

BIOLOGY: REVIEW FOR FIRST SEMESTER FINAL EXAM 10-11

HOW SHOULD I STUDY FOR THIS TEST?

1. Review the highlights of each chapter. (Bold print words, chapter summary, parts of the chapter that you may have had trouble with before.)
2. Go over your class notes. Make **note cards** especially of definitions- some of you made them already- use them to study.
3. Go over worksheets, labs, packets
4. Focus on general concepts and principles instead of just memorizing details.
KNOW THIS REVIEW SHEET!

What is Life?

- What is biology?
- Steps of scientific method
- Parts of a good experiment (control group, experimental group, variables, constants)
- Quantitative and qualitative data
- What are the characteristics of life?
- Organization of living things
- Microscope parts and functions. Magnification problems.

Organic molecules

- Monomer, polymer
- Carbohydrates, lipids, proteins- building blocks of life-study the review chart
- Nucleic acids

Ecology

- Identify the levels of organization that ecologists study.
- Explain how biotic and abiotic factors influence an ecosystem
- Trace the flow of energy through living systems. - food chains, webs
- Identify the interactions that occur within communities.

Cells

- What are cells? What determines their size limits?
- What is the cell theory?
- Cell organelles- know parts and functions of plant and animal cell organelles.
- There are cell diagrams on the test
- Know the differences between plant and animal cells
- Active vs. passive transport
- Cell transport- diffusion, osmosis, plasmolysis, cytolysis
- Laws of diffusion- hypertonic, hypotonic, isotonic solutions, turgor pressure
- Homeostasis, semi-permeable membrane

Cell Energy

- Photosynthesis-What is it and know equations
- Respiration- What is it and know equations
- How are the two processes inter-related between plants and animals

Mitosis and Meiosis

- How do cells reproduce themselves? Mitosis-stages-prophase, metaphase, anaphase, telophase- cytokinesis & interphase, which occurs before mitosis begins
- Know what is happening in each stage- Do you remember the steps with your hands?
- What are genes, chromosomes and DNA?
- Steps of meiosis
- Crossing over, homologous chromosomes
- Why do cells go through meiosis?

DNA

- Structure and function
- Transcription
- M-RNA and T-RNA structure