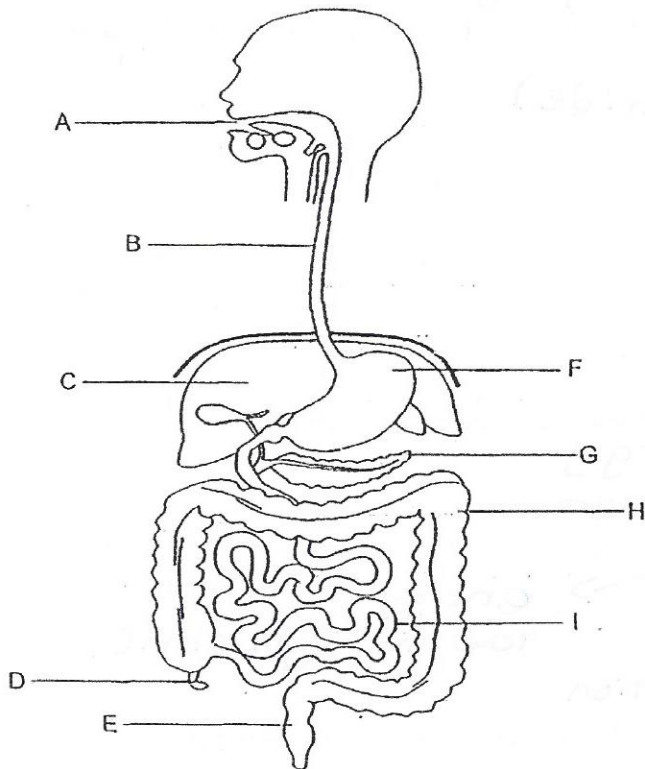


Digestive System and Cell Membrane Transport Study Guide

Directions: Use lab book pages 91-99, your digestive system graphic organizer, cell transport worksheets to review for the test.

Digestive System



- a. Bile
- b. Sodium bicarbonate
- c. Villi
- d. Acid
- e. Peristalsis
- f. Salivary amylase
- g. Teeth and tongue
- h. Digestive enzymes
- i. Pepsin
- j. Salivary glands
- k. Water absorption
- l. Nutrient absorption
- m. Anus
- n. Elimination of waste

Organ	Letter matching organ on <u>diagram</u>	List: (C) Chemical digestion, (M) Mechanical digestion or (B) both	Match the correct vocabulary word to the correct organ.
1.) Small intestine	I	B	L, c, b
2.) Liver	C	C	A
3.) Rectum	E	m	m, n
4.) Esophagus	B	m	e
5.) Stomach	F	C, m	d, i
6.) Mouth	A	m, c	g, f, j
7.) Pancreas	G	C	h, b
8.) Large intestine	H	m, c	K, m, n

18.) What is the function of the cell membrane? What does *selectively permeable* mean?

Keep stuff in or out

↓
allows some things
in but not other

19.) What is the cell membrane made out of? What other molecules are found in the cell membrane?

Phospholipids, proteins, carbohydrate

For numbers 19-28 circle the word that best fits the statement.

20.) Movement across the cell membrane that does not require energy is called [active / passive] transport.

21.) The difference in the concentration of a substance across a space is called a concentration [equilibrium / gradient].

22.) If there is a concentration gradient, substances will move from an area of high concentration to an area of [equal / low] concentration.

23.) The cell membrane is [selectively permeable / impermeable].

24.) [Equilibrium / Diffusion] is the simplest type of passive transport.

25.) The diffusion of water through a selectively permeable membrane is called [osmosis / diffusion].

26.) The direction of water movement across the cell membrane depends on the concentration of free water [molecules / solutions].

27.) A solution that causes a cell to swell is called [hypertonic / hypotonic] solution.

28.) In diffusion, molecules [spread out / condense].

29.) The lipid bilayer describes [a type of transport / cell membrane].

9.) What path does food take through the digestive system?

mouth, esophagus, stomach, small intestine, large intestine

10.) List the four accessory organs of the digestive system. Why are they different from organs on the digestive tract?

Salivary gland ; liver
Pancreas ; gall bladder

11.) For each of the following chemicals produced in the digestive system, list what macromolecule they break down.

- a. Amylase Starch (polysaccharide)
- b. Bile fat
- c. Pepsin protein

Cell transport

12.) Define homeostasis:

balance

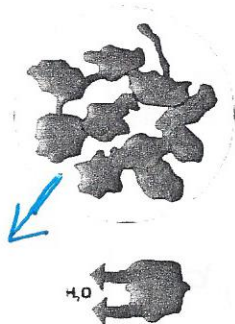
13.) Define diffusion and osmosis. Why are they both considered passive transport?

do not require energy
d = particles o = water

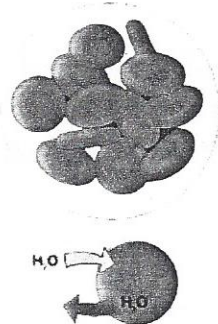
14.) Explain the difference between passive and active transport. Be sure to mention concentration gradient and energy.

no energy energy
high to low concentration low to high conc.

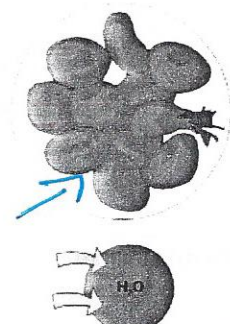
15.) Label the three images below as isotonic/ hypertonic/ hypotonic (solution the cell is placed in).



Solution: hyper
Water moves: out
Why: less H₂O out
more salt out



Solution: iso
Water moves: both
Why: _____

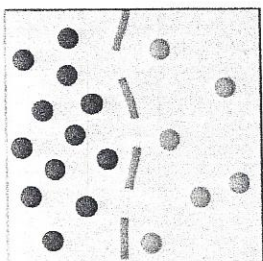


Solution: hypotonic
Water moves: in
Why: more salt in
less water in

16.) Describe particle movement during diffusion and what happens when molecules reach equilibrium.

high to low

move in place



17.) Explain what will happen to each particle during diffusion and once equilibrium is met.

