**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**BIOLOGY REVIEW SHEET MIDTERM 2014**

**A. ECOLOGY**

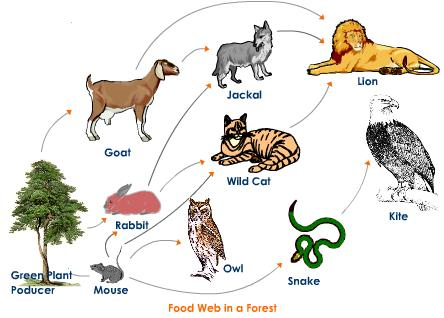
1. The following situations illustrate various ecological relationships. Identify which relationship (commensalisms, mutualism, parasitism, or predation) is described in each situation.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Bacteria that live on the surface of our teeth require sugar from our food to survive. A by-product of their metabolism (body processes) decays the enamel of teeth.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A coyote captures, kills, and eats a rabbit.
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A mite (an eight-legged organism similar to a spider) lives in the base of the eyelashes of people who use mascara. It feeds on the mascara; it does not seem to harm people.

2. For the following choose either: VARIATION or ADAPTATION

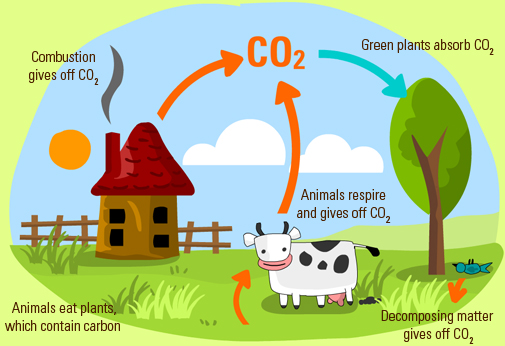
1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_The difference in the physical traits of an individual from those of other individuals in the group to which it belongs.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A feature that allows an organism to better survive in its environment.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_A tortoise population lives in an area with tall grass. These

tortoises have longer necks than tortoises that live in other areas. Having a long neck is an example of this.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ One fish in a population has slightly darker scales than its relatives. The difference in color of scales is an example of this.
2. Label the organisms on the food web below with the following labels (each organism will have two labels)
   1. producer or primary, secondary, or tertiary consumer
   2. herbivore, omnivore, or carnivore



1. In the food web on the previous page, what would happen if the wildcat was removed from the population?
2. The illustration below represents the carbon cycle. Which portion is responsible for the large increase of CO2 in the environment?

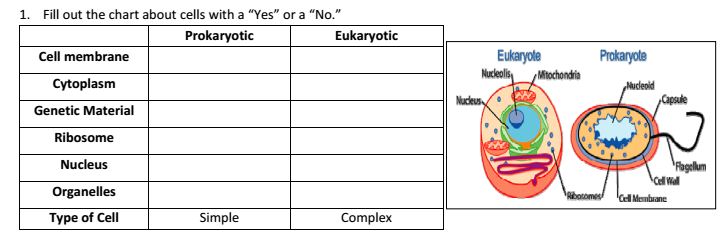


**B. BIOCHEMISTRY**

1. Complete the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| Organic Molecule | Monomer | Function | Indicator used to identify and color change |
| Carbohydrate |  |  | Iodine |
| Lipid |  |  | Brown paper bag |
| Protein |  |  | Biuret |
| Nucleic Acid |  |  | Benedict’s |

**C. CELLS**

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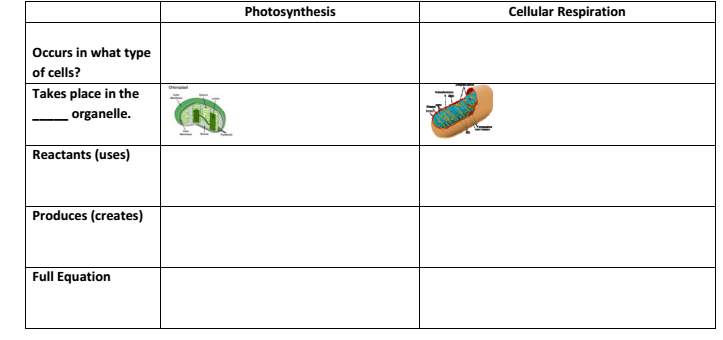
2. Label each of the following descriptions as either lytic cycle, lysogenic cycle, or both.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Virus attaches to surface proteins of targeted cell.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Viral DNA enters the targeted cell.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Viral DNA become incorporated in cell DNA and is copied along with cell DNA.
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Viral DNA is copied by cell and new viral particles are quickly assembled.
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ New cells formed during mitosis include the viral DNA as part of the cell.
6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cell is burst open and viral particles are released.

