

# **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 (CO<sub>2</sub>)  
cellular respiration  
chlorophyll  
digestive system  
energy chain  
form of energy  
glucose (C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>)  
light energy  
photosynthesis  
photosynthesize  
respiratory system  
producer  
combustion  
fossil fuels

### Ecology

atmospheric  
aquatic sustainability  
boundary toxin  
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