Biology EOC Review
Goal 2: Learner will develop an understanding of the physical, chemical and cellular basis of life.

2.01: Compare and contrast the structure and functions of the following organic molecules: carbohydrates, proteins, lipids,

Macromolecules	<u>Function</u>	Subunits
Carbohydrates		
Proteins		
Lipids		
Nucleic Acids		

Specific Molecule	<u>Function</u>	Subunits Simple sugar	
Starch	Plant storage of energy		
Cellulose	Plant cell walls	Simple sugar	
Insulin	Blood glucose levels	Amino acids	
Glycogen	Animal starch	Simple sugars	
Glucose	Energy broken down in mitochondria for ATP		
Enzymes	Speed up chemical reactions	Amino acids	
Hemoglobin	Transport oxygen in the blood	Amino acids	
Fats	Long-term energy storage	Fatty acids and glycerol	
DNA	Genetic info	Nucleotides (sugar, phosphate, base)	
RNA	mRNA: made in nucleus during transcription; in a pattern of the DNA molecule	Nucleotides (sugar, phosphate, base)	
	tRNA: brings amino acids to the ribosome during translation		

Nutrient	Type of Test	Positive Test	Example of?
Starch	lodine	Black	Potato, crackers, corn starch
Lipids	Paper bag	Greasy spot	Oil, butter
Monosaccharides	Benedicts	Yellow, red	Honey, juice
Protein	Biuret	Violet, lavender	Egg whites

2.02: Investigate and describe the structure and function of cells.

Give the structure and function of each of the following: Nucleus, plasma membrane, cell wall, mitochondria, vacuoles, chloroplasts, and ribosomes draw and label a cell with these parts.

Nucleus: darkly shaded large spot; contains DNA; brain of the cell

Plasma (cell) membrane: phospholipids, proteins, carbs; regulates transport Cell wall: plant cells; cellulose; structure

Mitochondria: plants and animals; lots of folds; breaks down glucose into ATP

Vacuoles: storage Chloroplasts: bean-shaped with stacks of "coins"; photosynthesis