Name: KEY Date: _____ Period: Biology 1st

Unit 3 & 9 Week Test Review: Cell Structure and Biomolecules

By the end of class, check the ones you feel confident on and study the others at home.

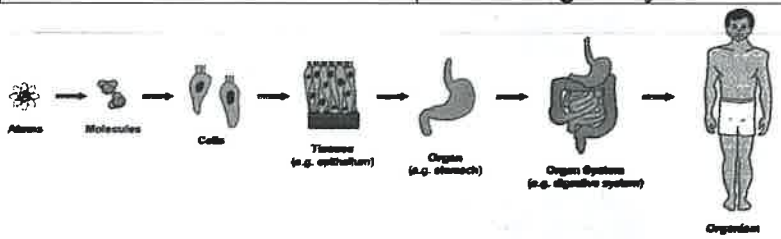
1. ___List the levels of organization in an organism from cell to organism
2. ___Identify types of cells (prokaryote or eukaryote)
3. ___Label prokaryotic and eukaryotic cell structures
4. ___Identify differences in plant, animal and bacterial cells

Levels of organization: (simplest to complex)

1. Organelles -> cells -> tissue -> organs -> Organ System -> Organism

Word bank for #1

Tissue	Organism	Organs
Cells	Organ System	



2. You discover a blue mark on your body after a long day. When you press on the mark, it is painful. You decide that this mark is probably a bruise from when you were playing with friends. Using this information, answer the following.
   a. Your **skin** would be classified in which **organizational level**? Organ
   b. For your skin to heal, what are the **levels of organization** that need to be part of the healing process? cells, tissue

3. Tell me one way you can tell this is **not** a **plant** cell?
   No cell wall OR No large vacuole OR No chloroplast
4. Tell me one way you can tell this is **not** a **bacteria** cell?
   has a nucleus, has membrane-bound organelles
5. a. What is the **difference** between a **prokaryote and eukaryote**?
   PRO = NO nucleus EU = Nucleus
   b. What is the **difference** between a **plant and animal cell**?
   Plants have cell walls, large vacuoles & chloroplasts

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6. How are bacteria and prokaryotes **related?**

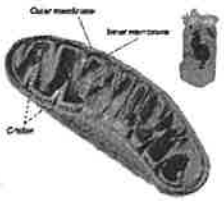
Same organism

7. Do **prokaryotes** have a nucleus? Yes or No

No!!!

8. What is the **job of mitochondria** in plant and animal cells?

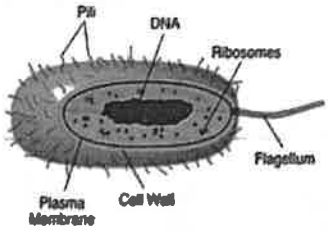
A) to control what enters the cell
B) to break down wastes
C) break down food for energy
D) Instruct ribosomes to make proteins



Mitochondria

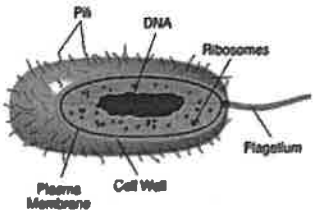
9. Which organelle is **not** membrane bound (surrounded by a membrane) and is found in prokaryotes?

A) mitochondria
B) lysosomes
C) Golgi apparatus
D) ribosomes



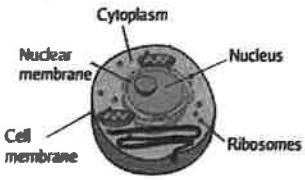
10. What do **ALL cells** have in common?

A) nucleus
B) genetic material, DNA
C) ability to move
D) ability to make energy



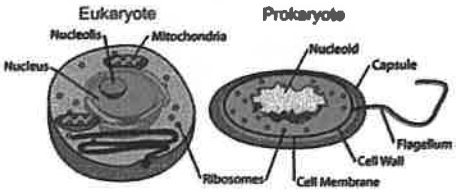
11. What structure can be found in **both plants and prokaryotes** (bacteria), but **not** animal cells?

A) cell wall
B) cell membrane
C) cytoplasm
D) ribosome



12. If looking at a unicellular organism under the microscope, how would you know it is **NOT a prokaryote?**

A) it would have ribosomes
B) it would have a cell wall
C) it would have a nucleus
D) it would have DNA



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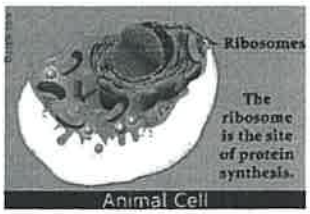
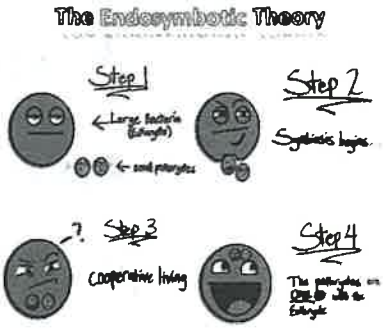
13. Why must ALL cells, prokaryotes and eukaryotes, have ribosomes?
Ribosomes make proteins + cells need proteins

