Final Review for Biology Units 1-4
PLEASE WRITE ON A SEPARATE SHEET OF PAPER

Unit 1- Life/Experiment Design

1. List 8 characteristics of life (try without looking first)

2. If a scientist conducts an experiment to test the theory that a vitamin could extend a person’s life-expectancy, List the independent variable, Dependent variable, Controls for the experiment including the experimental control.

Unit 2 Chemistry Review/Macromolecules

1. Give the number of Protons, Neutrons, and Electrons for Li, Pb, and C.

2. Give the charges for Li and S. Then, write the formula using drop and swap.

3. Define a covalent and ionic bond and give examples.

4. Give 2 examples for a chemical change, physical change, chemical property, and physical property.

5. What is Benedict’s solution?

6. What is an enzyme? Why do we need them? Give examples of an enzyme studied in class and what it does.
7. Fill out the table below with the proper information:

<table>
<thead>
<tr>
<th>Polymer</th>
<th>Monomer</th>
<th>Elements Within</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbohydrates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proteins</td>
<td></td>
<td></td>
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<tr>
<td>Lipids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nucleic Acids</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. What is the difference between a monosaccharide and a disaccharide?


**Unit 3 Cells**

1. Describe an organelle. Give an example of a organelle in a plant and animal cell.

2. What is the difference between prokaryotic and eukaryotic?

3. Draw a cell membrane. Describe the two types of transport.

4. Draw diagrams to show Hypertonic state, Hypotonic state and Isotonic state
Unit 4 Photosynthesis
1. Write the equation for photosynthesis.

2. Draw a picture and label the components of the light independent cycle.

3. Draw the Calvin Cycle.
Lastly, Draw an animal and plant cell. Label the organelles and give their functions!