

Biology EOC Exam Review Tips

Key Vocabulary Terms and Definitions:

These are words that the EOC test often expects you to know and be able to use; they relate to setting up experiments and scenarios you will encounter on the test.

Constraint: Limitation

Example: You've come up with a solution to a problem, but it has limitations like it's expensive or difficult to setup.

Criteria: Guideline for determining if an experiment has worked

Example: If your lab question is, "Does sugar water help a plant?" Then your criteria for success could be to measure the plant's height or color. (*Both height and color are criterion for a healthy plant*).

Reliable: Dependable and will give the same result every time.

Example: To make a lab procedure more reliable, you could do an extra two trials to gather more data. (*The more data you collect the better data it is!*)

Unintended Consequence Results that were not imagined or expected to happen.

Example: You want to find a way to help salmon get around a dam, so you create a salmon ladder to help them, but the path you created makes it easier for bears, and sea lions to catch them too. (*An unintended consequence is the "oops! I didn't think of that....."*)

Validity: Results fit the question that was asked in the experiment.

Example: If you want to know who is the fastest person in the world is, then an experiment that has the fastest runners, running in the same location, on the same day, wearing the same cloths/shoes/ect.... Only then will the results be valid and accurately tell me who the fastest is. (*Adding controlled variables, things that are held the same throughout the experiment will add validity*).

Topics That Frequently Show Up on the EXAM:

These are topics that the EOC exam typically puts an emphasis on, no promises here, but reviewing these concepts is a smart place to start.

1. Designing an experiment:

- Write a procedure, hypothesis, materials
- Write a lab conclusion
 - answer the investigative question
 - highlight high and low data
 - evaluate the differences in the data
 - provide an explanation of "Why" data showed this outcome.

2. Develop an idea to solve a problem

- Important to explain your thinking with details
- Example:** *How could you get rid of small bugs eating a plant without hurting the plant? Give at least 2 possible solutions and explain each.*

3. Carbon and Nitrogen Cycles

Watch the following video to get a bit of a review on the subject:

<https://www.youtube.com/watch?v=Bn41lXKyVWQ>

4. Photosynthesis & Cellular Respiration

You are likely to be asked about what goes into each process and what is created.

Watch these video for review:

Overview of Photosynthesis/Cellular Respiration <https://www.youtube.com/watch?v=M1iRxCaFjoo>

More Detailed <https://www.youtube.com/watch?v=3XIyweZg6Sw>

Amoeba Sisters Photosynthesis: <https://www.youtube.com/watch?v=uixA8ZXx0KU>

Cellular Respiration: <https://www.youtube.com/watch?v=4Eo7JtRA7lg&t=3s>

5. Natural Selection

Know what natural selection is and what the parts of the theory are.

Good overview <https://www.youtube.com/watch?v=0SCjhI86grU>

6. Genetics

DNA overview: <http://statedclearly.com/videos/what-is-dna/>

Mutations: What are they, are they always negative? <https://www.youtube.com/watch?v=GieZ3pk9YVo>

7. Cells and Cell Membrane

Recognize key cell parts and what they do, like *mitochondria, chloroplast, nucleus, ribosome, cell membrane*.

Describe how a cell lets materials in and out of through the cell membrane.

Membrane overview: <http://education-portal.com/acedemy/lesson/active-and-passive-transport-across-the-cell-membrane.html>

8. Know and be able to explain and use the vocabulary listed below:

Most of this list we have mentioned during class and you have some recognition, make sure to review this vocabulary and research words you have absolutely no clue about.

Review using the intranet- make sure to go to a biology website.

Use the text book that is scanned online at <http://thedelinercell.weebly.com>

Find a video regarding vocabulary on YouTube.

Biology Vocabulary by UNIT:

Laboratory Skills

accuracy
conclude
conclusion
controlled experiment
constraint
criteria
data
depth
effective
evidence
experimental control condition
factor
field study
summary
skeptical
principle

Biochemistry/ Macromolecules

atom
amino acid
chemical energy
chemical reaction
compound
carbohydrate
element
enzyme
fatty acids
kinetic energy
molecule
pH
protein
structure
thermal (*heat*) energy
closed system

Characteristics of Life /Cells/ Cell

Transport/ Homeostasis

bacteria	facilitated diffusion
bacterium	skeletal system
cell membrane	contraction
cell wall	negative feedback
characteristics	positive feedback
chloroplast	circulatory system
cytoplasm	hormone
energy	
evolution	
endocrine system	
function	
contraction	
fungus (yeast /mushrooms)	
mitochondria	
mitochondrion	
microorganism	
respond	
ribosome	
reproduce	
tissue	
virus	

Photosynthesis/ Respiration

ATP
absorption
carbon cycle
carbon dioxide (CO₂)
cellular respiration
chlorophyll
digestive system
energy chain
form of energy
glucose (C₆H₁₂O₆)
light energy
photosynthesis
photosynthesize
respiratory system
producer
combustion
fossil fuels

Ecology

atmospheric
aquatic
boundary
biodiversity
biomass
conserve
consumer
cycle
decomposer
ecosystem
food web
habitat
host
hydrosphere
invasive
niche
nitrogen cycle
nonnative
nonrenewable
pollution
parasite
pesticide
pollinate
renewable
resource
species
succession

Mitosis/ Meiosis/ Genetics

asexual reproduction
allele
chromosome
dominant
diversity
embryo
gene
genetic
gender
gene pool
genetic cross
genetic recombination
genotype
heterozygous
homozygous
inherited
meiosis
mitosis
offspring
organism
phenotype
recessive
sexual reproduction
sperm
trait
spore

DNA/ RNA/Protein Synthesis

complementary
DNA
mRNA
mutate
mutation
nucleic acid
nucleotides
tRNA

Evolution/ Classification

acquired (learned) characteristic
adaptation
carrying capacity
divergent
extinct
endangered
fossil
mammals
native
natural selection
population
predator
prey
population density
subsystem