

Question 1

Characteristics of living organisms include all of the following, EXCEPT ...

- A. they reproduce and grow
- B. they need energy and produce wastes
- C. they respond to their environment and adapt
- D. they grow and move freely in their environment

Question 2

'Spiracles' are small holes on the sides of an insect's abdomen. These holes enable the insect to ...

- A. sweat
- B. breathe
- C. secrete poison
- D. get rid of waste

Question 3

Energy is the *ability to do make things move or change* and is needed by all organisms. The sum of all the different processes that happen in an organism is referred to as the organism's ...

- A. nutrient balance
- B. nutrient flow
- C. metabolism
- D. energy flow

Question 4

Organisms have different structures for similar functions. An example that illustrates this would be ...

- A. barnacles – web feet
- B. bird wings – spiracles
- C. fish gills – plant leaves
- D. human lung – snake tongue

Question 5

Organisms can have particular characteristics that help them survive in their environment. These characteristics are not the same for every organism. They can be behavioral or structural and are known as...

- A. addendum
- B. adaptation
- C. coloration
- D. blending

Question 6

Darwin's finches have different variations in bill size that account for their feeding pattern. A warbler-like finch long sharp pointed bill would have this type of bill because it eats ...

- A. berries on bushes
- B. fruit found in tall trees
- C. insects hiding in the bark of trees
- D. seeds and nuts found on the ground

Question 7

Leaves vary in size and shape, from slim needle-like leaves on spruce trees, to large flat leaves - that be 2 meters wide. Leaves are used by plants to...

- A. reproduce
- B. gather food
- C. exchange gases
- D. protect them from predators

Question 8

Living things come from living things. But long ago people believed that non-living things could produce living organisms. This belief was known as ...

- A. duplication creation
- B. reproduction creation
- C. spontaneous generation
- D. reproductive generation

Question 9

Any microscope that has two or more lenses is called a ...

- A. multi-dimensional microscope
- B. multi-functional microscope
- C. compound microscope
- D. complex microscope



Question 10

Which of the following would you need to use a microscope to see...

- A. a ligament
- B. a stem cell
- C. a bone fragment
- D. a cancerous tumor

Question 11

The part of the microscope that the arrow is pointing to is called the ...

- A. eyepiece
- B. diaphragm
- C. fine adjustment
- D. coarse adjustment



Question 12

The part of the microscope that the arrow is pointing to is called the ...

- A. tube
- B. base
- C. stage
- D. diaphragm



Question 13

When preparing slides to be used under the objective lens of the microscope you cover the specimen you are going to view with a ...

- A. toothpick
- B. cover slip
- C. glass slide
- D. drop of indicator

Question 14

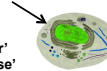
The 'solar panels' of the plant cell are found in the leaves. The structures that carry out photosynthesis, converting the sun's energy into food for the cell are called the ...

- A. mitochondria
- B. chloroplasts
- C. vacuoles
- D. stomata

Question 15

This illustration is an animal cell. The function of the **cell membrane** is to ...

- A. control the flow of nutrients – 'The Gateway'
- B. store nutrients the cell needs – 'The Storage Room'
- C. direct all activities in the cell - The 'Command Center'
- D. convert energy into useable forms – 'The Powerhouse'



Question 16

These structures are not present in the animal cell, they can only be found in the plant cell ...

- A. vacuoles and nucleus
- B. cell wall and chloroplasts
- C. mitochondria and cytoplasm
- D. cell membrane and chloroplasts

Question 17

The transportation of nutrients in plants is the role of the plant's tissue. Specialized tissue connects the roots to the leaves. The Phloem tissue transports ...

- A. water from the roots to the leaves
- B. energy to the vacuole to utilize the food stored there
- C. sugars, manufactured in the leaves to the rest of the plant
- D. water from the leaves to the air in a process called transpiration

Question 18

Paramecia move swiftly in the water and also direct food into their oral groove, for the paramecia to consume, using these hair-like structures, which are on the outside of their bodies ...

