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97			17

/114 = %

Name:_____

Cell Test – SNC 2D

Multiple Choice Section: select the best answer and cover over the letter for your choice.

1. Which of the follow best describes the Cell Theory:
a) cell differentiation leads to specific tissues with specific functions
b) all living things are composed of cells, the function of an organism depends on the function of its cells, all cells come from previously existing cells
c) cells are the fundamental unit of structure and function for all living organisms
d) all living things are composed of cells

2. The primary difference between plant and animal cells is:
a) plant cells are capable of photosynthesis, while animal cells are not
b) the cell wall on plant cells is thicker than the cell wall on animal cells
c) only animal cells have mitochondria
d) cellular respiration occurs only in animal cells

3. The organelle responsible for digestion of food is a:
a) digestive tract
b) mitochondria
c) vacuole
d) lysosome

4. The organelle responsible for transportation within the cell is a:
a) endoplasmic reticulum
b) mitochondria
c) Golgi body
d) ribosomes

5. The organelle responsible for water regulation in the cell is called a:
a) hydrosome
b) ribosome
c) chloroplast
d) Golgi body
e) vacuole

6. The organelle responsible for packaging useful cell products is a:
a) vacuole
b) a package management vacuole
c) ribosome
d) endoplasmic reticulum
e) Golgi body

7. The organelle responsible for chemical energy transformation to a form useable by the cell is a:
a) nucleus
b) vacuole
c) mitochondria
d) endocondria
e) chloroplast

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14			

8. The organelle primarily responsible for protein synthesis is called a:
a) ribosome
b) nucleolus
c) endoplasmic reticulum
d) nucleus

9. Where precisely is the genetic information available to the cell stored?
a) in the chromosomes
b) in the nucleus
c) in the DNA that make up the chromosomes that are contained in the nucleus
d) in the great book called “The Genetic Code of All Cells” present in every cell

10. Which represents a correct order for mitosis
a) interphase, telophase, prophase
b) metaphase, prophase, anaphase
c) prophase, metaphase, anaphase
d) telophase, anaphase, metaphase
e) prophase, telophase, anaphase

11. The purpose behind mitosis is to:
a) carefully replicate the genetic code
b) make growth possible
c) replace worn out cells
d) all of the above

12. Cell differentiation provides:
a) occurs early in fetal development
b) causes cells to access different portions of the genetic code for their particular form and function
c) different types of cells with different characteristics
d) all of the above

13. What is the primary goal of the circulatory system
a) provide food nutrients to all cells
b) provide a means of removing waste from all cells
c) provide freshly oxygenated blood to all cells and to remove unwanted carbon dioxide
d) provide a means of distributing heat evenly throughout the body

14. Which statement it true about the human heart
a) each heart beat consists of four separate contractions, right atrium, right ventricle, left atrium, left ventricle
b) is a double circuit pump, one side pumps from the digestive tract, the other side pumps to the body
c) is a double circuit pump, one side pumps to the lungs, the other side pumps to the body
d) blood always flows from the ventricles to the atrium

15. Which statement is correct for the digestive system:
a) the small intestine is the location where water is reabsorbed from the digestive tract
b) peristalsis moves food from the mouth towards the anus
c) the large intestine is the primary location for food absorption
d) the stomach is the primary location for food absorption

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Short Answer Section:

16. What are the key points to remember when returning your microscope to your cart

low power

stage down

slides put away

cord wrapped around the base

/4

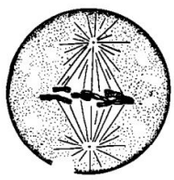
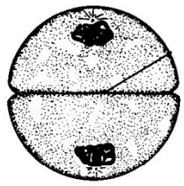
17. What are the two main differences between plant and animal cells:

plants have chloroplasts and do photosynethsis

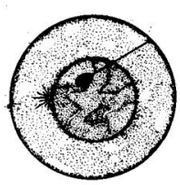
plants have a cell wall

/2

18. Using the space provided:
- state the four active stages of mitosis **IN ORDER** (place the inactive stage at the bottom as indicated)
- draw a rough sketch of a cell in this stage
- state the main events for each stage
- you may wish to reference question #10 to help with spelling

