

Name: _____ Lab: _____

Score:

/25

BBQ#1

Due Date: During the first 5 mins of Exam#1

Checklist:

- ☐ 4 misconceptions (Explain why they are not true)
- ☐ BBQ 1
- ☐ BBQ 2
- ☐ BBQ 3
- ☐ BBQ 4 (Chem. Map)
- ☐ BBQ 5 (In Lab: Size & Scale)
- ☐ BBQ 6
- ☐ BBQ 7
- ☐ BBQ8 (Osmosis Practice)

Review & Practice exams are available at: <https://zanniedallarasciencepage.weebly.com/bio-11---exam-1.html>

Stamps:


Week 2 in lab:

<i>BBQ1</i>	<i>BBQ2</i>	<i>BBQ3</i>	<i>BBQ4</i>


Week 3 in lab:

<i>BBQ5</i>	<i>BBQ6</i>	<i>BBQ7</i>	<i>BBQ8</i>

Lec #1 - Characteristics of Life:

 **BBQ#1**

1. *List & Explain each character.*

If you prefer to draw that is OK
2. Do you have to have all 8 characteristics of life to be alive?


Lec #2 - Chemistry:



BBQ#2

An **uncharged atom** of zinc has an atomic number of 30 and an atomic mass of 67.

1. Draw the atom
2. Count the Number of:
 - _____ protons
 - _____ neutrons
 - _____ electrons



BBQ#3

- Draw **two** water molecules, and label any atoms, parts, charges and interactions.

Lec #2 - Chemistry:

BBQ4: Chem. Word Map		Homework: BBQ – DUE @ START OF EXAM#1
Key Terms of Chemistry		
<u>Atoms</u>	<u>Molecules</u>	Goal – Make and submit a Concept Map. <ul style="list-style-type: none">• <u>Verbal thinkers:</u> Use lines to connect each of the key words (listed to the left).• <u>Visual Thinkers:</u> Instead of bubbles that have words in them, draw pictures and connect them with a map to help explain the order.• Explain the connect with a little note near the line.
<ul style="list-style-type: none">• Nucleus• Atom• Proton• Mass• Neutron• Electron• Positive• Negative• Neutral• Isotope	<ul style="list-style-type: none">• Molecule• Bond• Ionic• Covalent• Hydrogen• Atom• Element	

Size and Scale

Name: _____ Lab Day and Time: _____

Blue Book

BBQ#5

Size and Scale

Thinking Like a Biologist in Size and Scale

Due at start of Lab#3, Staple into Blue Book

Part I:

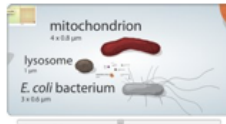
- Revisit your **Biology Size and Scale Strip Set** that you worked in class on with a partner. Do the exercise again by yourself, putting the strips in order from the LARGEST to the SMALLEST.
- Write out a list of YOUR predicted order of the strips from LARGEST to SMALLEST here:

- Write a paragraph (≥200 words) about: (attach it to this paper)
 - what strategies you used to arrive at this prediction,
 - which items you are **most sure about** their relative size, and
 - which items you are **least sure about** their relative size.

Part II:

ONLY AFTER COMPLETING PART I (on your honor!), explore this website:
<http://learn.genetics.utah.edu/content/cells/scale/>

- As you move the scale bar and zoom in, think about how you would need to REVISE YOUR PREDICTED LIST of items from LARGEST to SMALLEST!
- Also, think about **WHAT EACH OF THESE BIOLOGICAL ITEMS ARE MADE UP OF**...Think about which of the items are: ...collections of cells?
 ...single cells?
 ...only collections of molecules?
 ...only single molecules?



Part III:

Write another paragraph (≥200 words) about:
 1) What did you learn from the website that SURPRISED you the most.
 2) What did you learn that CONFUSED you the most.

Name: _____ Lab Day and Time: _____

3) What new strategies might you use if you were asked to predict the relative size of a new set of biological items.

Red Blood cell	Grain of Rice
Mitochondrion (organelle)	Ribosome (collection of molecules)
Amoeba cell	Human Egg cell
Yeast cell	Grain of Salt
E. Coli Bacterial cell	Skin cell Sperm cell
X Chromosome (collection of molecules)	Adenine molecule (nucleotide)
Phospholipid molecule	Hemoglobin molecule (protein)
Methionine molecule (amino acid)	Glucose molecule (sugar)
Water molecule	Carbon atom

Attach here:

Lec #3 - Macromolecules:

Blue Book

BBQ#6

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- Complete this chart

	<i>Carbohydrate</i>	<i>Lipid</i>	<i>Protein</i>	<i>Nucleic Acid</i>
<i>Monomer</i>				
<i>Polymer</i>				
<i>Primary Functions</i>			1) 2) 3) 4) 5)	
<i>Does it dissolve in water? (Yes or No)</i>				



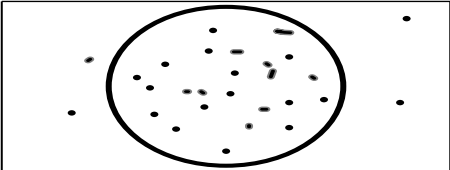
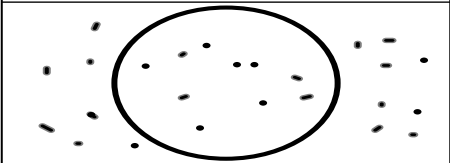
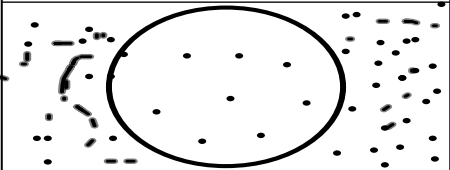
BBQ#7

A) What are the key differences between prokaryotic and eukaryotic cells?

B) Why are ribosomes in both?

C) How are bacteria different than a human body cell.



What the cell looks like, the dots indicate salt particles <input type="checkbox"/> Add the direction of water movement with an arrow	Draw what the cell will look like after this occurred	Name the solution on the outside of the cell
		
		
		

Draw and label the structure and parts of a cell membrane:

1. How is a plant cell different than an animal cell? (3 things)

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2. How can you tell that prokaryotic cells evolved first?

3. Why can't salt just move through the lipid bilayer like water?

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Misconceptions:

Chose 4 to address (explain why they are wrong).

All things that move are
alive.

Atoms and molecules are
the same size and
basically the same thing.

The shape of the polymer
is independent of the
shape of the monomer.

All cells have the same
basic size and structure.

During diffusion, when all
the molecules are evenly
“spread out,” they stop
moving.