

Name: _____

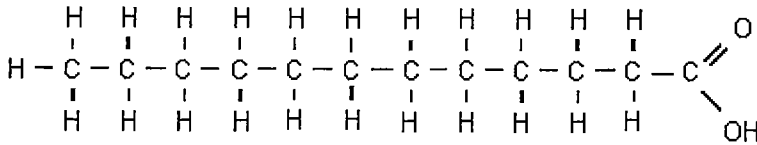
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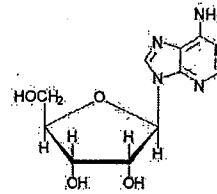
INTRO BIO REVIEW

1. Identify the following compounds.

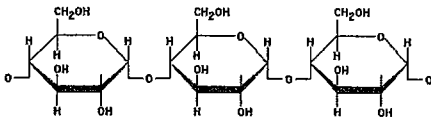
A.



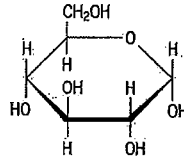
B.



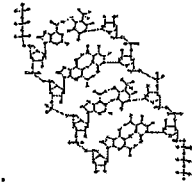
C.



D.



E.



A Fatty Acid

B Nucleotide

C Starch (polysaccharide)

D glucose

E DNA

2. Give 2 functions of fats:

- long term energy storage → triglyceride
 - cell membranes → phospholipid

3. What is the main role of carbohydrates?

- energy → used to make ATP by cellular respiration

4. Give 2 functions of proteins in our body.

- regulate cell functions → enzymes
 - make muscle, bone, fight disease
 - transport input of cells

5. Give three structural differences between plant and animal cells

cell wall
 large water vacuole
 chloroplasts
 centrioles

6. Describe and draw the process of making a protein.

Chemical messenger → DNA → RNA → Nuclear Pore → Ribosome
 → protein → blebbing → vesicle → Golgi → folding → packaging →
 vesicle → cell membrane → exocytosis

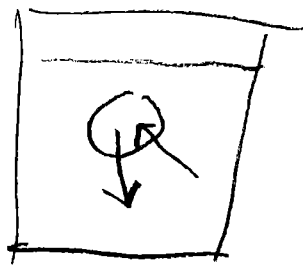
7. Match the following organelles with the proper function.

- D produces fats and detoxifies
- H provides structure and pathways for vesicles to be transported on
- C synthesis and transport for proteins
- E pulls apart chromatids during cell division
- A intracellular digestion (inside cell)
- B packages and exports synthesized products
- F site of cellular respiration - energy production in form of ATP
- G jelly that makes up the cell's interior

- A. Lysosome
- B. Golgi
- C. RER
- D. SER
- E. Centrioles
- F. Mitochondria
- G. Cytoplasm
- H. Cytoskeleton

8. What would happen to a cell if placed in the following solutions (describe and illustrate).

a. **Isotonic solution:**



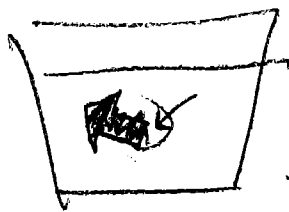
Equal water concentration on either side of membrane.
No net movement of water.
No change in cell size.

b. **Hypotonic solution:**



- Low solute concentration in solution, high solute concentration inside cell.
- High concentration of water outside cell, low inside.
- Solute can't pass membrane, water can.
- Water moves from high concentration to low → cell fills with water and swells. → **LYSIS**

c. **Hypertonic solution:**



- High sol. conc. in solution, low solute conc. in cell.
- Low water conc. outside cell, high inside.
- Solute can't pass membrane, water can.
- Water moves from high conc to low → cell shrinks as water exits.

9. You want to determine the effects of a certain fertilizer on the growth of orchids grown in a greenhouse. Materials that are available to you include: greenhouse, 100 orchid plants, water, fertilizer, and soil. You want to know if the orchids will grow best with a weak concentration of fertilizer, a medium concentration of fertilizer, or a high concentration of fertilizer. How will you design an experiment to test different concentrations of this fertilizer?

Fert. Conc. plant Height → same amount of soil, sunlight, water, pot size, seed type etc

What are the independent, dependent, and control variables? Which plants are the control group and experimental group?