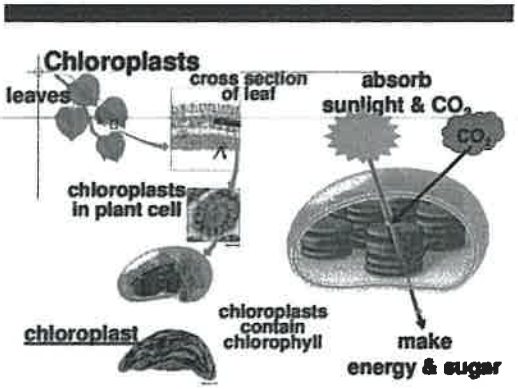
14. What two cell organelles have their own DNA and support the theory of endosymbiosis?
Mitochondria + chloroplast

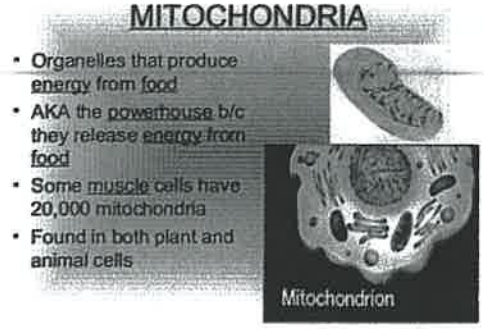
15. Which organelle creates energy for plant cells only?
chloroplast

16. Which organelle creates energy for both plants and animal cells?
Mitochondria







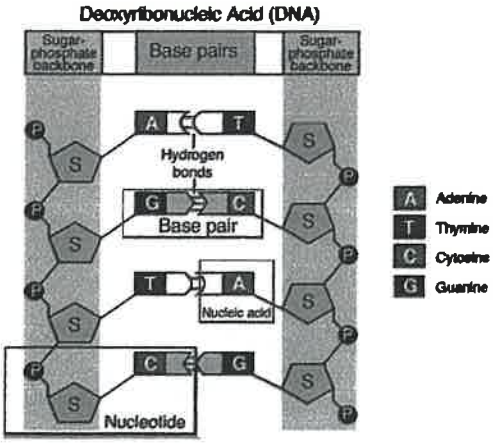


17. Circle all the **organs** below:

Bone	Skeleton	Heart	Kidney
Skin cell	Skin	Tissue	Bacteria

18. How does DNA code for traits in an organism?
The sequence of nucleotide bases

19. How does DNA compare in all living things?
Same components (phosphates, sugars, A T C G - all the same)



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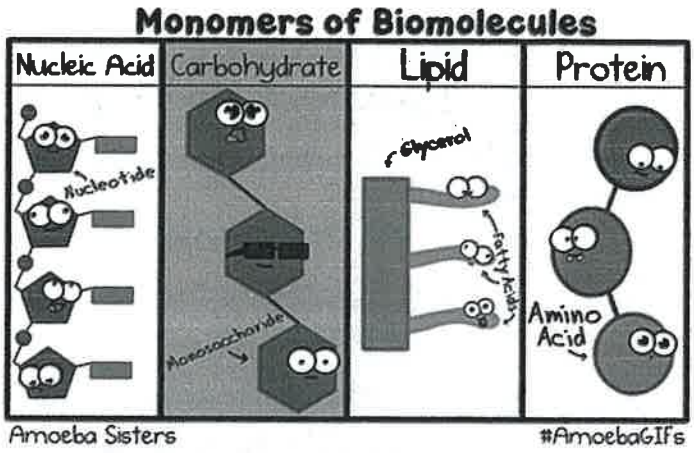
20. Which biomolecule is for insulation?
Lipid

21. Which biomolecule is for immediate (quick) energy?
Carbohydrate

22. Which biomolecule is for building cells, tissue and muscle?
Protein

23. What are polymers made of?
Monomers (small subunits)



24. Which biomolecule is formed by chains of amino acids?
Protein

25. Which biomolecule is formed by saccharides?
Carbohydrate

26. Enzymes are in which biomolecule group?
Protein

27. Which biomolecule is for long term energy storage?
Lipid

28. Which biomolecule is for genetic information?
Nucleic Acid

29. Which biomolecule contains instructions for making proteins?
Nucleic Acid (DNA)

30. Small subunits of polymers are called Monomers.

Biomolecules

Organic Molecule	Building Block	Functions	Elements	Examples
carbohydrate	monosaccharide	provide energy	C, H, O	starch, glycogen, cellulose
lipid	fatty acids	energy storage protection insulation	C, H, O	fats, oils, waxes, steroids
protein	amino acids	structural components, contracting muscle tissue, transport O_2, immunity, regulates other proteins, chemical reactions	C, H, O, N, S	enzymes
nucleic acid	nucleotides	stores cellular info in the form of a code	C, H, N, P	DNA RNA