

Amazing facts about human body

Worksheet 1 Teacher's notes

1. Human body is an amazingly functioning system. Can you name any of the internal organs? Can you name their functions?

2. Now let's play a game. In pairs try to find the answers to these questions:

- What is a cell?

Cells are the basic building blocks of all living things. The human body is composed of cells. They provide structure for the body, take in nutrients from food, convert those nutrients into energy, and carry out specialized functions. Cells also contain the body's hereditary material and can make copies of themselves.

- How many types of cells are there?

There really is no way to know exactly how many types there are. What we do know is that there are about 210 distinct human cell types and Three distinct types of plant cells.

- Why do people have hair?

Hair used to be a whole lot more purposeful than body ornamentation. Sure, we realize that it protects us from the sun. Our eyelashes act as defense against bugs, dust and other foreign particles. But back in the day, the hair covering our nether regions camouflaged our reproductive parts from threats. By lining our armpits and groins, our [dry hair](#) actually lubricates our arms and legs, so we can move about without chafing. For early humans, hair kept them warm, provided camouflage, protected them from cuts and even served as a nice handhold for the young. We lost a lot of hair because of the invention of heaters and parkas. Our ancestors most likely started hunting in hot, tropical areas.

- Why are we taller in the morning than in the evening?

We are taller in the morning than in the evening because during normal activities during the day the cartilage in our knees and other areas slowly compress, but when you go to sleep and rest the cartilage goes back to normal. On average we are about 1cm taller the morning than in the evening.

- What is the largest organ of the body?

The largest organ in the human body is the one you can see most easily: the skin. The skin is considered an organ because it has some very specific functions — like maintaining body temperature and protecting the other organs from bacteria — that require some specialized tissues. The skin of an average adult has a surface area of over 21 square feet and accounts for 6% to 10% of your body weight, edging out the liver, your body's second-largest organ, which accounts for approximately 2.5% of your body weight.

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- How many kilograms of skin do we shed on average during our lifetime?

According to various estimates, an average human adult sheds about 8lbs of skin each year. This is equivalent to about 3.6 kg. For average life span of over 75 years, this would amount to 600lbs or 272kg.

- Why do hair go grey when we grow older?

Each [hair](#) on our heads is made up of two parts:

*a **shaft** — the colored part we see growing out of our heads*

*a **root** — the bottom part, which keeps the hair anchored under the scalp*

*The root of every strand of hair is surrounded by a tube of tissue under the [skin](#) that is called the hair **follicle** (say: FAHL-ih-kul). Each hair follicle contains a certain number of pigment cells. These pigment cells continuously produce a chemical called **melanin** (say: MEL-uh-nin) that gives the growing shaft of hair its color of brown, blonde, red, and anything in between. Melanin is the same stuff that makes our skin's color fair or darker. It also helps determine whether a person will burn or tan in the [sun](#). The dark or light color of someone's hair depends on how much melanin each hair contains. As we get older, the pigment cells in our hair follicles gradually die. When there are fewer pigment cells in a hair follicle, that strand of hair will no longer contain as much melanin and will become a more transparent color — like gray, silver, or white — as it grows. As people continue to get older, fewer pigment cells will be around to produce melanin. Eventually, the hair will look completely gray.*

- Why do we have two sets of teeth?

At around 6 or 7 years old, our baby, or milk teeth, start to loosen and eventually fall out. This is a natural process and soon new teeth replace the ones that fall out. The baby teeth actually help in making sure that the “permanent” teeth erupt in their natural spot. Lower organisms on the evolutionary chain that have teeth can sometimes develop new teeth throughout their lifespan. The teeth of these species are usually designed for slashing, while the teeth of higher life forms are designed for chewing. Human baby teeth stimulate and guide the development of jawbones and permanent teeth. This means that even though the teeth are “temporary”, they are still important and should be taken care of.

A theory exists indicating a child's teeth would be too small for an adult mouth, hence the need for the smaller teeth to be replaced with larger teeth. There are normally only 20 baby teeth compared to 28-32 adult teeth.

- How many facial muscles do we use when we smile? 40
- What is the longest muscle in the human body?

The sartorius muscle is the longest muscle in the body. It is narrow and ribbon-like and stems from the iliac spine and the upper half of the notch below it. It slants across the front of the upper thigh from the side to the middle and then descends vertically to the knee. It ends in a tendon that

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expands to be inserted into the surface of the body of the tibia (leg bone). The sartorius flexes, abducts (moves away from the body), and rotates the thigh sideways at the hip.

- How many muscles are there in the human body?

The number of muscles in the human body varies from about 656 to 850, depending on which expert you consult. No exact figure is available because there are a variety of opinions about what constitutes a distinct muscle (versus a part of a complex muscle). Also, there is some variability in muscular structure between individuals.

- Name the smallest bone in the human body.

The smallest bone in the body is in your ear and is called the stirrup bone (stapes). It is only 0.25 to 0.33 cm long (0.10 to 0.13 in) and weighs only 1.98 to 4.3 mg.

- How many heart beats are there in a day?

The heart beats about 100,800 times a day! Approx. 100,000 beats per day. About 35,000,000 per year. That depends on how fast your heart is beating. A normal heart rate is between 60 and 100 beats per minute. This means that the normal number of beats for a day would be between 86 400 and 144 000.

- How many liters of blood are filtered by the kidneys every day?

The rate of filtration is approximately 125 ml/min or 45 gallons (180 liters) each day. Considering that you have 7 to 8 liters of blood in your body, this means that your entire blood volume gets filtered approximately 20 to 25 times each day!

- How fast does the nerve impulse travel to and from the brain?

Depending on the type of fiber, the neural impulse travels at speed ranging from a sluggish 2 miles per hour to, in some myelinated fibers, a breackneck 200 or more miles per hour. But even this top speed is 3 million times slower than the speed of electricity through a wire."

3. Read some more about the amazing facts of a human body:

<http://www.medindia.net/facts/index.asp?startpage=1>

<http://www.makemegenius.com/cool-facts/human-body--systems-biology-interesting-facts>

<http://health.howstuffworks.com/human-body/parts/16-unusual-facts-about-the-human-body.htm#page=1>

and share the ones you find the most interesting with the rest of the class.

students' own answers