Active Stages of Mitosis				
Stage:	prophase	metaphase	anaphase	telophase
Diagram:				
Events:	chromosomes thicken and become visible	chromosomes line up along the centre line of the cell	chromosomes pull apart into two separate groups and move to opposite ends	two nuclei begin to from and cytoplasm begins to separate into two cells

/5

Inactive Stage of Mitosis	Stage:	Diagram:	Events:
	interphase		normal cellular activity, DNA replicates

K	C	A	T
11			

19. Match each description with the correct organelle:

J	converts food to energy within each cell	A	cell wall
I	able to digest food	B	cell membrane
O	used for water, food and waste storage	C	chloroplasts
D	relaxed thin form of DNA	D	chromatin
E	coiled up well organized DNA	E	chromosomes
C	creates food from sunlight, carbon dioxide and water in plants	F	deoxyribo-nucleic acid
A	provides structure and support for plant cells, not found in animal cells	G	endoplasmic reticulum
K	forms the outer surface of the nucleus	H	golgi bodies
B	forms the outer surface of all cells	I	lysosomes
G	canal like structures that can transport useful materials around the cell, attachment place for ribosomes	J	mitochondria
M	control center of the cell	K	nuclear membrane
F	the name of the substance that contain the genetic code	L	nucleolus
L	manufactures ribosomes in the nucleus	M	nucleus
H	able to package useful materials	N	ribosomes
N	manufactures useful materials using the genetic code	O	vacuoles

/15K

20. Why is cell differentiation necessary for human development? What are four types of tissues that result from cell differentiation?

creates different types of tissues that can make different organs

/3K

Types of tissues:

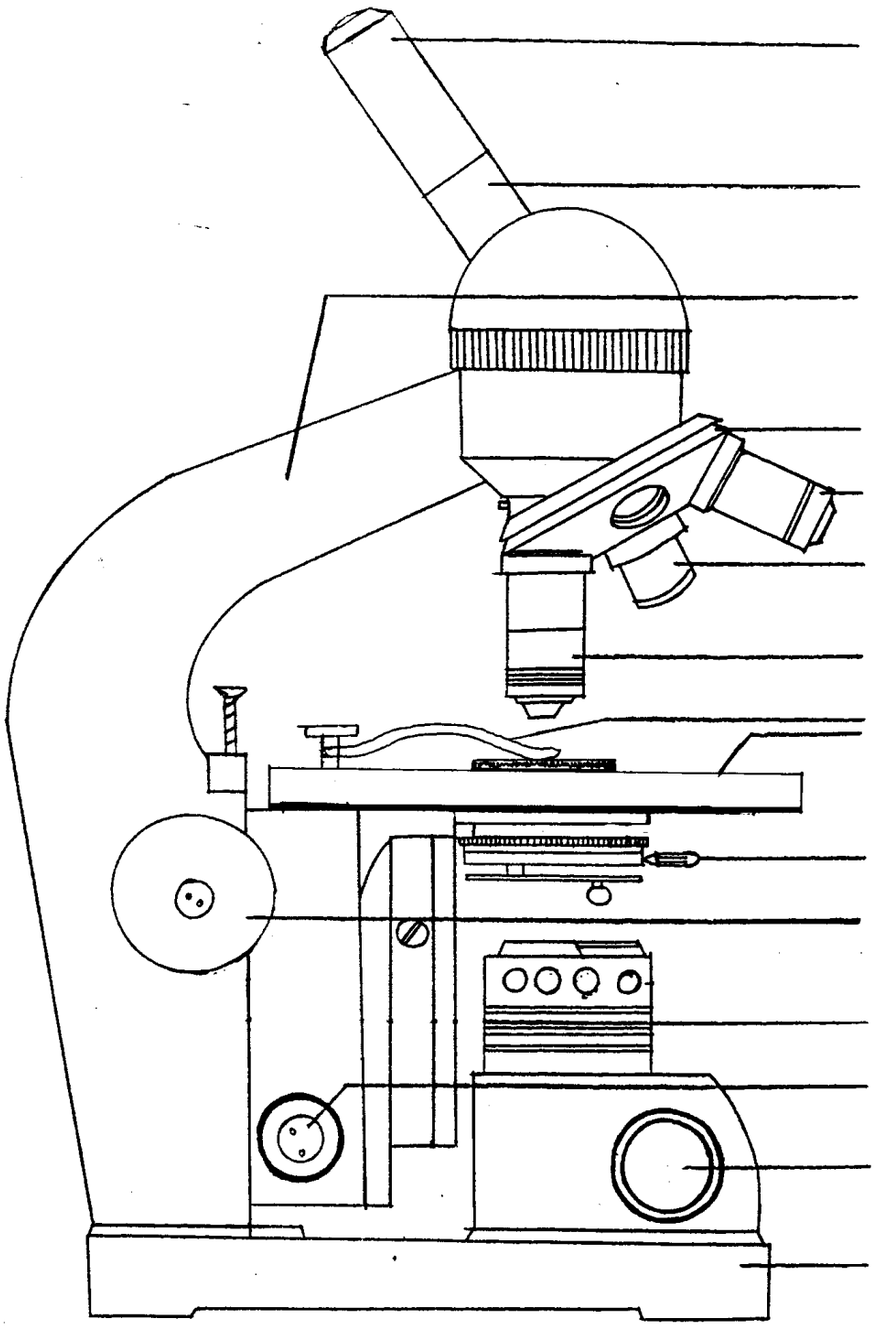
1. muscle
2. nervous
3. epithelial
4. connective

