

Science 8 Final Exam Review

A. Vocabulary Words:

BIOLOGY

cell	arteries	Nucleus	Selectively permeable	chromosome
tissue	veins	Cell wall	Organ	diaphragm
organisms	Cell membrane	Ribosome	Organ system	mitochondria
micro-organism	Vacuole	Golgi apparatus	Genetic engineering	nephron
cilia	flagellum	villi	Epiglottis	atria
Ventricle	enzyme	pathogens		

CHEMISTRY

Density	Turbulent flow	Aerodynamics	Buoyancy	Condensation
Flow rate	Laminar flow	Viscosity	force	sublimation
solidification	evaporation	melting		

PHYSICS

light	Bioluminescence	Frequency	luminous	Nonluminous
Visible spectrum	wavelength	Reflected ray	Convex	Incandescence
Cornea	lens	Retina	Optic nerve	fluorescence
Hyperopia	myopia	Umbra	penumbra	transparent
Translucent	opaque	Solar cell	Angle of incidence	Incident ray
Angle of reflection	normal	Plane mirror	Real image	Virtual image
Rods	cones	sclera	Ciliary muscles	iris
pupil	astigmatism	presbyopia	phosphorescence	trough
crest				

B. Summary of big ideas:

Biology Unit

1. What are the 6 characteristics of living things (pg 5)?
2. Living things are called _____
3. List cell organization from smallest to largest (pg 41)
4. The skin is made up of what kind of tissue (pg 41)?
5. What cell structure allows materials to go into and out of a cell?
Describe this structure using the term permeable (pg 10 and 22).
6. What structures are ONLY found in plant cells (pg 12)?
7. What organelle is referred to as the powerhouse of the cell (pg 19)?
8. What structures allow some animals to move?
9. Why is an iodine stain used to observe plant and animal cells?
10. Why would a cell reproduce (pg 49)?
11. What are the body's lines of defence (pg 81)?
12. What cell engulfs foreign invaders?
13. What is in pus?
14. What are pathogens?
15. How does an amoeba get its food?
16. List the organs of the excretory system (in order) (pg 72)
17. Where are nephrons located?
18. What is the primary responsibility of the respiration system?
19. What is the function of the air sacs in the lungs?
20. Which organs remove wastes from the body (pg 78)?
21. List the structure of the respiratory system (in order) (pg 65)
22. List the structures of the heart from the vein to the artery (pg 68)
23. How many chambers are in the heart? What are they called?
24. What is the most dominant tissue in the heart?
25. Veins _____
26. Arteries _____
27. List the structures of the digestive system from the mouth to the anus (pg 75)
28. What is the purpose of the epiglottis?
29. Where is bile produced?
30. What is the function of villi in the small intestine?

31. Where in the digestive system is water reabsorbed?
32. What are enzymes?
33. What is genetic engineering? What are some positives and negatives (pg 57)?
34. What factors can increase reaction rate (slow down) and decrease reaction rate (speed up)?

Chemistry Unit

35. Define fluid (pg 101).
36. Define flow rate?
37. Define force (pg 101).
38. Use a diagram to illustrate changes of state from S-L-G (pg 103)
39. Describe viscosity/give examples (pg 107)
40. What is the difference between mass, weight and volume (pg 113)?
41. What is the formula for Density (pg 119)?
42. Give an example question using the density formula and answer it.
43. Make a density column (fluids in a graduated cylinder) and fill with 5 items for the table on page 122. Label and explain your diagram.
44. Place the 3 states of matter in order of density from least to most dense (pg 125). Explain why this trend is observed.
45. What happens to the flow of fluids when the temperature drops (pg 107)?
46. The collection pool at the base of a waterfall is an example of what kind of flow (pg 105)?
47. What is buoyancy? What are the three types of buoyancy? Define and give an example of each
48. What three things change with changes in temperature (pg 131, 133)?
49. What are the three properties of fluids?

Physics Unit

50. List the sources of light and reflectors of light of pages 289-293, give a BRIEF definition and an example of each
51. Use a diagram to label an umbra and an penumbra (pg 294)
52. On page 196, list the three ways materials can be classified, define each and give an example of each.