- A. vacuoles
- B. silicon
- C. nuclei
- D. cilia

Question 19

Certain materials are allowed to pass through this and others are prevented from passing through. The type of cell membrane that is present in a plant and animal cell is called a ...

- A. selectively impermeable membrane
- B. selectively permeable membrane
- C. impermeable membrane
- D. permeable membrane

Question 20

Osmosis is the diffusion of water through a selectively permeable membrane. This process occurs because water will move from an area of ...

- A. high concentration to high concentration
- B. low concentration to high concentration
- C. high concentration to low concentration
- D. low concentration to low concentration

Question 21

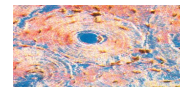
A process which enables substances to spread out, throughout a solution, eventually becoming evenly distributed in the solution, is called ...

- A. desalination
- B. dissolving
- C. distillation
- D. diffusion

Question 22

Different cells have different functions and their structure is different. Identify the cell illustrated.

- A. bone
- B. blood
- C. nerve
- D. muscle



Question 23

The organization of cells follows this pattern -

- A. cells form organs, tissues, and systems
- B. cells form systems, organs, and tissues
- C. cells form organs, systems, and tissues
- D. cells form tissues, organs, and systems

Question 24

The connective tissue in the bones that makes red blood cells is called ...

- A. axons
- B. marrow
- C. cartilage
- D. dendrites

Question 25

The sensory organs belong to this body system ..

- A. Skeletal
- B. Nervous
- C. Muscular
- D. Circulatory

Question 26

The chemical digestion of food begins in this structure, which breaks down the food into nutrients that can be used by the various cells in the body. It is the ...

- A. mouth
- B. stomach
- C. esophagus
- D. small intestine

Question 27

The liver is a very important organ in the excretory system. Its function is to convert a highly toxic substance into a less harmful substance. The highly toxic substance that is converted into urea in the excretory system is ...

- A. ammonia
- B. gastric juice
- C. sodium chloride
- D. hydrochloric acid

Question 28

In the excretory system, the bladder's primary function is to ...

- A. store urine
- B. clean urea
- C. filter enzymes
- D. perform dialysis

Question 29

This body system defends the body against disease ...

- A. Nervous system
- B. Digestive system
- C. Circulatory system
- D. Integumentary system

Question 30

Oxygen-rich air is drawn into the lungs through tube-like passageways called bronchi. The bronchi are lined with tough connective tissue in order to ...

- A. expand the surface area
- B. extend the life of the bronchi
- C. keep the walls from collapsing
- D. allow the air to pass through easily

Question 31

Peristalsis is the action caused by contractions of muscles in this structure in the digestive system ...

- A. liver
- B. trachea
- C. pancreas
- D. esophagus

Question 32

Glands are structures that secrete (give off) hormones that help other structures and cells perform their functions more effectively. They are part of this system ...

- A. Skeletal
- B. Muscular
- C. Endocrine
- D. Integumentary

Question 33

This part of the heart is the part that receives the oxygen rich blood from the lungs and pumps it into the left ventricle ...

- A. aorta
- B. left atrium
- C. right atrium
- D. right ventricle

Question 34

Gastric Juice is composed of mucus, hydrochloric acid, water and digestive enzymes. The purpose of the mucus is to ...

- A. prevent heartburn from occurring
- B. digest proteins into smaller particles
- C. assist the hydrochloric acid with digestion
- D. prevent the gastric juice from digesting the stomach

Question 35

Capillaries have two adaptations for exchanging gases and nutrients: they are made of specialized epithelial tissue that is only one cell thick and they ...

- A. are reinforced with a double membrane
- B. can reverse the flow of gases when they need to
- C. can collapse on bacteria, preventing it from getting to the heart
- D. are narrow, so the blood cells have to pass through in single file

Question 36

A neuron receives messages from small branches of the nerve cell called ...

