

Training Notes
For
Community Animal Health Workers

**Components of the
Animal Body**

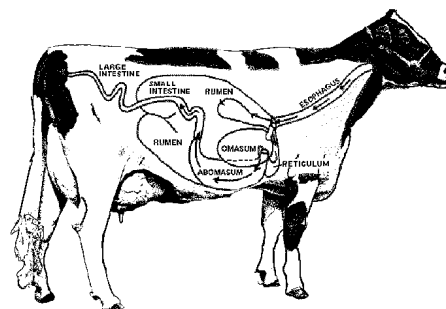
Small Scale Livestock and Livelihoods Program
PO Box 1604, Lilongwe Malawi



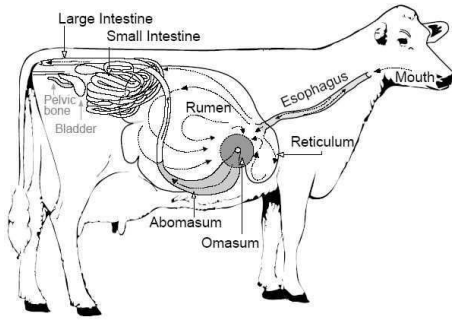
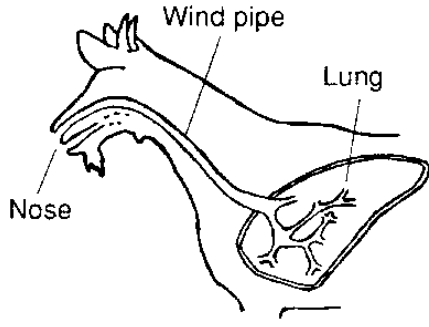
Components of the Animal Body

The Animal Body

- An animal body is made up of millions of tiny cells. Most of the body is made up of cells. Cells come in various types. There are cells that make up the muscles, cells that make up the skin, cells that make up the bone, even cells that make up the blood.
- We think of the body in terms of organs. An organ is one particular piece or structure in the body and it has specific functions. For example, the kidney is an organ which filters the blood; the heart is an organ which pumps the blood; the eye is an organ with which we see things.
- We also think of the body in terms of systems. These systems control particular functions and each involves several organs.
- Some of the main systems of the body are shown here.



Body Systems:

System	Function
<p>The digestive system</p>	<p>Allows food to be absorbed and used for growth</p>  <p>The diagram shows a cow from the side with its internal digestive organs labeled. The mouth is at the front, leading to the esophagus. The rumen and reticulum are large, sac-like structures in the upper abdomen. Below them are the abomasum, omasum, and small intestine. The large intestine is located in the lower abdomen and pelvic region. Other labels include the pelvic bone and bladder.</p>
<p>The respiratory system</p>	<p>Uses oxygen from the air for energy</p>  <p>The diagram shows a cow's head and neck in profile, with the respiratory tract highlighted. The nose is at the front, leading to the wind pipe (trachea) which runs down the neck. The lung is shown in the chest cavity.</p>
<p>The circulatory system</p>	<p>Circulates blood through all organs to keep them alive</p>
<p>The nervous system</p>	<p>Controls muscles and other organs</p>
<p>The musculo-skeletal system</p>	<p>Enables animals to move using their muscles and bones</p>
<p>The urinary system</p>	<p>Filters the blood and gets rid of the waste as urine</p>
<p>The immune system</p>	<p>Fights diseases</p>

- Let's look in a bit more detail at some of the key organs of the body which are important.

Body Organs:

Organ	Function
Stomach	The stomach produces substances which break down the food and turn it into a thin paste which then flows into the intestines.
Intestines	The intestines absorb the good nutrients from food for use by the body, leaving the waste as faeces.
Liver	The liver purifies the blood and gets rid of old useless blood cells. The liver also adds bile into the intestines which helps to absorb the nutrients. If the liver is not working, the animal will rapidly get sick and die. Some diseases reduce the efficiency of the liver. Some parasites can enter and live in the liver.
Kidney	The kidney cleans the blood and gets rid of the waste as urine. Some diseases cause blood to get past the kidney and into the urine, turning it red.
Lungs	The lungs absorb oxygen from the fresh air and transfer it to the blood. They also get rid of stale air from the blood. Air comes in and out of the lungs through the windpipe (trachea).
Blood	Blood carries oxygen and nutrients to the organs so that they can do their work. It also carries waste away from those organs so that it can be processed in other organs like the kidney.
Heart	The heart pumps the blood throughout the body. The heart beats because it is pumping.
Arteries	Arteries are tubes (or vessels) through which blood is pumped to organs. The blood always remains within vessels, some of which are very tiny. Blood should never get outside the arteries and veins. When blood escapes from the tiny vessels under the skin, it appears as a bruise.
Veins	Veins are tubes through which blood flows back to the heart.
Brain	The brain is a control centre for all the nerves in the body. The brain controls the muscles. Diseases which affect the brain can cause convulsions and circling behaviour. The brain also controls the senses, things like hearing, balance, sight, smell, taste and touch.
Nerves	The nerves are like an electrical system so that muscles can be controlled. Nerves carry messages between the brain and the organs of the body.

Organ	Function
Lymph nodes, spleen and bone marrow	<p>These organs produce antibodies and cells for fighting disease. They also produce new blood cells to replace the old ones.</p> <p>Some diseases cause the lymph nodes and spleen to swell up. Good nutrition is important so that these organs can fight disease.</p>

Exercise:

Purchase an animal and slaughter it. Identify the body organs listed above.

This exercise can also examine the signs of disease, if any, in the live animals, as well as the pathology of any diseases present in the slaughtered carcass.

Review questions

1. Name some of the main systems of the animal body.
2. What is the function of the following body organs?
 - Intestines
 - liver
 - kidney
 - lungs
 - heart
 - blood