

Sometimes the questions are complicated and the answers are simple.



Name: _____

Date: _____

SNC2D: Biology Unit Test

Part A) Multiple Choice (20 marks)

- Which of the following is found ONLY in plant cells?
a) nucleus b) mitochondrion c) ribosomes d) chloroplast
- Which of the following cells would you expect to contain the most number of mitochondria (requires the most energy)?
a) skin cell b) muscle cell c) nerve cell d) lung cell
- What tissue type makes up the skin and the protective lining of many organs?
a) nerve b) muscle c) epithelial d) connective
- Which of the following is plant tissue?
a) epithelial b) connective c) vascular d) nerve
- What structure(s) is extremely important in mitosis (in animal cells)?
a) chromosomes b) centrioles c) cytoplasm d) ribosomes
- Which types of cells are neutral and are capable of undergoing cell differentiation and cell specialization?
a) brain cells b) skin cells c) stem cells d) cancer cells
- Which plant tissue is made up of plant stem cells?
a) ground b) meristematic c) epidermal d) cuticle
- What vessels carry the oxygenated blood away from the heart?
a) arteries b) veins c) capillaries d) ventricles
- Which system transports blood, oxygen and nutrients to where they are needed by the body?
a) digestive b) respiratory c) excretory d) circulatory
- The system responsible for supplying the body with Oxygen and removal of Carbon Dioxide from the body is?
a) digestive b) respiratory c) excretory d) circulatory
- Which of the following technology uses radiation to penetrate through skin and tissue but not metals and bone?
a) Biophotonics b) Ultrasound c) X-ray d) MRI

12. What organ system consists of the lungs, trachea, bronchus, bronchioles and alveoli?

- a) lymphatic b) reproductive c) integumentary d) nervous

13. Which technology uses high frequency sound waves to produce imaging of body tissues and organs?

- a) CT scans b) Ultrasound c) X-ray d) MRI

14. What is the basic unit of life in the study of Biology?

- a) an atom b) a molecule c) a cell d) an organism

15. What is the natural process that a cell undergoes when it dies?

- a) Apoptosis b) Cell Division c) Cytokinesis d) Dehydrate

16. The largest part of the cells life is spent in which phase?

- a) Mitosis b) Anaphase c) Cytokinesis d) Interphase

17. The Clone "Dolly" was cloned using which method of cloning?

- a) Reproductive Cloning b) Gene cloning
c) Therapeutic Cloning d) Stem cell cloning

18. If a microscope had a 10X ocular lens and a 40X objective lens, what would be its total magnification?

- a) 100X b) 4X c) 400X d) 4000X

19. In what the correct order which organelles (1) synthesis, (2) transport and (3) modify, sort and package proteins for the cell?

- a) smooth endoplasmic reticulum, ribosomes, rough endoplasmic reticulum
b) ribosomes, smooth endoplasmic reticulum, golgi apparatus
c) smooth endoplasmic reticulum, ribosomes, golgi apparatus
d) ribosomes, rough endoplasmic reticulum, golgi apparatus

20. What are the two organ systems in plants?

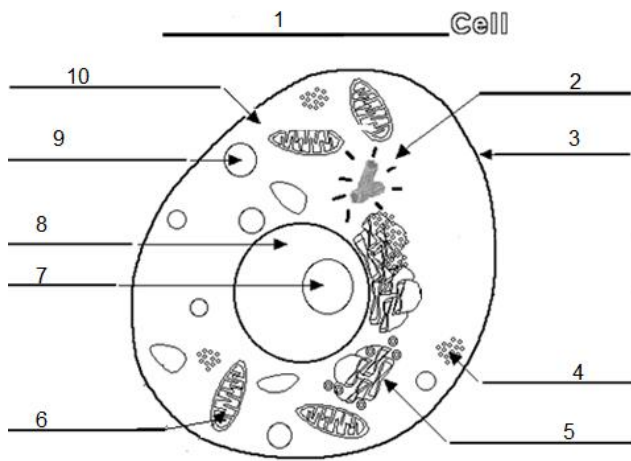
- a) roots and leaves b) roots and shoots
c) stems and leaves d) stems and flowers

21. How do images appear under a microscope?

- a) reversed and upright b) angled to the left and upside down
c) reversed and upside down c) angled to the right and right side up

Part B) Labeling Diagrams (15 marks)

Label the following parts of the respiratory system: (5 marks)



2: _____

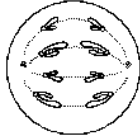
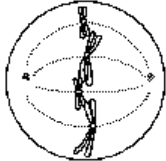


4: _____

5: _____

6: _____

8: _____

Write the **name for each stage of mitosis**. (1/2 mark each x 8 =4 marks)