/4K

K	C	A	T
22			

Diagram Section – Please Label Each Diagram:

Compound Microscope



eye piece

body tube

arm

nose piece

medium power objective

low power objective

high power objective

stage clip

stage

light diaphragm

course focus

light

fine focus

light adjustment

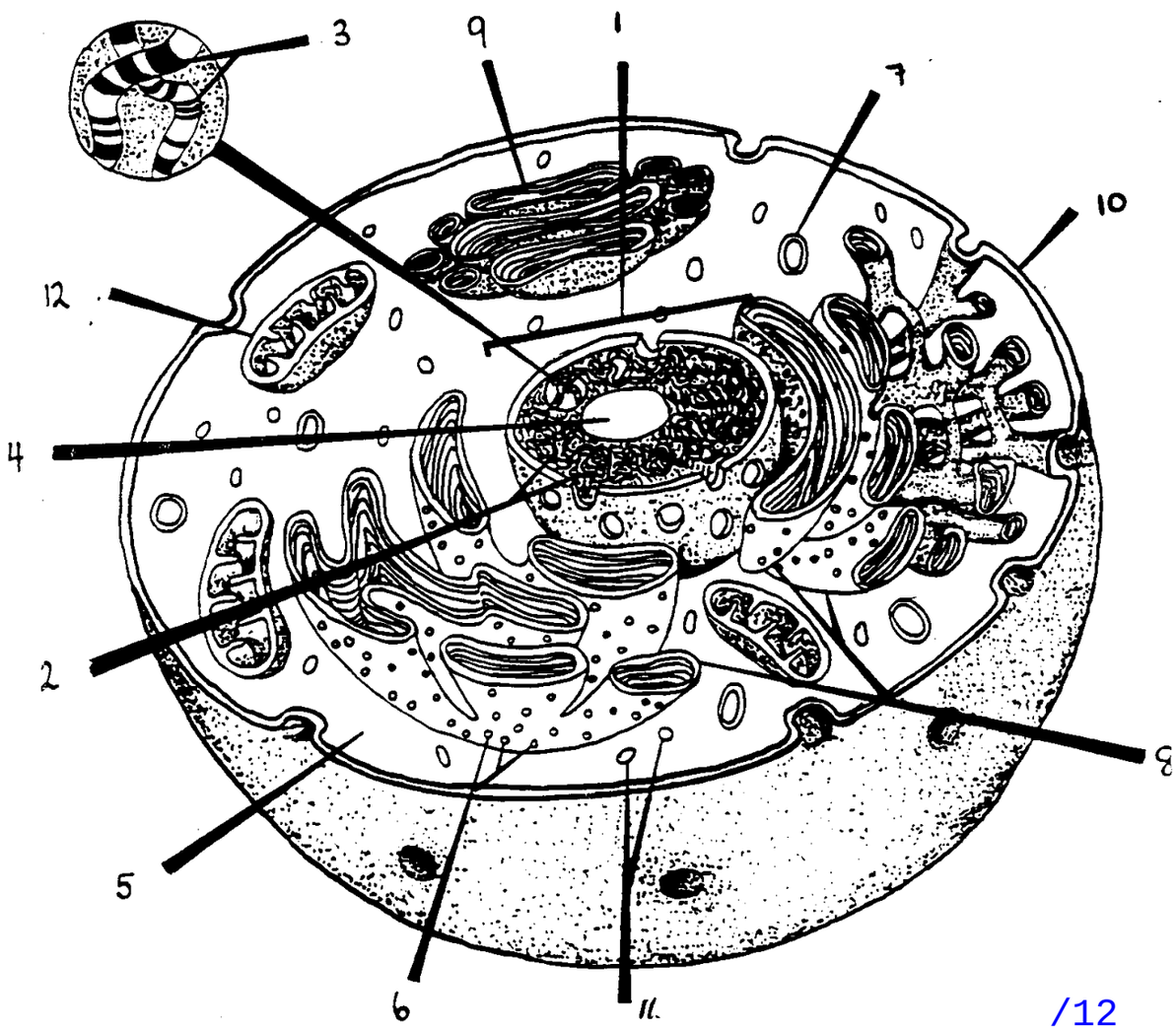
base

/15

K	C	A	T
15			

Cell Organelles – Animal Cell

