

# Living Environment Regents Review Sheet #1

## ECOLOGY AND THE ENVIRONMENT

\_\_\_\_\_ The living things in an area interacting with their physical environment

or \_\_\_\_\_ Organisms which can make their own food by photosynthesis  
(auto: on its own)

\_\_\_\_\_ an organism which depends upon other organisms for its food

\_\_\_\_\_ - herbivores (plant eaters-“herbs”) which eat producers (produce “make” own food).

\_\_\_\_\_ -consumers which eat primary consumers (primary means first-so first ones to eat the energy made by plants)

\_\_\_\_\_ the place an organism lives

\_\_\_\_\_ The role of an organism in the environment, especially its feeding role

As the number of organisms in an ecosystem and their interactions increase, the stability of the ecosystem

Organize the levels of ecological organization from simplest to most complex.

## LIFE PROCESSES

\_\_\_\_\_ -- breakdown of **food** to simpler molecules for cells to carry out life functions.

\_\_\_\_\_ -- the **movement** of materials within an organism or its cells

\_\_\_\_\_ -- removal (“exit”) of waste products by an organism (wastes may include carbon dioxide, water, and urea in urine and sweat)

\_\_\_\_\_ -- process which converts the energy in food to \_\_\_\_\_ (useable energy)

\_\_\_\_\_ -- the making of more organisms of one's own kind

\_\_\_\_\_ -- the ability of an organism to resist disease causing organisms and foreign invaders

\_\_\_\_\_ --the control of the various activities of an organism (mostly involves the

\_\_\_\_\_ system and \_\_\_\_\_ glands in complex animals)

\_\_\_\_\_ -the production of more complex substances by combining two or more simpler substances

\_\_\_\_\_ the maintenance of stable internal state in an organism.  
How humans maintain temperature homeostasis in our bodies: As body temperatures increases, we \_\_\_\_\_

\_\_\_\_\_ -groups of cells which perform similar functions

\_\_\_\_\_ - groups of tissues which perform similar functions

\_\_\_\_\_ - groups of organs which work together to perform similar functions

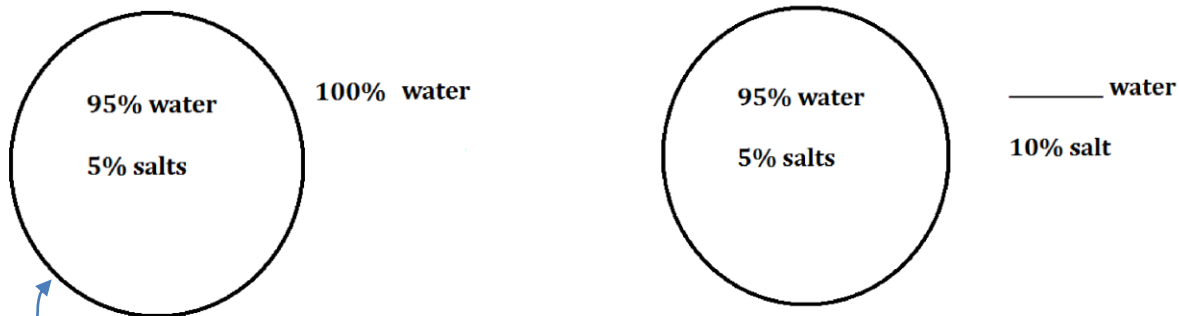
## DIFFUSION AND OSMOSIS (TRANSPORT OF MATERIALS)

\_\_\_\_\_ the movement of materials from **high** to **low** concentration (more crowded to less crowded...easy to do so no energy needed...think of moving from a crowded elevator to an empty one)

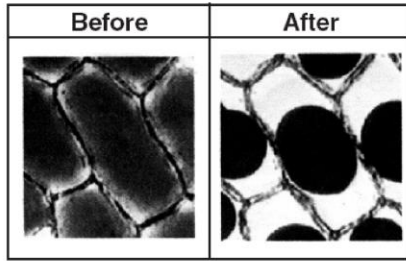
\_\_\_\_\_ the movement of materials from **low** to **high** concentration requiring \_\_\_\_\_ (think of trying to cram into a crowded elevator-needs effort/energy)

### Transport of materials into and out of cell:

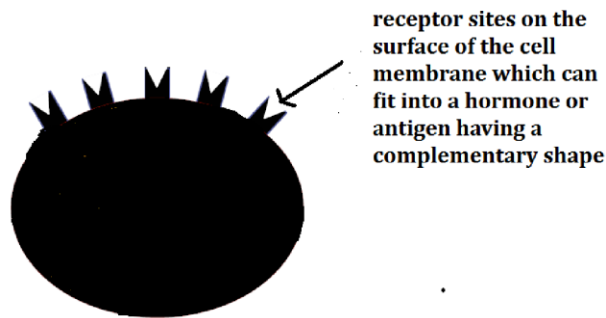
Explain with a labeled picture what will happen to each cell



Is this cell in salt or distilled water?