- A. somatic nerve
- B. inter-neurons
- C. dendrites
- D. axons



Question 37

When different gases are exchanged in the lungs and then transported throughout the body, the systems working together are the ...

- A. Digestive system and the Circulatory system
- B. Excretory system and the Circulatory system
- C. Respiratory system and the Circulatory system
- D. Integumentary system and the Respiratory system

Question 38

Interacting systems in plants provide nutrients, transport these nutrients, produce food and transport it throughout the plant. The two systems working together in plants are ..

- A. Leaves and flowers
- B. Roots and leaves
- C. Flowers and stem
- D. Roots and shoots

Question 39

In the late 1700's, **Edward Jenner**, an English country doctor, developed the first vaccine. The vaccine he developed made people immune to smallpox. This vaccine was ...

- A. e-coli
- B. rabies
- C. insulin
- D. cowpox

Question 40

Louis Pasteur was originally a chemist. His first great discovery was finding out what made beer and wine spoil. He discovered micro-organisms, floating in spoiled batches of beer and wine. The micro-organisms were ...

- A. yeast
- B. anthrax
- C. spoiled grapes
- D. alcohol insects

Question 41

Canadian researchers **Frederick Banting** and **Charles Best** discovered a hormone produced in the cells of the pancreas that controlled the level of glucose the body produced. Without the hormone people would suffer from a disorder called diabetes. The hormone they discovered is called ...

- A. insulin
- B. injection
- C. interleukin
- D. interconnection

Question 42

Joseph Lister found that many of his patients were dying of infection, even though their operations were successful. He thought the infections were caused by Pasteur's 'germs'. To protect his patients he introduced this procedure ...

- A. vaccination
- B. sterilization
- C. immunization
- D. pasteurization

Question 43

This disorder of the respiratory system is common in children in Canada. There are half a million children who suffer from it. It can be triggered by many different environmental factors. The disorder is ...

- A. asthma
- B. bronchitis
- C. emphysema
- D. collapsed lung

Question 44

The respiratory system can also malfunction due to poor lifestyle choices. When the cilia (which remove airborne particles when they beat continuously) are clogged by mucus they cannot perform their function properly and over time, can become inflamed. This condition (which can be treated) is called ...

- A. ciliates
- B. bronchitis
- C. lung cancer
- D. emphysema

Question 45

Fries and chocolate contain a lot of fats, which are converted into a lipid, called cholesterol. It enters your arteries and can clog the flow of blood. This disorder, or condition is referred to as ...

- A. peptic ulcer
- B. hypertension
- C. arteriosclerosis
- D. high blood pressure

Question 46

The digestive system can malfunction, causing severe repercussions for an individual and even death. These disorders are caused by poor lifestyle habits or disease. One such disorder may lead to colon cancer. It is caused by ...

- A. over exertion
- B. low fiber diet
- C. high fiber diet
- D. excessive use of aspirin

Question 47

One of the most leading causes of death in North America is hypertension. This disorder causes high blood pressure and ultimately can lead to strokes and heart attacks. Hypertension is often referred to as the ...

- A. angry beast
- B. silent killer
- C. quiet striker
- D. system malfunction

Question 48

Diet can lead to disorders of the circulatory system. High blood pressure can lead to an increase in the size of the heart, making it less efficient. This is caused by a diet that is high in ...

- A. salt
- B. nuts
- C. fiber
- D. sugar

Question 49

The large intestine contains a fingerlike projection that does not assist with the digestive process. But if it enlarges because it is blocked and ruptures, it can be fatal. The fingerlike projection of the large intestine is called the ...

- A. pinky
- B. pancreas
- C. appendix
- D. gall bladder

Question 50

Label the 6 main parts of the Heart

You are given an **Illustration of the Heart** to label on your **Response Form**.

Extra time will be allowed to complete this question.

Heart Diagram for Question 50

Question 50

Label the 6 main parts of the Heart on the **Illustration of the Heart** on your **Response Form**.