53. What is the order of the colours of the visible spectrum? What is a way to memorize this order (pg 299)?
54. Why do we see certain colours?
55. Why do we see black?
56. How fast does light travel (pg 301)?
57. Light travels in _____ lines.
58. Draw and label the features of a typical wave of the electromagnetic spectrum (pg 302)
59. What device converts light energy into electrical energy (pg 306)?
60. Draw, label and explain the diagram of the reflection of light on page 313 (should take up a WHOLE PAGE!!)
61. A flat 2-D mirror is called?
62. Define real image and give examples (pg 319)
63. Define virtual image and give examples
64. List the parts of the eye and their functions:

<u>Structure</u>	<u>Function</u>
	Controls thickness of the lens
pupil	
iris	
	Transmits electrical messages to the brain
sclera	
	Front of the eyeball/ Helps focus light on the retina
	Helps focus light on the retina/ clear oval object
retina	
rods	
	Contains three types of colour receptors (red, green and blue)

65. What parts of the eye focus light on the retina?

66. What happens to the lens when focus on objects near by and far away?

67. Eye problems and corrections

<u>Problem</u>	<u>Also called</u>	<u>Solution</u>
myopia		
	farsightedness	
Astigmatism	-----	
	-----	bifocals

C. Diagrams:

Diagram for Labelling: Parts of Plant and Animal Cells Seen through a Light Microscope

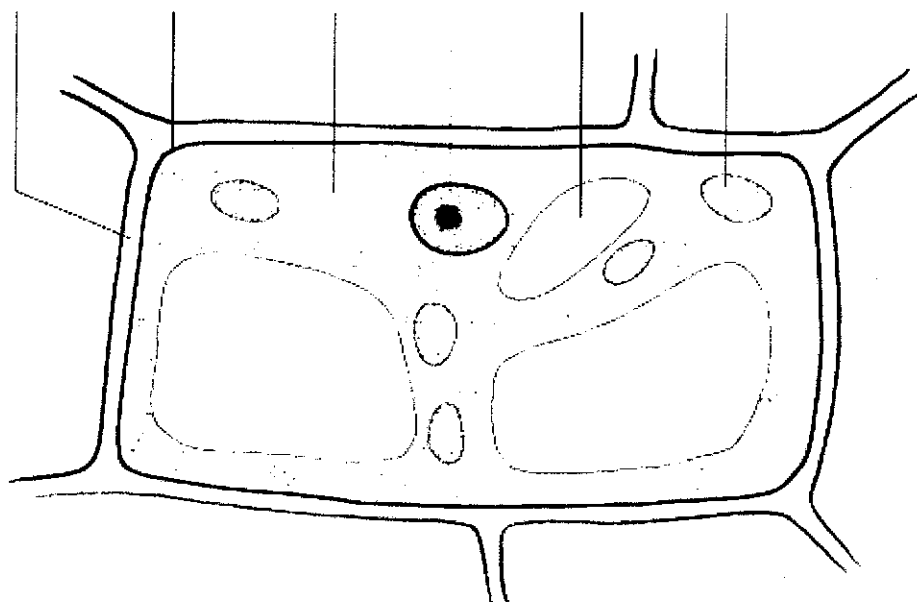
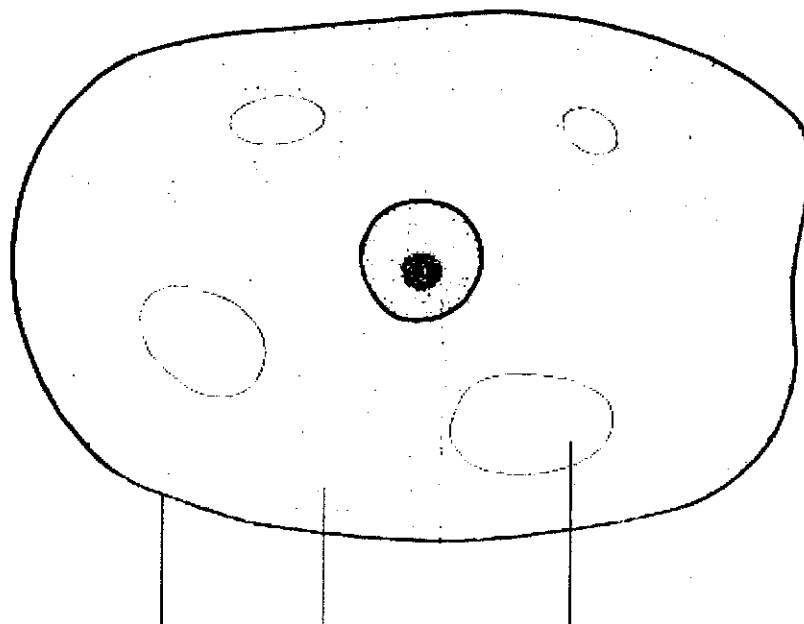
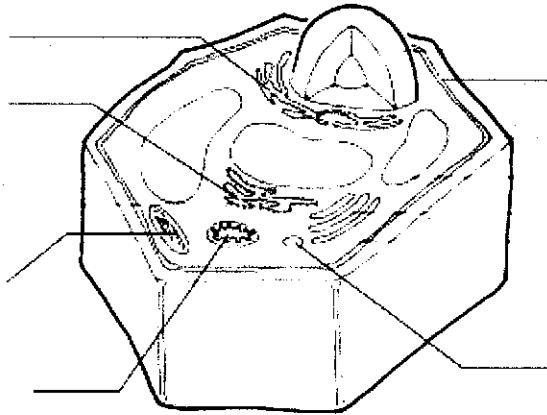