Look at the after picture of the cell. Was this cell placed in salt water or distilled water? How do you know?



\_\_\_\_\_ -- molecules on the surface of cells which can attach to other molecules

## DIGESTION

Why must digestion (chemical hydrolysis) break down large molecules?

\_\_\_\_\_

\_\_\_\_\_ -- are the digestive end products of complete protein digestion

\_\_\_\_\_ -- are the digestive end products of complete carbohydrate digestion

Glucose is an example of a \_\_\_\_\_ sugar.

\_\_\_\_\_ or \_\_\_\_\_ are complex carbohydrates

## Cell Organelles

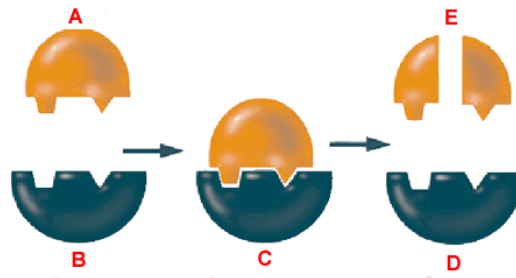
- \_\_\_\_\_ -- contains DNA which directs the synthesis (building) of \_\_\_\_\_ by the cell
- \_\_\_\_\_ -- carries out the process of cell \_\_\_\_\_ (converting glucose to **ATP** energy the cell can use)
- \_\_\_\_\_ -- responsible for the synthesis of proteins for the cell
- \_\_\_\_\_ -selectively regulates the materials moving to and from the cell
- \_\_\_\_\_ -stores and digests food
- \_\_\_\_\_ -pumps out wastes and excess water from the cell
- \_\_\_\_\_ -carries on the process of **photosynthesis** (found in plant cells and algae)
- \_\_\_\_\_ -surrounds and supports plant cells (only found in plant cells)

## Factors Influencing Enzyme Activity

\_\_\_\_\_ : the optimum (best) in most living things is close to 7 (neutral).

\_\_\_\_\_ : the best is 37 C in most living things

heating up the enzyme causes it to \_\_\_\_\_ or change its shape so it no longer fits with its \_\_\_\_\_

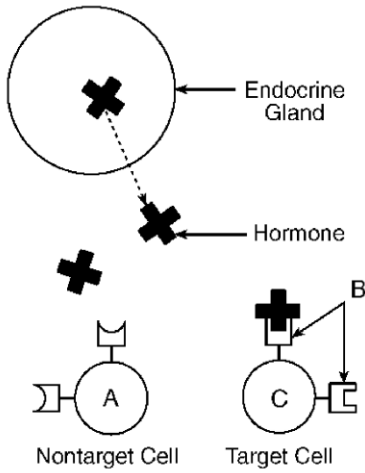


What are two ways you can tell an enzyme in a pictured reaction above? \_\_\_\_\_

Is this a synthesis or chemical digestion reaction? How do you know? \_\_\_\_\_

The two primary methods of communication between cells are \_\_\_\_\_ and \_\_\_\_\_.

If nerve or hormone signals are altered, this changes cellular communication and affects the organism's stability.



\_\_\_\_\_ **Molecules** in the cell membrane can only accept molecules of the correct shape. This is a good example of the \_\_\_\_\_ **Model**. Receptor molecules are proteins on the surface of the cell membrane that receive signals from the nervous and endocrine system. These are needed for your cells to communicate and work together. As with all proteins, it is the \_\_\_\_\_ of the receptor molecule that determines its function.

**TRANSCRIPTION AND TRANSLATION**

**Central Dogma of Biology:**

DNA makes → \_\_\_\_\_ which codes for → \_\_\_\_\_ which makes \_\_\_\_\_

DNA → RNA → Amino Acid

CAT → \_\_\_\_\_ → \_\_\_\_\_

		Second base						
		U	C	A	G			
U	UUU	Phe	UCU	UAU	Tyr	UGU	Cys	U
	UUC		UCC	UAC		UGC		C
	UUA	Leu	UCA	UAA	Stop	UGA	Stop	A
	UUG		UCG	UAG	Stop	UGG	Trp	G
C	CUU		CCU	CAU	His	CGU		U
	CUC	Leu	CCC	CAC		CGC	Arg	C
	CUA		CCA	CAA	Gln	CGA		A
	CUG		CCG	CAG		CGG		G
A	AUU		ACU	AAU	Asn	AGU	Ser	U
	AUC	Ile	ACC	AAC		AGC		C
	AUA		ACA	AAA	Lys	AGA	Arg	A
	AUG	Met or start	ACG	AAG		AGG		G
G	GUU		GCU	GAU	Asp	GGU		U
	GUC	Val	GCC	GAC		GGC	Gly	C
	GUA		GCA	GAA	Glu	GGA		A
	GUG		GCG	GAG		GGG		G