UNIT 11

MUSCLES

17 **1. Read the text about muscles and answer the questions below.**
Przeczytaj tekst o mięśniach i odpowiedz na poniższe pytania.

1 What are muscles?

2 How many muscles are there in the human body?

3 What are muscles responsible for?

4 What's the difference between a flexor and an extensor?

GLOSSARY

bend – zginać
bundle – pęczek, wiązka
extensor – prostownik
flexor – zginacz
make up – tutaj: tworzyć
opposite – odwrotny, przeciwny
posture – postawa
thereby – przez to, tym samym

Muscles

Muscles are a **bundle** of fibrous tissue that **make up** the muscular system. There are between 650–700 muscles in the human body. Muscles have the ability to contract. When muscles contract, they become shorter. When they become shorter, they pull. Muscles work in pairs. When one muscle pulls, the other one – its antagonist – pulls in the **opposite** direction. When muscles contract, they pull on the bones they are attached to, allowing the body to move. The muscle that contracts to make a part of the body **bend** at the joint is called the **flexor**. The muscle that contracts to make a part of the body straighten at a joint is called the **extensor**.

LIVEWORKSHEETS

For example: to bend an elbow, the biceps muscle contracts, while the triceps relaxes. To straighten an elbow, the triceps contracts, while the biceps relaxes.

Muscles are involved in the following functions:

- movement

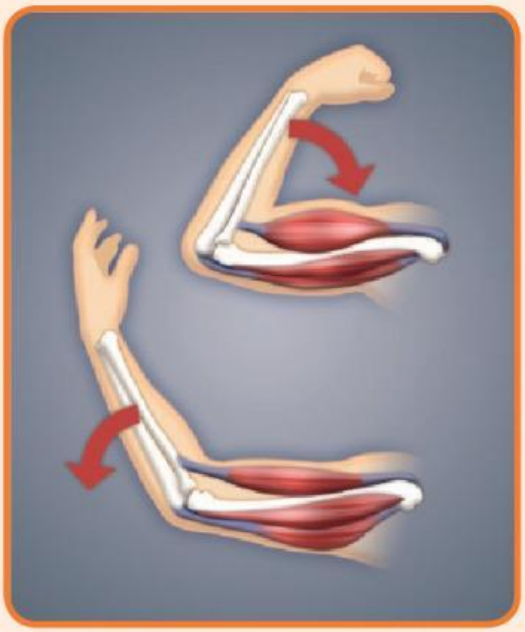
  Skeletal muscles move the bones, which in turn move the body. Muscles also help move fluids around the body (blood, urine, lymph).

- body coordination

  By contracting, muscles help maintain the correct **posture**. Without muscles people would not be able to walk or sit down.

- heat generation

  When muscles contract they generate heat and **thereby** help maintain a normal body temperature.



2. Read the text again and decide whether the following statements are true (T) or false (F).

Przeczytaj tekst ponownie i określ, czy poniższe stwierdzenia są prawdziwe (T) czy fałszywe (F).

1 Muscles are made up of connective tissue.

2 There is a fixed number of muscles in the body.

3 The flexor makes a part of the body bend at the joint.

4 To bend an elbow the triceps contracts, while the biceps relaxes.

5 Muscles are involved in the transport of bodily fluids.

LIVEWORKSHEETS

18 **3. Listen to the recording about the different types of muscle tissue and complete the sentences with the missing words.**
Posłuchaj tekstu o różnych rodzajach tkanki mięśniowej i uzupełnij zdania brakującymi słowami.

GLOSSARY

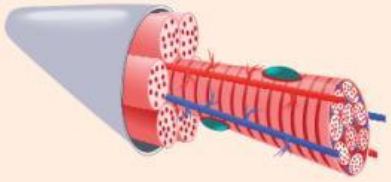
continuous – ciągły, nieprzerwany
smooth – gładki
urinary – moczowy
voluntary – dobrowolny, świadomy

Types of muscles

Based on their structure and function, muscles can be divided into three types:

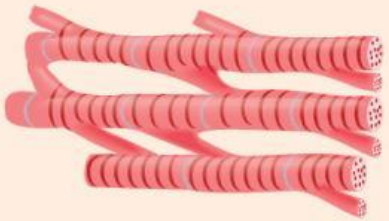
- **skeletal muscles (voluntary)**

Skeletal muscles are _____ to the skeleton (mostly). When they contract movement is possible. Talking, running, walking, moving _____ or legs is possible thanks to skeletal muscles. The way skeletal muscles work can be controlled. In other words, **voluntary** muscles _____ because people want them to contract.



