Make annotation of the text and write out parts and systems of the body:

**Text A. The** **Human** **Body**

You are a person; you have a wonderful body with a head, stomach, back, chest legs, arms, eyes and ears. Your body obeys you. When you want to sit down, you sit, when you want to stand up, you stand. If you want you can lie down or you can run. Now you are reading this sentence. Your eyes see the letters and your brain understands what words they make and what each word means. Your fingers turn the pages, you hear the sound of voices you may answer questions.

It all seems so simple. But you probably do not realize what complicated things are going on in your body right now. Try to answer the questions:

Why do you always inhale and exhale air and are unable to hold your breath for even a few minutes?

Why do you have to eat and drink several times a day and cannot live even a week without food and water?

What is inside you and how is your body built? How do your heart, lungs, muscles and brain work?

Why do your legs not obey you sometimes, and why do your eyes grow heave and close?

Why do you sometimes get sick and have to ask the doctor to come and put your body back in order again?

What should you do that the parts of your body always work well and you become stronger and stronger each day?

These questions are about you and your body. Human body is very a very complicated machine. Your entire body is covered with the skin. It is not transparent, so you cannot see what is underneath. You know that under your skin you have muscles. You know where your stomach and intestines are. You also know where your lungs are. You know where your heart is and sometimes even hear it beating. But inside your body other very important organs are hidden too – your liver, spleen, kidneys and glands. You also have sense organs .These are your eyes, ears, nose, tongue and skin. Your body also contains a dense network of nerve fibers all of these make their way to the most important organ in your body, your brain, which is safely concealed inside your head. And finally, deep inside your body are the bones of your skeleton.

Anatomy is science which deals with the structural organization of the body, and physiology studies body functions.

**Text B. Respiratory System**

The respiratory system is one of the major systems in the human body; it is made up of several organs that work in tandem to help you breathe. This system includes your airways, your lungs, and the blood vessels and muscles attached to them that work together so you can breathe.

Components of your respiratory system:

|  |  |
| --- | --- |
| **Major Organs** | Nose, mouth, larynx, pharynx, trachea, lungs, bronchi |
| **Upper Respiratory Tract** | The nose, nasal cavity, sinuses. Larynx and trachea. |
| **Lower Respiratory Tract** | The lungs, airways (bronchi and bronchioles), and air sacs, or alveoli. |



The respiratory system’s main function is to supply oxygen to all the parts of your body. It does this through breathing: inhaling oxygen-rich air and exhaling air filled with carbon dioxide, which is a waste gas.

This is how the respiratory system works: first, you breathe air in through your nose and mouth, which wet and warm the air so it won’t irritate your lungs. Then the air travels through your voice box, the [larynx](http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookglossL.html#larynx). The vocal cords are two bands of tissue that extend across the opening of the larynx, then air passes down your windpipe, the [pharynx](http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookglossPQ.html#pharynx) (which has the [epiglottis](http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookglossE.html#epiglottis) that prevents food from entering the trachea).

After passing the larynx, the air moves into the [bronchi](http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookglossB.html#bronchi) that carry air in and out of the lungs.

Bronchi branch into smaller and smaller tubes known as bronchioles. Bronchioles terminate in grape-like sac clusters known as alveoli. A network of thin-walled capillaries surrounds alveoli. In the alveoli, gas exchange takes place. Oxygen from the pulmonary alveoli rushes into the blood. Carbon dioxide from the blood penetrates the pulmonary alveoli. Cilia, tiny mucous-covered hairs, in your airways trap foreign particles and germs to filter the air that you breathe. You then cough or sneeze the particles out of your body. The lungs are large, lobed, paired organs in the chest (also known as the thoracic cavity). Thin sheets of epithelium (pleura) separate the inside of the chest cavity from the outer surface of the lungs. The diaphragm forms the bottom of the thoracic cavity.

The diaphragm, abdominal muscles, and other muscles help your lungs expand and contract so you can inhale and exhale. When you inhale, the air goes through the bronchi in your lungs to blood vessels that connect to veins and arteries. These veins and arteries carry the blood throughout your body. When you exhale, the carbon dioxide goes out the same way, exiting your body through your nose and mouth. If you cannot breathe or cannot breathe well, your body will not receive enough oxygen to keep it running, and it will also be poisoned by the carbon dioxide that is building up in your blood with nowhere to go.

Fun Fact: You breathe in and out anywhere from 15 to 25 times per minute!



Answer the questions:

1. What organs of the respiratory system do you know?

2. What gases are involved in breathing?

3. What is the role of this system?

4. What is the influence of physical activity on the body’s respiratory system? Why do we breathe more quickly and deeply when we exercise?

**Try to describe the movement of oxygen and carbon dioxide in and out of the respiratory system. You may use the following scheme.**

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**Тестовые задания по теме:**

1. BRONCHI BRANCH INTO SMALLER AND SMALLER TUBES KNOWN AS … .

1. [bronchioles](http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookglossB.html%22%20%5Cl%20%22bronchioles)

2. alveoli

3. arteriole

4. capillaries

2. BRONCHIOLES TERMINATE IN GRAPE-LIKE SAC CLUSTERS KNOWN AS….

1. grapes

2. don’t know

3. alveoli

4. capillaries

3. ALVEOLI ARE SURROUNDED BY A NETWORK OF THIN-WALLED … .

1. [bronchioles](http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookglossB.html#bronchioles)

2. arteriole

3. alveoli

4. capillaries

4. THE … ARE LARGE, LOBED, PAIRED ORGANS IN THE CHEST.

1. kidneys

2. ovaries

3. lungs

4. glands

5.… IS THE MECHANICS OF BREATHING IN AND OUT.

