Practice Quiz

Labs 1-3
Calculate $H'$ for the community below.
• Calculate $H'$ for the community below.
Species richness is:

a. the number of individuals of each species that are present in the habitat
b. the number of individuals that occur in each species
c. the number of species found in the habitat
d. the number of species that make up the highest percentage of individuals in that community
e. the number of species found in a single quadrat
What does graph A tell you that you cannot get from graph B? What does graph B tell you that you cannot get from Graph A? (sorry for the shaky lines)
Density dependent factors generally regulate population growth. Which of the following could result in density dependent regulation for plants?

a. levels of N\(_2\) in the atmosphere
b. amount of phosphorus in the soil
c. average number of hurricanes that occur annually
d. choices a and b are correct
e. choices b and c are correct
True or False. Rarefaction plots can tell us how many individuals of each species are present in a community.
True or False. Rarefaction plots can tell us how many samples we have taken.
In Lab 1 you took eight samples. In Lab 3 you estimated population size by counting the number of *Blepharisma* in 15-20 drops. Why not just take one sample for each?
Which organism(s) need oxygen?

A  
B  
C  
D—all of the above
Which organisms require carbon dioxide?

A

B

C

D—none of the above are correct
E—choices A, B, and C are correct
Recall the results of your algae ball experiment. If you were to leave the algae balls on the counter (and assuming you are a responsible person and turn lights off when you leave the room), and if you were to measure the pH in the vials in the morning, you would expect to see the pH to

______________.

a. increase because organisms are photosynthesizing  
b. increase because organisms are not photosynthesizing  
c. decrease because organisms are not photosynthesizing  
d. decrease because organisms are respiring
Why do leaves, in general, have lots of surface area relative to their volume?
Name one or two structures or systems in animals that also would have a lot of surface area relative to their volume (below are a couple of marine animals that exhibit this pattern). Why might these structures or systems have a lot of surface area relative to their volume?
What is the basic function of structure A?

a. Photosynthesis
b. respiration
c. dispersal
d. nutrient uptake
e. reproduction
What is the name of structure D?

a. stem  
b. leaf  
c. internode  
d. chloroplast  
e. flower
What is the basic function of structure C?

a. photosynthesis
b. respiration
c. gas exchange
d. nutrient uptake
e. reproduction
Which of the following is an example of a heterotroph?

D. Choices A and B
E. Choices A, B, and C
Here is a population of sand dollars from Monterey Bay. If this was the only species in this habitat (assume the algae is not there), and if you were to remove just one sand dollar from this habitat, how would this affect your value of $H'$?

a. $H'$ would decrease  
b. $H'$ would increase  
c. $H'$ would remain unchanged  
d. $H'$ would be near zero  
e. none of the above are correct
If the above population size is remaining constant, what must be true?

a. $b > d$
b. $b < d$
c. $b = d$
d. $b >> d$
e. $b << d$
This crab is about to give birth. All of those orange dots are eggs. Is this an r or K-selected reproductive strategy?
Assuming all of her offspring survive, what would be the approximate finite rate of increase for this population?

a. larger than one  
b. one  
c. smaller than one  
d. close to zero  
e. zero
• At a magnification of 3x, you calculated a conversion factor of 0.025. You then measured an object using the micrometer to be 40 micrometer units long. How long is this object in millimeters?