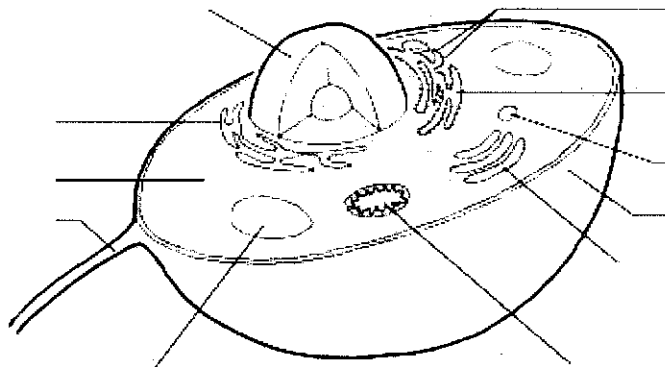
Diagram for Labelling: Parts of Plant and Animal Cells Seen in an Electron Micrograph

Label the organelles in the plant and animal cells.

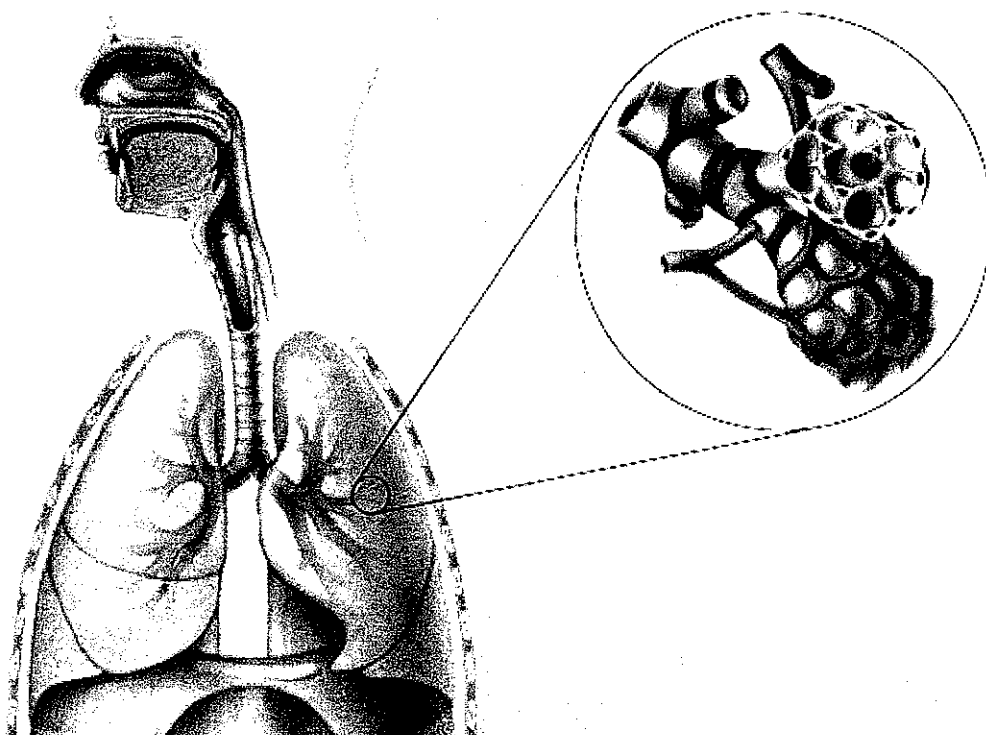
Plant Cell



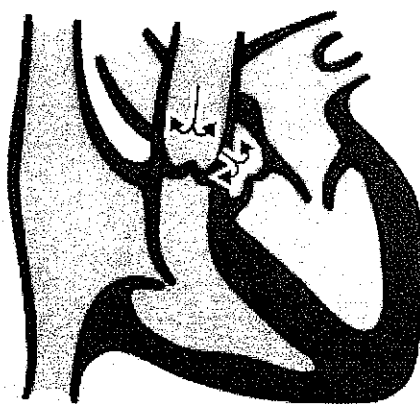