1. nucleus
2. chromosomes
3. genes
4. nucleolus
5. cytoplasm
6. ribosomes
7. lysosome
8. endoplasmic reticulum
9. Golgi body
10. cell membrane
11. vacuole
12. mitochondria

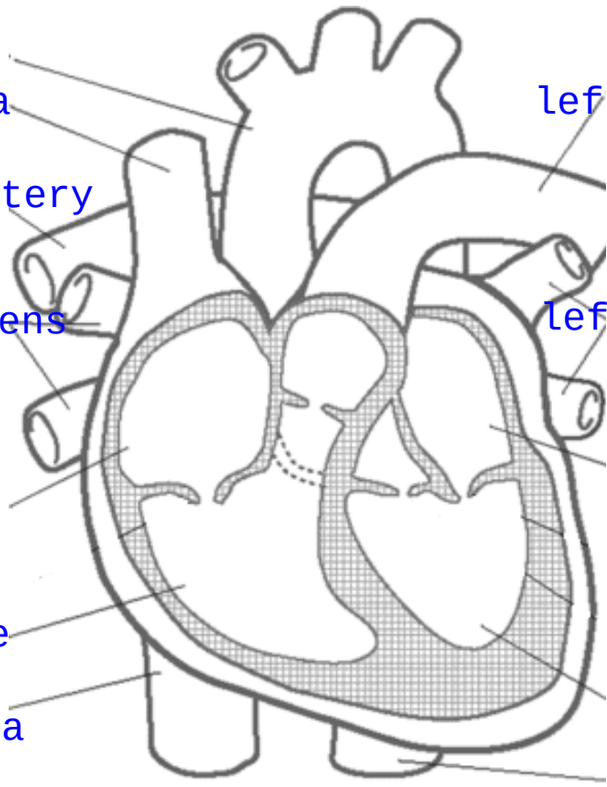


/12

Cell Membrane
Chromosomes
Cytoplasm
Endoplasmic Reticulum
Genes
Golgi Body
Lysosomes
Mitochondria
Nucleolus
Nucleus
Ribosomes
Vacuole