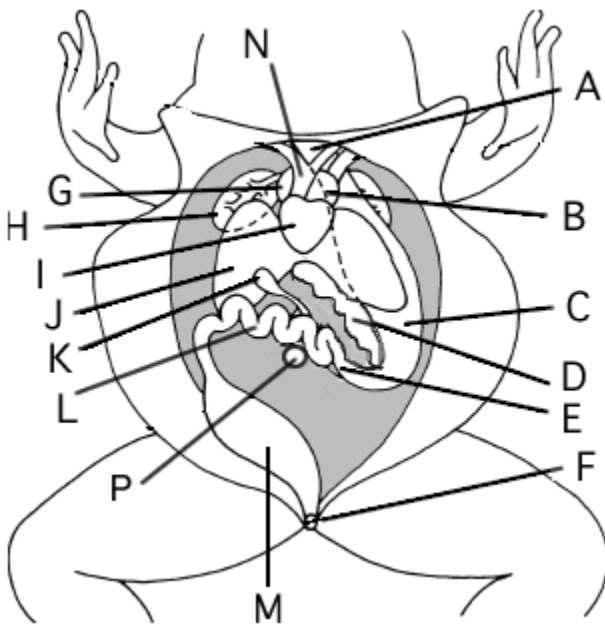
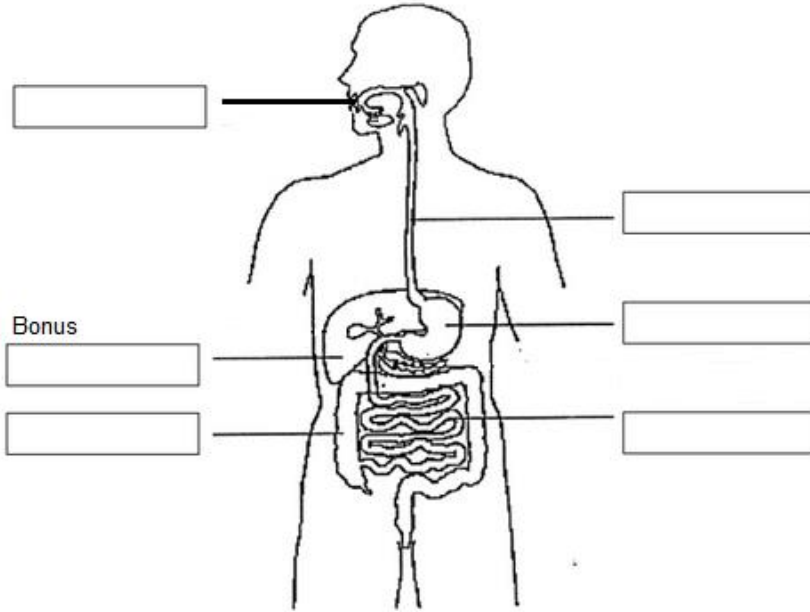
<p>Phase:</p>  <p>Label the <u>centrioles</u></p>	<p>Phase:</p>  <p>Label the <u>spindle fibers</u></p>
<p>Phase:</p>  <p>Label the <u>chromatids</u></p>	<p>Phase:</p>  <p>Label the <u>nuclear membrane</u></p>

Digestive system: Label the required parts of the digestive system. Use the list of words provided (1/2 mark each x 4 = 2 marks)

Mouth
Nose
Pancreas
Large Intestine

Esophagus
Stomach
Small Intestine
Trachea

Liver
Gall Bladder
Rectum
Diaphragm



Frog dissection: Label any four (4) organs. Indicate the letter and name the organ. (4 marks)

Part C) Short Answers (20 marks)

1) Describe how the frog's heart is similar and how is it different than the human heart? (2 marks)

2) Use a diagram to describe the hierarchy of structure in with plants or animals? Use specific examples/names. (3 marks)

4) State the similarities and differences between Cancer cells and normal cells? (2 marks)

5) Pick **ONE** type of medical imaging technology, and answer the following questions: (4 marks)

a) State the name of the medical imaging technology: (1 mark)

b) Describe the technology in no more than 2 sentences. (1 marks)

c) List ONE abnormality it can diagnose and/or treat. (1 mark)

d) List one disadvantage associated with this medical imaging technology. (1 mark)

6) Plants –Select **ONE** for the following to answer (2 Marks).

a) Explain how plant systems work together to transport water into the leaves?

b) Explain why water is important to the structural integrity of the plant?

7) State which type of microscope we used in class this term, and state the process used to bring an image into focus on a microscope? (3 Marks)

8) Describe the 3 stages of the cell cycle and briefly express what happens in each stage (4 marks)?

Bonus: Who coined the term “**cell**”?

BONUS Draw the path that blood takes through the heart