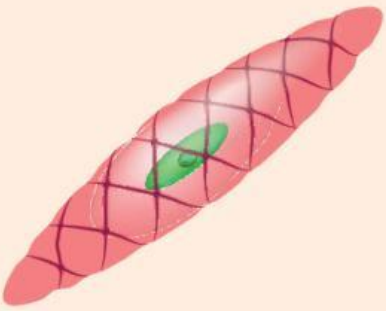
- **cardiac muscles**

Cardiac muscles are found in the walls of the heart. They work non-stop to ensure **continuous** _____ of the heart.



- **smooth muscles (involuntary)**

Smooth muscles are found in the walls of _____ and in the digestive and **urinary** system. Smooth muscles are responsible for movements in the stomach, intestines, _____ or bladder. When smooth muscles contract, their movement moves blood or urine through the tract. Unlike _____ muscles, they contract involuntarily.



LIVEWORKSHEETS

4. Translate the following sentences.

Przetłumacz poniższe zdania.

1 There are between 650–700 muscles in the human body.

2 When muscles contract, they become shorter.

3 Flexors and extensors are skeletal muscles.

4 To straighten an elbow, the triceps contracts, while the biceps relaxes.

5 To bend an elbow, the biceps muscle contracts, while the triceps relaxes.

6 Skeletal muscles are voluntary muscles.

7 Cardiac muscles work all the time to ensure the heart works properly.

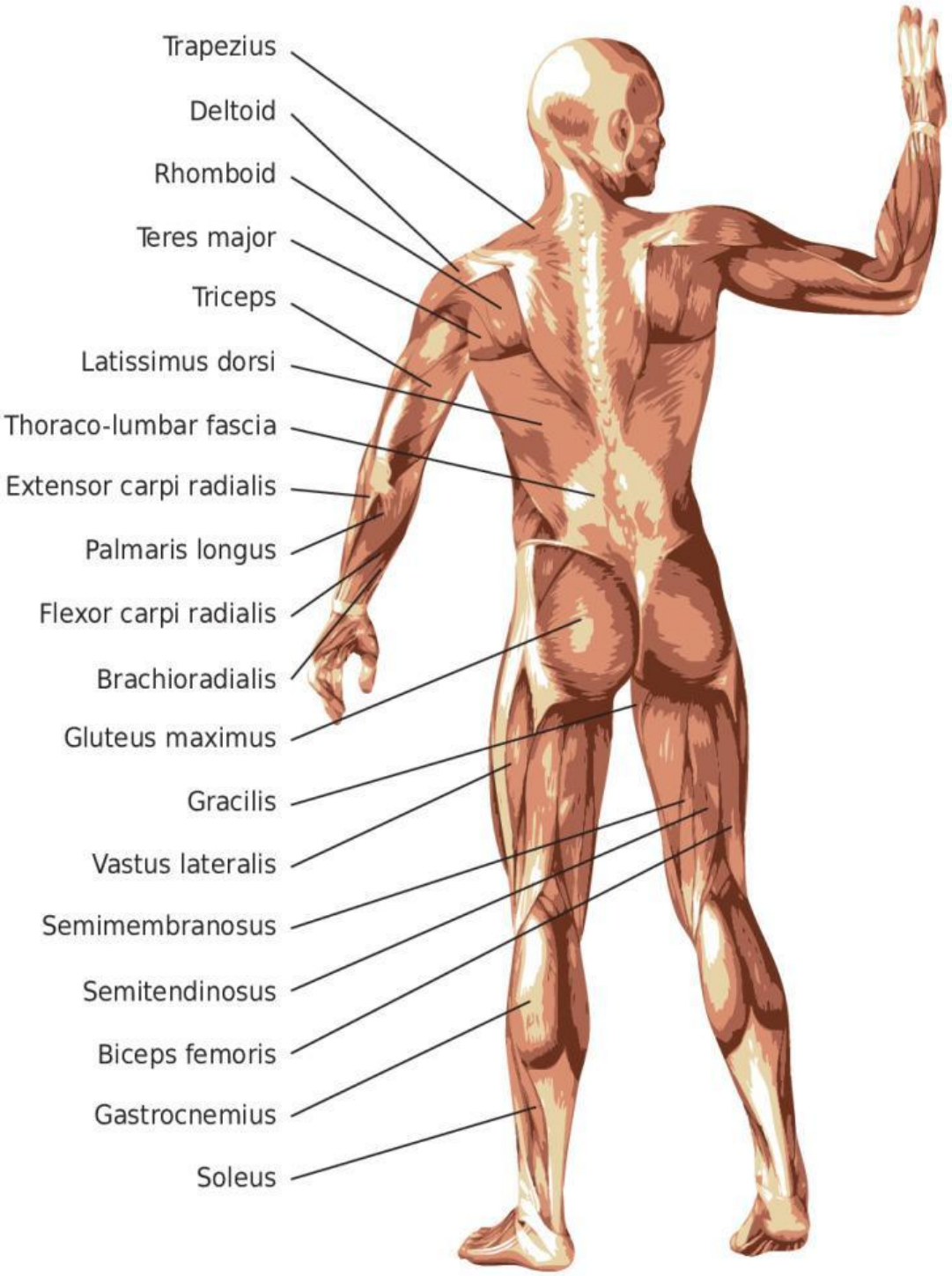
8 Smooth muscles are found in the walls of blood vessels and in the digestive and urinary system.

