___/133 = ___%

Name:_____

Cell Test - SNC 2P

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

1. What is true about the relationship between microscope power and field of view:
a) the greater the power, the smaller the field of view
b) the greater the power, the greater the field of view
c) power has no effect on field of view
d) field of view is measured in mircometers, μm

2. Which of the follow best describes the Cell Theory:
a) all living things are composed of cells
b) cell differentiation leads to specific tissues with specific functions
c) 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
d) cells are the fundamental unit of structure and function for all living organisms

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

4. Identify the true statement:
a) only animals have differentiated cells, plants do not
b) only animal cells have mitochondria
c) plant cells are autotrophic in design
d) a heterotroph is able to make its own food

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

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

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

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

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

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

11. Where is the genetic information available to the cell stored?
a) in the nucleus
b) in the chromosomes
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

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

13. The purpose behind mitosis is to:
a) make growth possible
b) replace worn out cells
c) carefully replicate the genetic code
d) all of the above
e) is not important for life as we know it

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

15. 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 a means of distributing heat evenly throughout the body
d) provide freshly oxygenated blood to all cells and to remove unwanted carbon dioxide

16. Which statement it true about the human heart
a) is a double circuit pump, the left side drives the systemic circulatory system, the right side drives the pulmonary circulatory system
b) is a double circuit pump, the left side drives the pulmonary circulatory system, the right side drives the systemic circulatory system
c) blood always flows from the ventricles to the atrium
d) each heart beat consists of four separate contractions, right atrium, right ventricle, left atrium, left ventricle

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

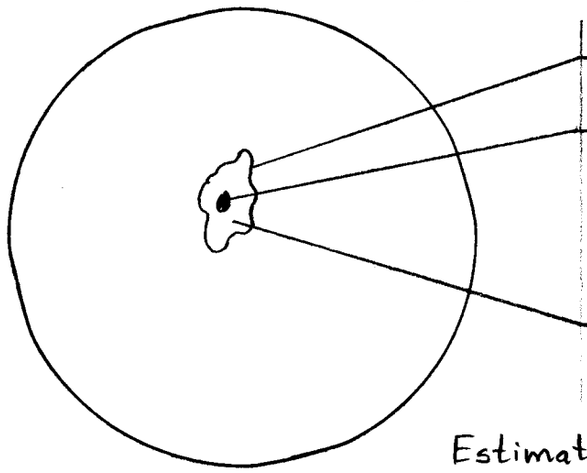
Short Answer Section:

18. What are the key point to remember when returning your microscope to your cart

- low power
- stage down
- remove slides
- dust cover on (two hands)
- correct place on cart

/5

19. Using proper labelling format, provide three labels for the cheek cell in the high power 400 µm F.O.V. Estimate the size of the cell



Estimate Size = 34 µm

/7

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

plant cells have chloroplasts
plant cells have a cell wall

/2

21. Pick three organelles and describe their function. You may wish to do the matching question on the next page first:

_____:	
_____:	
_____:	

/3

/17

22. Match each description with the correct organelle:

a	forms the outer surface of all cells	~~a)~~	cell membrane
b	provides structure and support for plant cells, not found with animal cells	~~b)~~	cell wall
k	forms the outer surface of the nucleus	~~c)~~	chloroplasts
m	control center of the cell	~~d)~~	chromatin
f	the name of the substance that contain the genetic code	~~e)~~	chromosomes
e	coiled up well organized DNA	~~f)~~	deoxyribo-nucleic acid
d	relaxed thin form of DNA	~~g)~~	endoplasmic reticulum
l	manufactures ribosomes in the nucleus	~~h)~~	golgi bodies
o	used for water, food and waste storage	i)	lysosomes
i	able to digest food	~~j)~~	mitochondria
j	converts food to energy within each cell	~~k)~~	nuclear membrane
c	creates food from sunlight, carbon dioxide and water in plants	~~l)~~	nucleolus
n	manufactures useful materials using the genetic code	~~m)~~	nucleus
g	canal like structures that can transport useful materials around the cell, attachment place for ribosomes	~~n)~~	ribosomes
h	an organelle used to package useful materials for distribution outside of the cell	~~o)~~	vacuoles

15

23. What has to happen to the DNA during mitosis in order to ensure that each daughter cell has the entire genetic code available:

- careful split into two complimentary strands
- drawn apart to form two sets
- duplication from each complimentary pair

3

18

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

- provides different types of cells with different function
- makes different organs possible ∴ makes organ systems possible