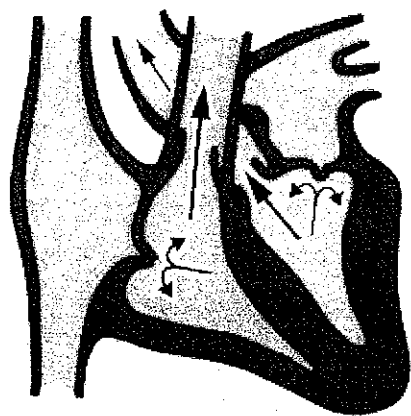
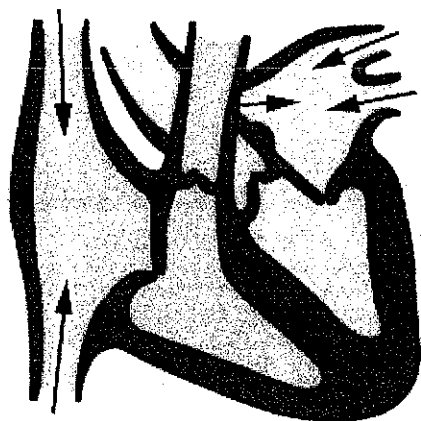
Animal Cell



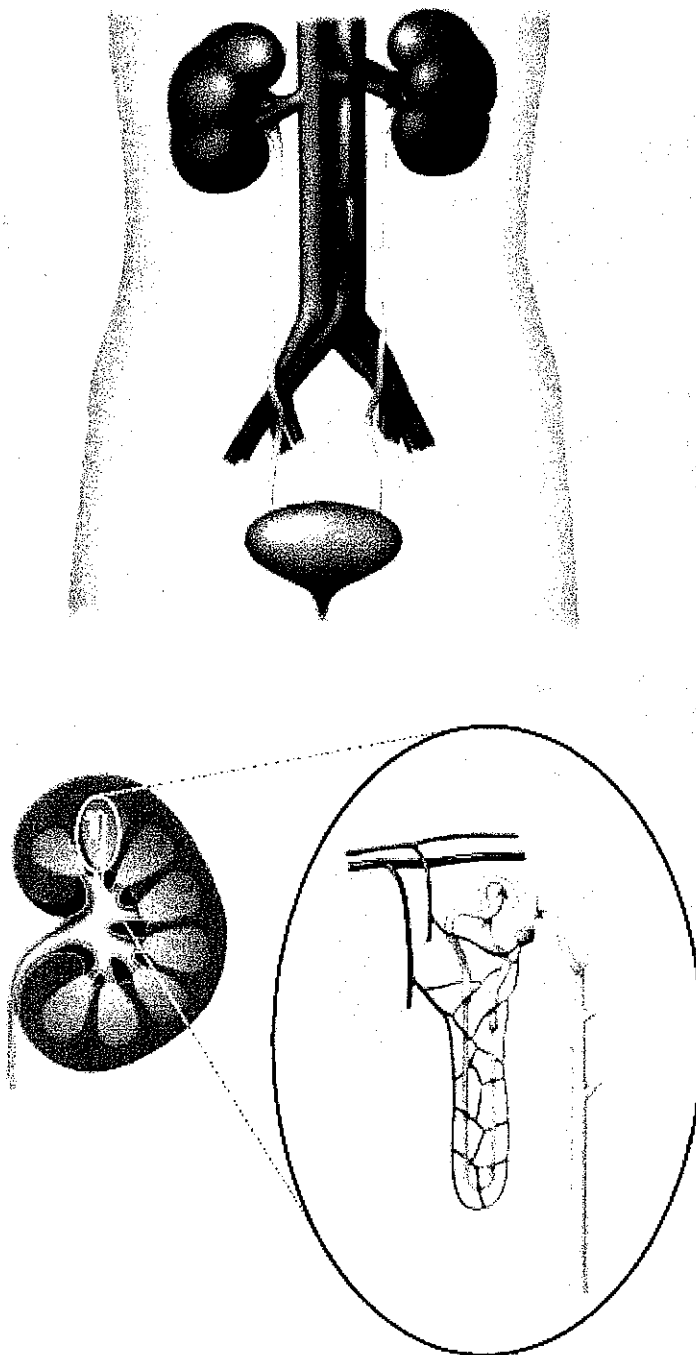
The Human Respiratory System



Blood Flow through the Heart



The Human Excretory System



The Human Digestive System

