



Animal Systems Interactions in Real Life

Interaction Cards

1

These three organ systems work together to digest fats with special enzymes and transport the digested fats to the bloodstream.

2

Both of these two organ systems work together to regulate the body temperature.

3

These two organ systems interact to protect the body from infection by producing lymphocytes.

4

Without the interactions between these five systems, running would be difficult due to the need for coordination between breathing, pumping enough oxygen in blood to cells, and moving muscles and bones.

5

These three organ systems work together to break down food molecules that contain protein biomolecules.

6

These two organ systems both contain white blood cells which help fight infections.

7

These two organ systems interact to produce hormones and transport them to their targeted areas.

8

Both of these two organ systems work together to allow clean air into the upper respiratory tract by removing particles with nasal hairs.

9

These two organ systems interact to protect the body from infection, filtering bacteria out of the infected site.



Animal Systems Interactions in Real Life

System/Parts Cards

Immune System		Digestive System	
Functions	Parts	Functions	Parts
<ul style="list-style-type: none"> Protects the body from infection Produce mucus antibodies, lymphocytes, and other defender cells 	<ul style="list-style-type: none"> Lymph nodes Spleen Bone marrow Thymus gland Tonsils White blood cells T-cells Antibodies Interferon 	<ul style="list-style-type: none"> Breaks down food into biomolecules for nourishment and to provide energy Absorbs nutrients and vitamins into the circulatory and lymph systems Absorbs water in large intestine 	<ul style="list-style-type: none"> Mouth Esophagus Stomach Small intestine Large intestine Rectum Anus Pancreas Liver Salivary glands
Lymphatic System		Integumentary System	
Functions	Parts	Functions	Parts
<ul style="list-style-type: none"> Filters bacteria and toxins Produces lymphocytes to fight infection Transports digested fats from small intestine to bloodstream Return lymph fluid to bloodstream Collects and transports tissue fluids to veins 	<ul style="list-style-type: none"> Lymph nodes Lymph fluid Lymph vessels Bone marrow Thymus gland Adenoids Tonsils Spleen Appendix 	<ul style="list-style-type: none"> Protects internal parts of the body from infection, foreign materials, and dehydration Eliminates waste products through sweating Regulates body temperature through skin covering and sweating Produces vitamin D Holds and grasps objects 	<ul style="list-style-type: none"> Skin Hair Nails Glands



Animal Systems Interactions in Real Life

System/Parts Cards

Circulatory System		Nervous System	
Functions	Parts	Functions	Parts
<ul style="list-style-type: none"> • Transports oxygen and carbon dioxide, wastes, nutrients, hormones • Fights infection • Stabilizes pH and concentrations of the body fluids • Maintain body temperature 	<ul style="list-style-type: none"> • Red blood cells • White blood cells • Spleen • Bone marrow • Heart • Blood vessels • Platelets 	<ul style="list-style-type: none"> • Body communication system • Automatically controls digestion, respiration, body temperature, and heart rate • Controls activities of the body, such as walking, running, and talking, as voluntary actions 	<ul style="list-style-type: none"> • Brain • Spinal cord • Nerve cells
Endocrine System		Respiratory System	
Functions	Parts	Functions	Parts
<ul style="list-style-type: none"> • Produces hormones that control the body's functions • Controls rate of digestion (breakdown of nutrients), mood, physiological development, and reproductive system's development 	<ul style="list-style-type: none"> • Pituitary • Pancreas • Hypothalamus • Parathyroid • Thyroid • Adrenal • Ovary • Testis • Pineal 	<ul style="list-style-type: none"> • Moistens, warms, and filters air • Passes air over vocal cords to produce sound • Diffuses oxygen into the blood and carbon dioxide out of the blood 	<ul style="list-style-type: none"> • Nose • Larynx • Pharynx • Trachea • Bronchi • Lungs • Diaphragm

Animal Systems Interactions in Real Life

System/Parts Cards

Muscular System		Skeletal System	
Functions	Parts	Functions	Parts
<p>Contracts muscles to:</p> <ul style="list-style-type: none"> • Move skeleton for body movement such as chewing or running, and to move diaphragm for lung function. • Move substances through organs such as the stomach, intestines, or blood vessels. • Pump blood through the heart. 	<ul style="list-style-type: none"> • Cardiac muscles • Smooth muscles • Skeletal muscles <p>A complete muscle consists of muscle fibers, connective tissue, nerve tissue, and blood tissue, and is considered one organ by itself.</p>	<ul style="list-style-type: none"> • Provides support for the body. • Protects the internal organs. • Produces blood cells. 	<ul style="list-style-type: none"> • Bone • Osteocyte cells

Animal Systems Interactions in Real Life

Systems Name Cards

Integumentary
System

Muscular
System

Nervous
System

Lymphatic
System

Digestive
System

Skeletal
System

Endocrine
System

Immune
System

Skeletal
System

Respiratory
System



Do

Animal Systems Interactions in Real Life

Activity Diagram 1

Infection





Animal Systems Interactions in Real Life

Activity Diagram 2

Eating





Animal Systems Interactions in Real Life

Activity Diagram 3

Running