K	C	A	T
12			

Heart Diagram



aorta

superior vena cava

right pulmonary artery

right pulmonary viens

right atrium

right ventricle

inferior vena cava

left pulmonary artery

left pulmonary veins

left atrium

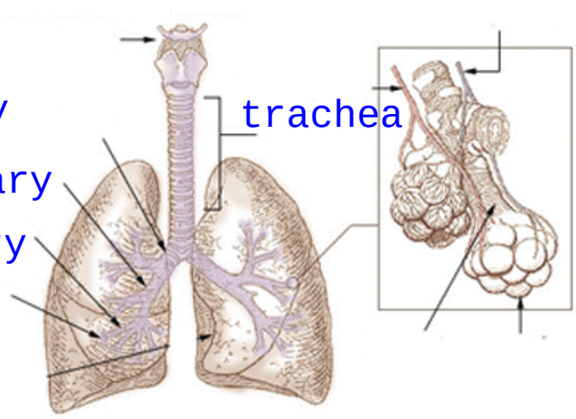
left ventricle

Aorta (artery)
Inferior Vena Cava
Left Pulmonary Artery
Left Pulmonary Veins
Left Atrium
Left Ventricle

Right Pulmonary Veins
Right Pulmonary Artery
Right Ventricle
Right Atrium
Superior Vena Cava

/11

Respiratory System



larynx

bronchi primary

bronchi secondary

bronchi tertiary

bronchioles

trachea

pulmonary artery

pulmonary vein

alveolar duct

alveoli

/3

Alveolar Duct
Alveoli
Bronchi (Tertiary)
Bronchi (Secondary)
Bronchi (Primary)

Bronchioles
Larynx
Pulmonary Artery
Pulmonary Vein
Trachea

K	C	A	T
14			

Digestive System

mouth

esophagus

liver

stomach

gall bladder

pancreas

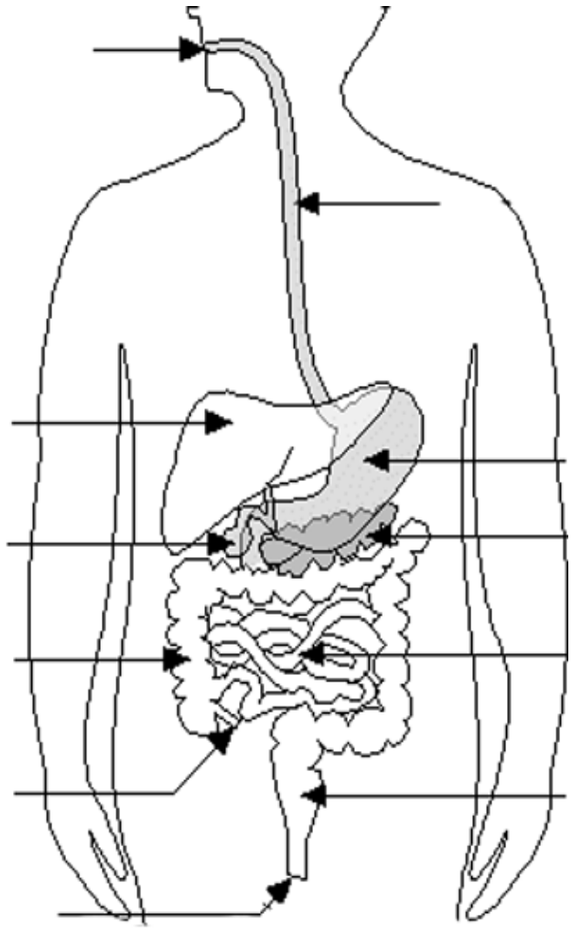
large intestine

small intestine

appendix

rectum

anus



/11

Anus
Appendix
Esophagus
Gall Bladder
Large Intestine
Liver
Mouth
Pancreas
Rectum
Small Instestine
Stomach

K	C	A	T
11			

Bonus Question:

You are eating a favourite food. Go through all of the steps that are required for the energy that is available in this food to become utilized in a single cell in your big toe. This is an open-ended question, provide as much as you can. You may use full sentences or point form to work through this question. Please use an organized approach:

K	C	A	T
		5	