Human Body Systems

It does not matter if you are looking at a newborn baby or a basketball player, all humans have bodies that are very similar to each other. Each body has the same parts and functions. The outside package is just different.

Every body has pieces that are so small they can only be seen with a microscope. Most of these pieces lead to bigger and bigger parts of a chain. These chains are known as function systems.

Just like every living and non-living thing on earth, human bodies are made of atoms and molecules. These come together to form cells.

Cells are the smallest whole pieces in all living things. Every cell can be identified under a microscope. Each body part has special cells formed only for that area. You will not find a liver cell in the skin.

Read each sentence below. Fill in the missing word.

1. Each _________________________________ has the same parts and functions.

2. Every body has pieces that are so small they can only be seen with a
   _________________________________ .

3. Each body part has special ________________________________ formed only for that area.

4. Just like every living and non-living thing on Earth, human bodies are made of
   ________________________________ and molecules.
Most parts of your body are making new cells all the time. Although humans are not able to grow new body parts like lizards and starfish, our bodies do replace cells on a regular schedule. The cells reproduce themselves by dividing. This is how our bodies are able to grow as we get older.

Our bones make up the skeletal system. Babies have more bones than adults. Adults have about 206 bones. There are bones that do not move, like the ones in your skull. Other bones are designed to move with help from the muscles.

Bones hold your body together and protect the softer parts of your body. Your ribs are like a cage that goes around your heart and lungs. The skull protects your brain.

Read each word below. Write the definitions on the lines.

1. skeletal

2. muscle

3. skull
Deep inside your bones is a factory for making the parts that travel in the blood. These are the red blood cells, the white blood cells, and the platelets.

Red blood cells carry oxygen to all areas of the body. They are carry the carbon dioxide ready for removal.

Platelets are shaped like a small disk and make a scab when you have an injury. The platelet cells clump together in what is called a clot. That stops the bleeding. It also provides the elements needed to start the skin healing.

White blood cells are your body soldiers. They fight infections caused by dirt and bacteria. They will gather around the invading particles and surround them.

Your body then gets rid of the infection and the dead white cells.

Draw a picture of a skeleton.
Most bones come together at joints. A rubbery material called cartilage covers the ends of the bones to keep them from rubbing together. Cartilage is also in the end of your nose and your earlobes.

Our bones move by the actions of a group of tissues called the muscular system. The muscles, tendons, and ligaments belong to this group. Muscles can be very small like the ones that move your eyes. Large muscles are found in your legs, arms, and around your chest.

The muscles are attached to the bones by the ligaments. Ligaments are very stretchy, like rubber bands.

Tendons are tougher fibers that go from muscle to muscle, usually passing by a joint. Both tendons and ligaments work to keep the bones and muscles going in the right directions.

Muscles are found in groups. A muscle group can only move in one direction. They only pull the body area they are attached to. Another muscle group pulls it back.

Look up information about how to build muscles, and write about it below.
Do your research in books or on the Internet.

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Some parts of your body turn food into fuel for your body and into waste products that you get rid of in the bathroom. This group of passages and organs is called your digestive system.

The digestive system includes your mouth and throat.

The chewed food continues to your stomach and small and large intestines.

The liver and pancreas send special juices to help break down the food.

Solid wastes are passed down the intestines and end up in the bowels.

The liquid wastes are filtered by the kidneys before moving on to the bladder.

The bladder and bowels hold these wastes until they are eliminated.

System Organs

Color the word.
Every part of your body except your hair and nails has tiny arteries and veins going to it. The arteries carry fresh blood full of oxygen and nutrients to all areas of the body. The veins pick up waste products from the body cells and carry them back to the heart.

Your heart is a little to the left of the center of your chest. The veins bring the blood from the body into the right side of the heart. From there, the blood is sent up to the lungs to release the load of carbon dioxide it picked up on its long journey through your blood stream. This is like a cleaning area for the blood.

While in the lungs, the blood picks up the oxygen that you bring in with each breath. The blood then goes back into the heart on the left side this time. Now the clean blood that is filled with oxygen and nutrients travels out the left side of the heart into the arteries. The arteries get smaller and smaller as they travel away.

The cycle will be completed when the blood once again passes through cell walls to get into the veins. Your heart will send about 2,000 gallons of blood a day on this trip. It does this entire job without you even having to think about it. The heart is a large involuntary muscle.

Read each sentence below. Fill in the missing word.

1. Your heart sends about _____________________________ gallons of blood a day through your veins.

2. Your heart is to the _____________________________ of the center of your chest.

3. Veins carry _____________________________ throughout your body.

4. _____________________________ get smaller and smaller as they travel away.
The respiratory system is what makes you breathe.

Air comes in through the mouth or nose and travels to the lungs. When you breathe through your nose, tiny hairs capture any dirt, pollen, and many germs to keep them from getting into your body. This dirt and pollen is captured in mucus. The mucus can be gotten rid of by a sneeze or a runny nose.

When you breathe through your mouth, some of this filtering job is done by the saliva in your mouth and the tonsils at the back of your throat. The job is handled much better by the nose.

The lungs are large balloon like tissues lined with tiny blood vessels and air sacs. It is spelled sac and not sack when talking about the lungs. A large muscle called the diaphragm helps the lungs open and close as you breathe.

Oxygen from the air is absorbed by the little sacs called alveoli. The oxygen is passed to the veins that are on their way to the heart. These veins deposit carbon dioxide in the alveoli. They bring it to the lungs from all over the body. Carbon dioxide is made by the body as it uses energy. The carbon dioxide gathers together in the lungs and is sent out as you exhale.