3. State the reason bacteria are considered living and viruses are not considered living.

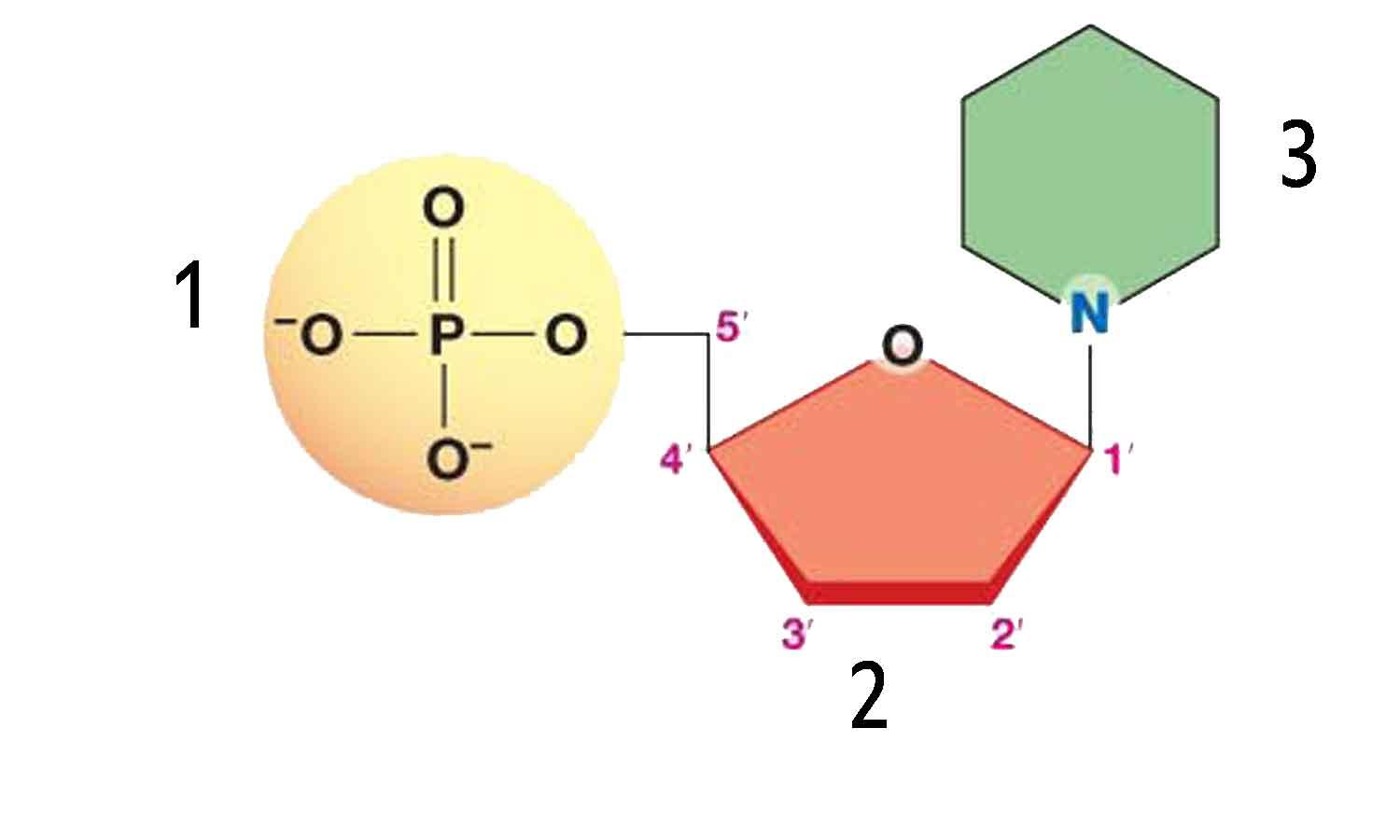
**D. CELL PROCESSES**

1. Fill out the chart below to compare photosynthesis and cellular respiration.

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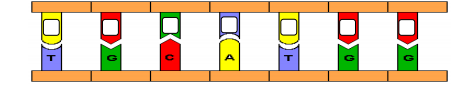
**E. DNA AND PROTEINS**

1. Label the DNA nucleotide below.



1. Name the part(s) of the nucleotide that make up the backbone.
2. Name the part(s) of the nucleotide that make up the steps/rungs of DNA.

4. Complimentary base pair the DNA molecule below.



1. Explain the following statement: DNA replication is semi-conservative.
2. Identify the following statements as either DNA, RNA, or Both.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A type of nucleic acid.
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Double stranded.
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Nitrogen bases include uracil.
6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Sugar is deoxyribose.
7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Monomer is a nucleotide.
8. Identify the following statements as either transcription or translation.
9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Occurs in the nucleus of a cell.
10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Directly involves DNA.
11. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Occurs in the ribosome of a cell.
12. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Amino acids are delivered to build a protein.
13. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Step when I would use the codon chart to determine the amino acid sequence.