9 Movements of smooth muscles are involuntary.

10 When a muscle pulls in one direction, its antagonist pulls in the opposite direction.

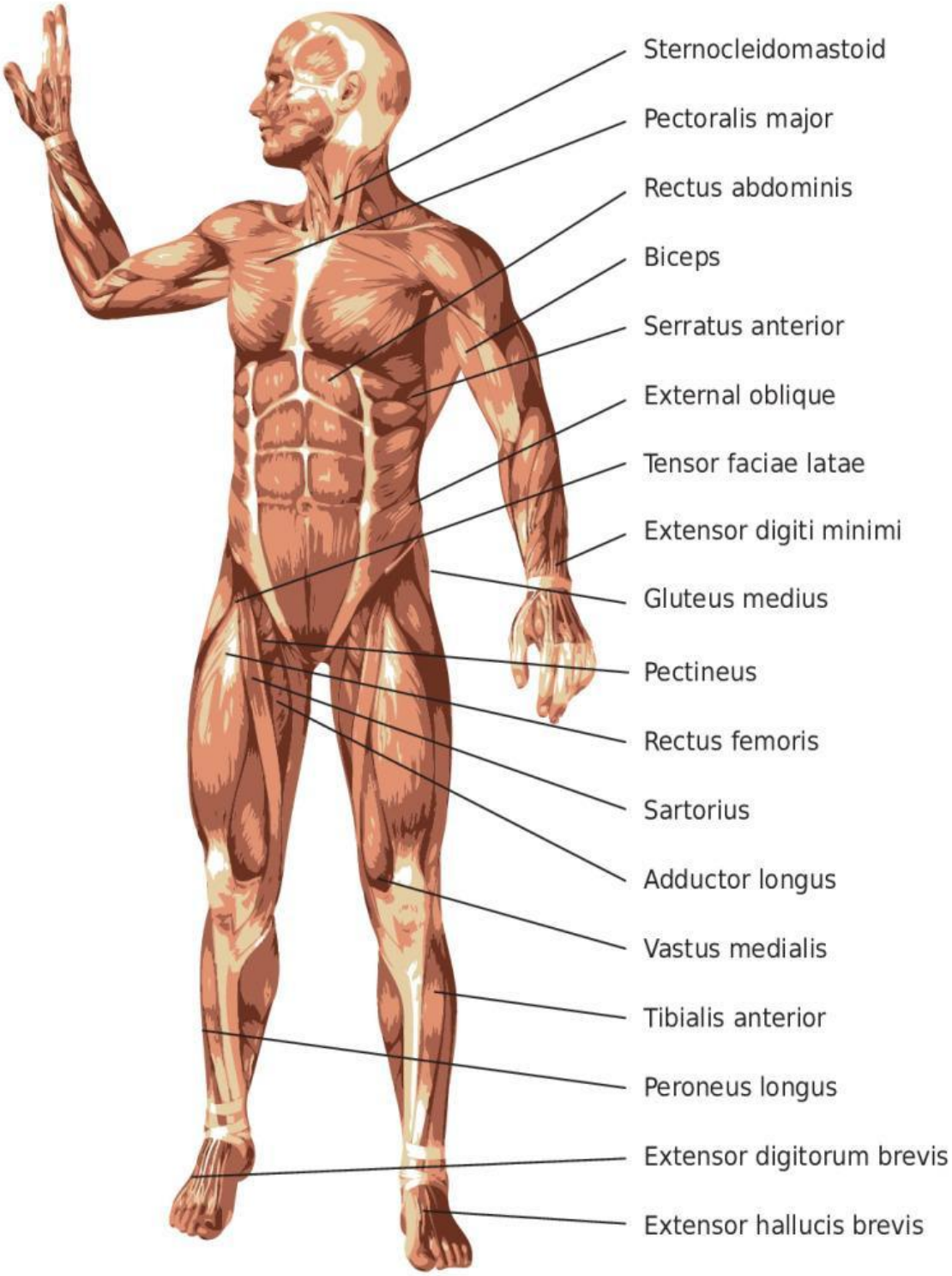
LIVEWORKSHEETS

5. Translate the names of the muscles in the pictures.
Przetłumacz nazwy mięśni na rysunkach.



LIVEWORKSHEETS

Muscles 11



LIVEWORKSHEETS