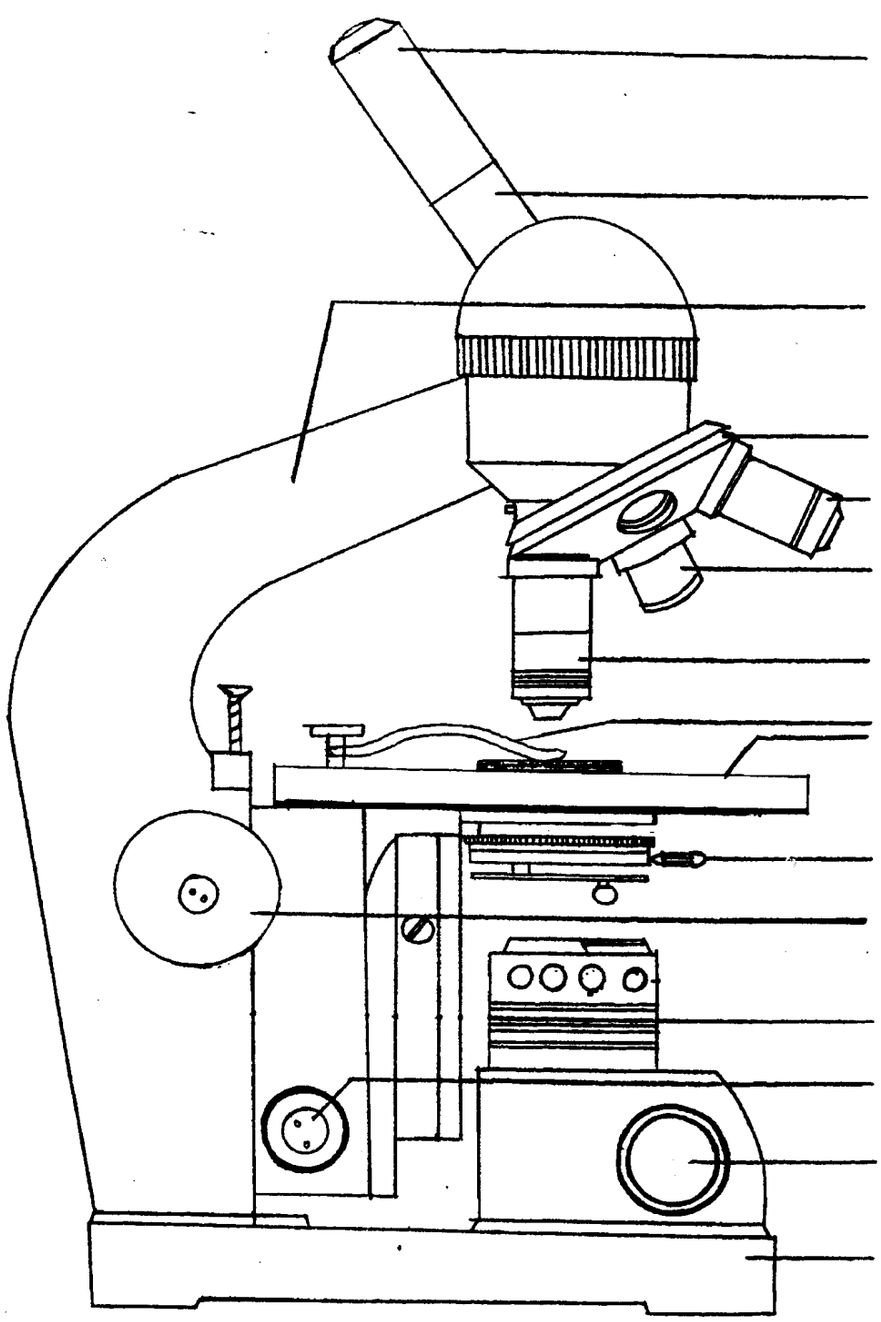
Types of tissues:

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

/6

Diagram Section - Please Label Each Diagram:

Compound Microscope



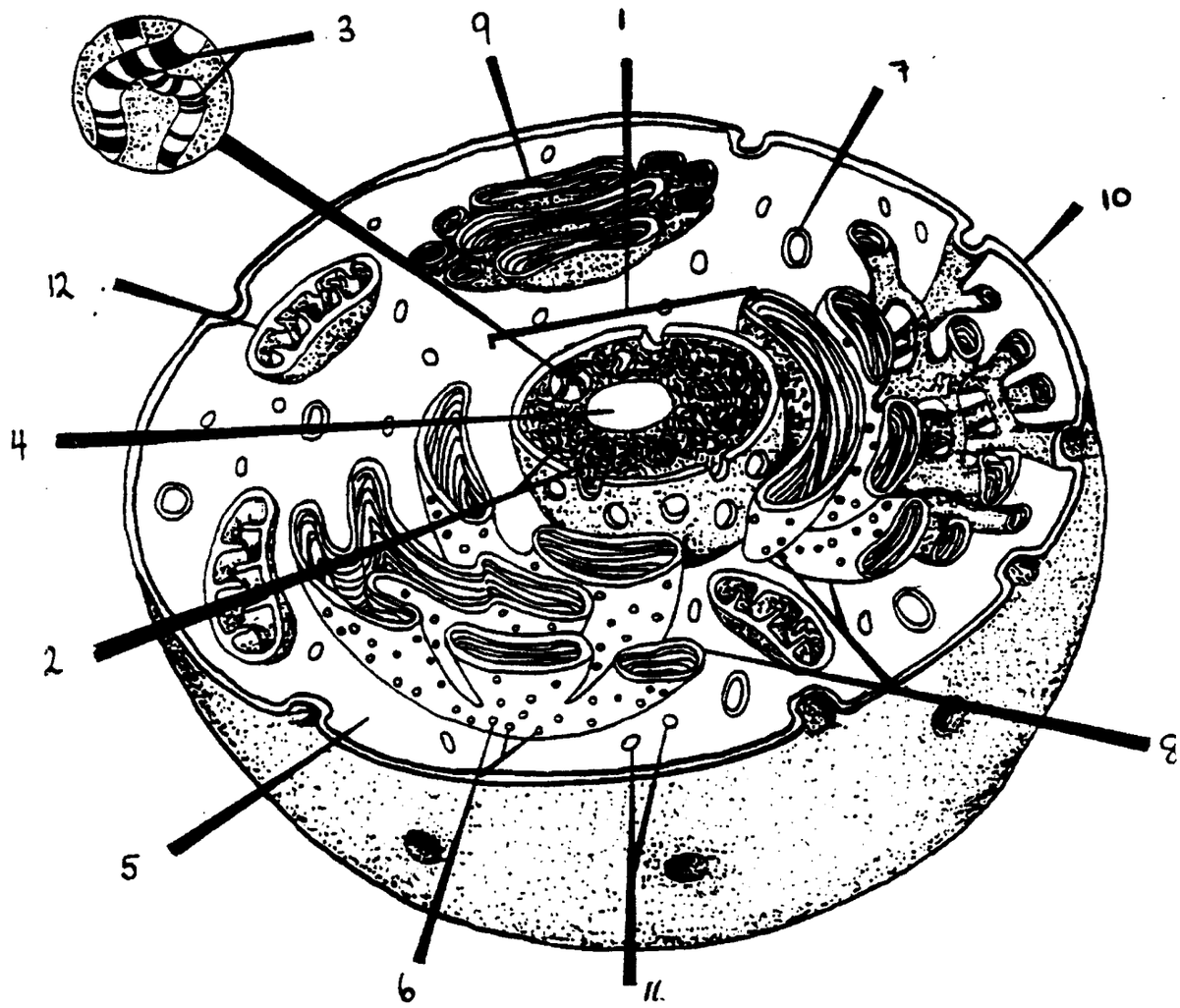
- Eye Piece (Ocular Lens)
- Body Tube
- Arm
- Nose Piece
- Medium Power Objective
- Low Power Objective
- High Power Objective
- Stage Clips
- Stage
- Light Diaphragm
- Coarse Focus
- Light
- Fine Focus
- Light Switch
- Base

/15

/21

Cell Organelles - Animal Cell

1. Nucleus
2. Chromosomes
3. Genes
4. Nucleolus
5. Cytoplasm
6. Ribosomes
7. Vacuole
8. Endoplasmic Reticulum
9. Golgi Body
10. Cell Membrane
11. Lysosomes
12. Mitochondria



