss how the mouth, tongue, and hands are REALLY big.)

Ask the students...Why do you think the mouth, tongue, and hands are REALLY big on the homunculus???. If no answers...give a clue...have the students THINK about what they do with their mouth, tongues and hands in comparison to their back or stomach.

🎨 Continue playing the video to end of this slide.



So, we now know a little bit more about how and why are muscles work to keep our body.

Next, time we will see HOW moving our bodies with our muscles also makes our brain healthy.

Tell the students that you had fun talking with them today and ask them if they had fun learning.

Remind the students that the brain likes it when you are using your muscles because using your muscles moves your body and that does a lot of things to help your brain stay healthy.

Be sure to thank them for listening and the Brain Health Team of JHU students will see them soon.