1. breathing in

2. breathing out

3. don’t know

4. respiration

6. AIR ENTERS THE BODY THROUGH THE … .

1. bronchi

2. nose

3. lungs

4. arteriole

7. THE UPPER PART OF THE TRACHEA CONTAINS THE … .

1. tongue

2. glands

3. capillaries

4. larynx

**DISEASES OF THE RESPIRATORY SYSTEM**

Text A. **Acute Bronchitis**

Acute bronchitis, like other inflammatory affections of the chest, generally arises as the result of exposure to cold, particularly if accompanied with damp, or of sudden change, from a heated to a cool atmosphere. It may also arise as the result of inhaling irritating dust or vapours. Great numbers of bacteria are commonly found in the expectoration, and the formed by these are presumably responsible for aggravating the condition.

**Symptoms.** The symptoms vary according to the severity of the attack, and more especially according to the extent to which the inflammatory action spreads in the bronchial tubes. The disease usually manifests itself at first in the form of a catarrh, or common cold. A short, painful, dry cough, accompanied with rapid respiration, pain in the throat and behind the breastbone, a feeling of tightness throughout the chest and discharge from the bronchial mucous membrane mark the early stages of the disease.

When the ear or the stethoscope is applied to the chest of a person suffering from the attack there are heard in the earlier stages snoring sounds, mixed up with others of wheezing or fine whistling quality, accompanying respiration.

As the disease progresses these sounds become to a large extent replaced by bubbling character, which are termed moist sounds or râles.

Acute bronchitis must at all times be looked upon as a severe and serious ailment but there are certain circumstances in which its occurrence is a matter of special anxiety the physician. It is dangerous and mortality statistics show it to be one of the fatal diseases.

**Treatment**A bed regimen in a warm room for a few days and the use of light diet, together with warm drinks, warm milk being especially beneficial.

Medicines to break the fever and promote perspiration are recommended in the earlier stages. Some tablets and cough mixtures are administered.

НАЙДИТЕ ЭКВИВАЛЕНТЫ СЛЕДУЮЩИМ СЛОВОСОЧЕТАНИЯМ:

Воздействие холода, тяжесть приступа, учащенное дыхание, ранняя стадия заболевания, статистика смертельных случаев, смертельное заболевание, микстура от кашля.

Text В. **Lobar Pneumonia**

Lobar pneumonia is an acute medical emergency, and the advent of the newer specific therapeutic measures requires that the diagnosis be made as soon as possible so that treatment may be commenced early in the disease. Lobar pneumonia is a specific acute infectious disease which involves an entire lung or part of a lung. Sometimes both lungs are completely involved in the pneumonic process.

It has been customary to recognize four stages of pneumonia and in the clinic diagnosis it is very important to have these various phases of the disease in mind:

1. Engorgement of the lung.
2. Early consolidation.
3. Complete consolidation.
4. Resolution.

**Signs and symptoms.** Pneumonia does not always begin according to the classical textbook description with chills, fever, pain in the chest, and expectoration of bloody or rusty sputum, but it frequently does. It is well to remember that pneumonia is a disease that sets in abruptly. There may or may not be a preceding upper respiratory infection with a cough. Frequently the first evidence of pneumonia is a feeling of prostration which is due to the early bacteremia. Then coughing begins, and there may be bloody expiration. Even at this early stage, the sputum may contain the pneumococcus. When the patient has a chill with a rapid, bounding pulse, fever, and pain in the side of the chest, the diagnosis is easily made.

While lobar pneumonia is a term applied to consolidation of an entire lobe, a lung, or both lungs, bronchopneumonia is a term applied to areas of consolidation disseminated throughout both lungs. The isolated small patches of consolidation may at times become confluent, and make the diagnosis difficult.

There are some other types of pneumonia. For example, Aspiration Pneumonia**.**

It’s inflammation, usually accompanied by resulting infection, of the lungs following the aspiration (inhalation) of irritating substances, especially stomach contents.

Bacterial Pneumonia **–**lung infection caused by any of a variety of bacteria.

Viral Pneumonia – lung infection caused by a virus.

Text C.**Pulmonary Tuberculosis (TB)**

Infectious illness that can be very slow and silent in appearing. Most often involves lungs (pulmonary tuberculosis).

**Symptoms:** There may be no symptoms at first, then gradual start of cough, fatigue, loss of both appetite and weight. Cough may produce bloody sputum. Low-grade fevers, especially in the afternoon, and night sweats may occur later. General feeling of not being well.

**Severity of Problem:** Without treatment, the patch of infection forms a cavity of pus in the lung. Severe forms leave lung scars and chronic progressive lung disease.

**Contagious?** Yes, by contact with sputum and secretions of a person with untreated ТВ. People with ТВ who are not coughing and have been taking anti-TB medication for over two weeks are not contagious.

**Treatment:** Depends on type and severity of disease but consists of drug treatment for at least one year, often longer. Depending on location and severity of disease, one to three anti-TB drugs are used. Hospitalization may or may not be needed. Rest and good, balanced nutrition are very important. People in contact with persons with untreated ТВ or those who show a positive ТВ skin test but no other signs of disease are treated preventively for at least one year with the drug isoniazid.

**Prevention:** Screening of all children periodically to detect and treat those with positive tests is important. Adults with positive skin tests or those who have contact with people likely to have ТВ need routine chest X-rays to detect ТВ lung disease. A vaccination is available but is used only in areas where risk of ТВ is very high.

**Discussion:** Certain factors can make a person susceptible toТВ: general weakness and illness; malnutrition; alcoholism; measles; diabetes; the occupational disease silicosis; and chronic use of steroid (cortisone-related) drugs. Children and much debilitated, chronically ill adults are at risk for ТВ.