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

12

Right

Left

Heart Diagram

Aorta

Superior Vena Cava

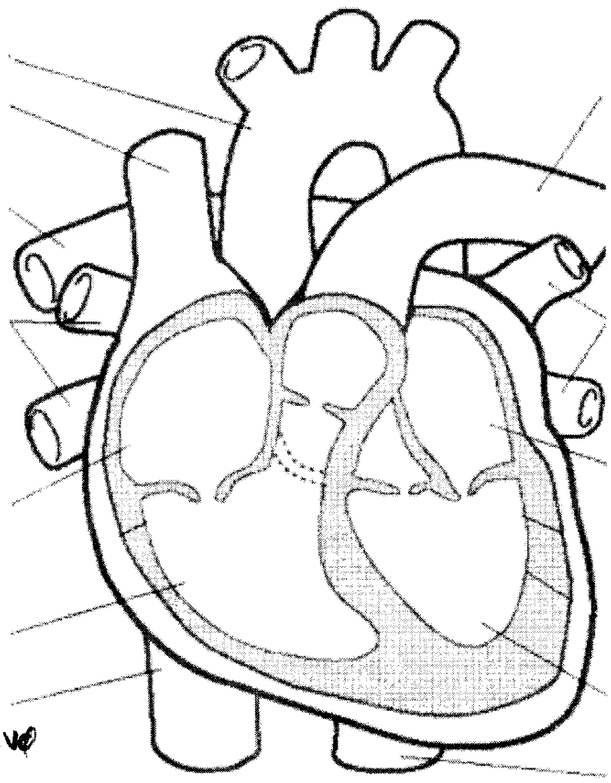
Right Pulmonary Artery

Right Pulmonary Veins

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

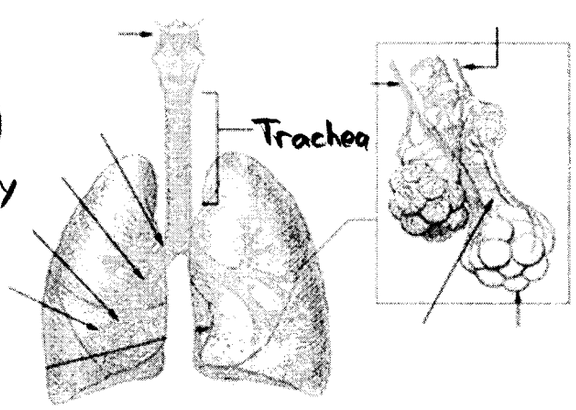
Larynx

Bronchi (Primary)

Bronchi (Secondary)

Bronchi (Tertiary)

Bronchioles



Pulmonary Vein

Pulmonary Artery

Alveolar Duct

Alveoli

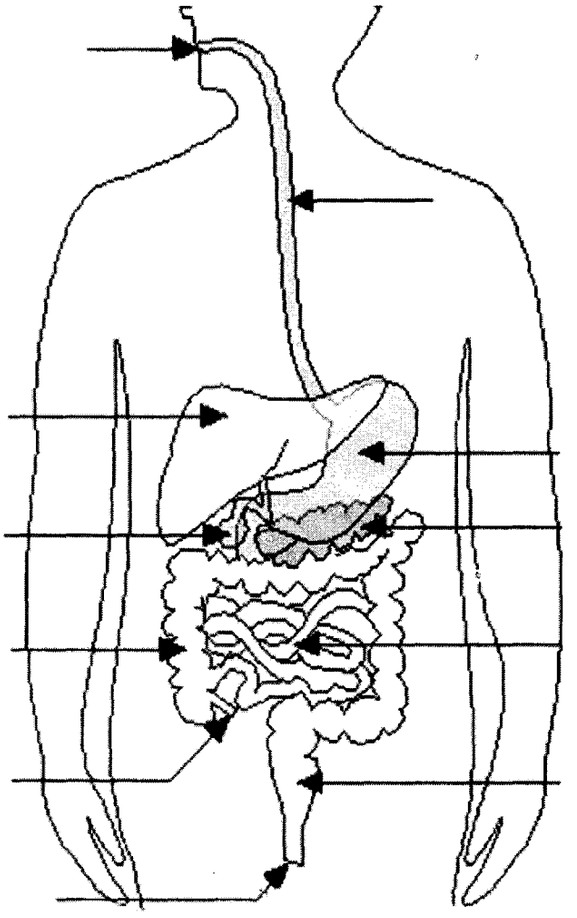
Alveolar Duct
Alveoli
~~Bronchi~~ (Tertiary)
~~Bronchi~~ (Secondary)
~~Bronchi~~ (Primary)

~~Bronchioles~~
~~Larynx~~
~~Pulmonary Artery~~
Pulmonary Vein
~~Trachea~~

9

20

Digestive System



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