

## CELL TEST REVIEW

### I. CELL

- a. Identify parts on a diagram
- b. Know 10 cell part functions
- c. Three main plant vs. animal cell differences?
- d. Prokaryote vs. Eukaryote differences? Explain the endosymbiont theory and what evidence exists that supports this theory.
- e. Transport

Transport	High to Low or Low to High	Energy Required?	Type of substance Moved?	Part of Cell Membrane used?

- e. Structure of the cell membrane? Why is there a bilayer?
- f. Define and describe the importance of SA:V?

### II. WATER

- a. Structure of water?
- b. What is polarity and how does it relate to water?
- c. Explain why water is "Sticky". In other words, explain cohesion and adhesion.
- d. How does water influence the structure of the cell membrane?
- e. What is specific heat capacity and capillary action and why are they important to living organisms?

### III. LABS & DEMOS: what occurred (ideally) and main concepts

- a. Dialysis Tube Lab
- b. Potato Demo
- c. Water MiniLab
- d. Fermentation Lab
- e. Snail and Anacharis Lab
- f. Enzyme Lab

### IV. ENERGY

- a. Define energy:
- b. Name the two main forms of energy, define them, and give an example of each
- c. What is ATP? Where is the highest energy bond? How does ATP release energy throughout the body?
- d. Compare the 3 ways in which cells can extract energy from glucose:

Name Reaction	Reactants	Products (include # ATP)	Location in Cell and Type of Cell	Short/Fast

- e. How does the mitochondria maximize efficiency in making ATP?
- f. In terms of evolution, which type of energy production processes do scientists believe evolved first? Give evidence to support this hypothesis.
- g. Photosynthesis:
  1. Reactants:
  2. Products:
  3. Type of Cell:
  4. Location in Cell:
  5. What occurs in the light dependent reaction?
  6. What occurs in the light independent reaction?
  7. What is the role of NADPH and ATP?

(Turn Over)

h. The following questions are about enzymes:

1. What type of organic compound is an enzyme?
2. What do enzymes do?
3. Define catabolic (exergonic) and anabolic (endergonic) reactions. Describe how they pertain to chemical bonding.
4. Draw an energy diagram for a catabolic and anabolic reaction with and without an enzyme.
5. Explain the lock and key method. Why is this important?
6. What are the suffixes of enzymes?
7. What factors influence enzyme activity? Explain.