Just like your circulatory system, the respiratory system works on a regular cycle. The cycle is controlled by involuntary muscles. You may change the way you breathe but only by thinking about it. Your body will handle it for you if you forget to breathe.

Read each sentence. Circle true or false.

1. The ___________________________ system is what makes you breathe.

2. Air comes in through your mouth or ______________________ and travels to your lungs.

3. ____________________________ from the air is absorbed by little sacs called alveoli.
The brain holds all the information about what is happening in your body at any time. It also contains information about who you are. It holds your memories and your skills. One thing the brain does not have is pain sensors. Nerves and blood vessels that connect to the brain can feel and cause pain. The brain all by itself cannot feel pain.

Just like your circulatory system, the nervous system travels to every part of your body. Messages are sent to your brain from the millions of tiny nerves. The brain sends a message to your muscles about what to do next. These messages travel back and forth very quickly thousands of times a day.

Sometimes there is not enough time for the nerves to wait for a command from the brain. Your body is able to make quick movements to avoid danger. These movements are called reflexes. When you touch something hot, your hand jerks out of danger. Your pain reflex protected you.

Your nervous system is run by electric pulses. These are created by chemical reactions. The chemicals come from the foods you eat. They may also come from any medicines you are taking. Some chemicals may make your nervous system stronger and better. It is a proven fact that many chemicals can cause damage to your brain and nervous system.

Read each question below. Circle true or false.

1. The nervous system is mostly controlled by your back.
   true  false

2. The brain holds information about what is happening in your body.
   true  false

3. Messages are sent to your brain by millions of tiny computers.
   true  false
There are many organs in your body. We have talked about most of them like the stomach and heart. The biggest organ is your skin.

There are millions of openings in your skin called pores. These pores allow your skin to breathe. Oxygen is absorbed and carbon dioxide is expelled.

**Hair** is found on almost every part of your skin. It is there to protect the skin from harmful weather. Sweat glands are also found on many areas of the skin. They release water to the skin to cool it off. Air causes the sweat to dry and make the skin feel cooler. Sometimes the heat that triggered the sweat is from the weather. Sometimes it comes from inside your body.

The **endocrine** and **exocrine systems** control small areas in your body that produce special liquids and chemicals. Sweat, tears, saliva, and mucus are produced by the exocrine system.

Fit each of the words below into a word shape puzzle.

body  system  skin  glands  organs  oxygen
Your body works together to help you live a good and healthy life. Sometimes an illness or injury causes parts of your body to stop working. Sometimes a body part might need to be removed or replaced.

There are a few parts that can be removed from your body without causing harm. In fact, sometimes more harm will come by leaving them in. These parts are usually the ones that filter harmful bacteria or chemicals from your food, air, or blood. When they are no longer able to do their job, they hold infection instead of fighting it. They then become dangerous to you.

These parts are the tonsils, the gall bladder, and the appendix. Sometimes a kidney might need to be removed. You can have a perfectly long and healthy life if you have to have these operations.

Think of many ways you can take care of your body. Write about it below.

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It is possible to survive with half a liver. The liver is the only major human organ that can grow itself back to normal size.

Some people register for organ donations. A person can give part of their liver, a kidney, or some bone marrow to help save another person’s life. Usually it is a very close relative, maybe a sister or brother or parent or child. These donations do not cause permanent damage to the person making the gift. Many tests are done to get a very good match for the sick person. Organ donation is a decision that can only be made legally by an adult.

Some of these diseases and injuries can be avoided by taking care of your body properly. Wearing seat belts in a car is a very good step to take. Also wearing protective pads and a helmet when you are on people powered wheels like bikes, skates, scooters, and skateboards will keep you safer.

Be aware of the foods and other things you put into your body. Never take any medicine that your doctor or parents have not given to you. Watch out for the chemicals in packaged food. Be aware of what chemicals might be in the air around you. Paint, gasoline, and some glues can affect your brain and body.

Your body and all the marvelous systems in it are working hard to keep you alive and healthy. Give them all the help you can.
Human Body Systems

Spelling
Print the correct spelling word on the line.

1.  humon
    humaan
    human

2.  blede
    boold
    blood

3.  breathe
    breathe
    braethe

4.  mucssel
    muscle
    moscle

5.  skeleton
    skellton
    skelaton
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WORD UNSCRAMBLE

Unscramble each word and print the word on the line.

kins

lecl

dyob

uhamn

csleum

gsunl
WORD FIND
Find and circle these words. They run down, across, and diagonally.

blood
respiratory
cells

skin
muscles
body

organs
system
sense

heart
ears
lungs

cells

Human Body Systems

lung sl lb blood nids
g hr hct nbasxmlle
m h e hae e e v s k y o i u a
aesrubl y migr gbr
mlphar l lhn eghbs
mpisms obusmnat en
afrcclwnrneugnhrt
luatynib ds ssej u
sltav es moc is a sl
frobodydslkkrapa
dbrnsenseenstct
prysw bxb nsmsgb
dys temlp i pper
CRISS CROSS
Can you fit these words into the criss cross?
Use a pencil so you can erase if you need to.

- muscle
- blood
- heart
- cells
- skin
- lungs
- organs
- respiratory
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Answers

Page 09 - continent, water, chain, coast, people

Page 10 - size, chain, country, snow, world, river

Page 11 -

Page 12 -
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