

LA SALLE GREEN HILLS
High School Department

1st TRIMESTER COURSE OUTLINE
SCIENCE 2 – BIOLOGY (REGULAR)
SY 2010-2011

I. SCOPE AND SEQUENCE

A. Science and Its Processes

1. The Scientific Method
 - a. Steps in problem solving
 - b. Sample problems (ex: Redi, Spallanzani, etc.)
2. Parts of an ERD
 - a. ERD Guidelines
 - b. Designing a simple experiment
 - c. ERD activities (once a week)
 - *Choosing a topic*
 - *Identifying Variables*
 - *How to describe your data: Qualitative vs. Quantitative Data*
 - *How to present your data: Tabulating and Graphing*
 - *Designing your Methodology*
 - *How to manage your ERD: Dividing the Tasks*
 - *Organizing your ERD Proposal*

B. Biology the Science of Life

1. Definition
2. Historical Development
3. Fields of Biology
4. Discoveries/Milestones in Biology
5. Important Tools and Common Laboratory Techniques / Protocol in Biology

C. Characteristics of Living Things

D. Chemical Basis Of Life

1. Nature and Composition of Matter
2. Inorganic Compounds

E. Biochemistry: Chemical Compounds in Living Things

1. The Carbon Atom
2. The Biomolecules/Organic Compounds
 - a. Carbohydrates
 - b. Lipids
 - c. Proteins
 - d. Nucleic Acid
3. Protein Synthesis

F. The Cell: Basic Unit of Life

1. Early Discoveries and the Cell Theory
2. The Structure of the Cell
3. Classification of Cells
4. Cellular Functions
5. Cell Specialization
6. Tissue culture and its applications

G. The Cell Cycle: Mitosis and Meiosis

H. Cellular Energy and Mechanism

1. The ATP molecule
2. Photosynthesis
3. Cellular Respiration

