

How Your Muscular System Works

You are going to watch a video by Emma Bryce on the basics of the muscular system

Emma Bryce *How your muscular system works*/ <https://www.youtube.com/watch?v=VVL-8zr2hk4>

1. BEFORE YOU WATCH

Before you watch the video answer the questions below:

- How many muscles are there in the human body?
- How many muscle types are there?
- How do they differ with respect their location, function or structure?

2. WORDS IN FOCUS

Watch the video and fill in the missing words in the script below:

Each time you take a step 200 muscles work 1/ i___ 2/ u_____ to lift your foot, 3/ p_____ it forward, and set it down. It's just one of the many thousands of tasks performed by the muscular system. This 4/ n_____ of over 650 muscles covers the body and is the reason we can 5/ b_____, smile, run, jump and stand 6/ u_____. It's even responsible for the heart's dependable 7/ t_____.

First, what exactly is the muscular system? It's made up of three main muscle types: 8/ s_____ muscle which attaches via tendons to our bones, 9/ c_____ muscle which is only found in a heart, and 10/ s_____ muscle which 11/ l_____ the blood vessels and certain organs like the intestine and 12/ u_____. All three types are made up of muscle cells also known as 13/ f_____, bundled tightly together. These 14/ b_____ receive signals from the nervous system that contract the fibers, which in turn generates 15/ f_____ and 16/ m_____. This produces almost all the movements we make.

Some of the only parts of the body whose actions aren't governed by the muscular system are sperm cells, the hairlike 17/ c_____ in our airways, and certain 18/ w_____ blood cells.

Muscle contraction can be split into three main types: the first two – shortening muscle fibres and lengthening them generate 19/ o_____ forces, so the biceps will shorten while the triceps will 20/ l_____ or relax, pulling up the arm and making it bend at the elbow. This allows us to, say, pick up a book, or if the muscle relationship is 21/ r_____, put it down. This 22/ c_____ partnership exists throughout the muscular system. The third type of contraction creates a stabilizing force. In these cases the muscle fibres don't change in length, but instead, keep the muscles 23/ r_____. This allows us to 24/ g_____ a mug of coffee or 25/ l_____ against a wall. It also 26/ m_____ our 27/ p_____ by holding us upright.

Skeletal muscles form the 28/ b_____ of the muscular system, make up about 30 to 40 percent of the body's weight, and generate most of its motion. Some muscles are familiar to us, like the pectorals and the biceps. Others may be less so, like the 29/ b_____, a muscle that

attaches your cheek to your teeth, or the body's 30/ t _____ skeletal muscle, a one-millimetre long tissue fragment called the stapedius that's nestled deep inside the ear. Wherever they occur, skeletal muscles are connected to the 31/ s _____ nervous system, which gives us almost complete control over their movements.

This muscle group also contains two types of muscle 32/ f _____ to refine our motions even further – slow twitch and fast twitch. Fast twitch fibres react instantly when triggered but quickly use up their energy and tire up. Slow twitch fibers, on the other hand, are endurance cells. They react and use energy slowly so they can work for longer periods. A sprinter will 33/ a _____ more fast twitch muscles at her legs through continuous practice enabling her to quickly, if briefly, pick up the pace; whereas back muscles contain more slow twitch muscles to maintain your 34/ p _____ all day.

Unlike the skeletal muscles, the body's cardiac and smooth muscles are managed by the autonomic nervous system 35/ b _____ our direct control. That makes your heart thump roughly three billion times over the course of your life, which supplies the body with blood and oxygen. Autonomic control also 36/ c _____ and r _____ smooth muscle in a 37/ r _____ cycle. That pumps blood to the smooth internal walls of blood vessels, enables the intestine to constrict and push food through the digestive system, and allows the uterus to contract when a person is giving birth.

As muscles work they also use energy and produce an important 38/ b _____ – heat. In fact, muscle provides about 85 percent of your 39/ w _____, which the heart and blood vessels then spread evenly across the body via the blood. Without that, we couldn't maintain the 40/ t _____ necessary for our survival.

The muscular system may be largely invisible to us but it leaves its mark on almost everything we do, whether it's the blink of an eye or race to the finish line.

3. AFTER YOU WATCH

Enumerate the various functions of the muscular system, e.g.:

- temperature maintenance
- ...

Źródło:

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mgr Joanna Mazur

