Name: Key Date:_____ Period:_____

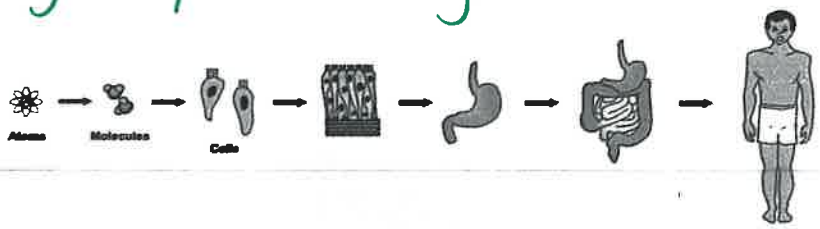
Unit 3 & 9 Week Test Review: Cell Structure and Biomolecules-PAP

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 -> tissues -> Organs -> organ system -> organism



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

Answer questions (1-5) below in complete sentences:

1.Tell me one way you can tell this is not a plant cell?
No cell wall No large vacuole
No chloroplast

2.Tell me one way you can tell this is not a bacteria cell?
Has a nucleus + other organelles

3.a. What is the difference between a prokaryote and eukaryote?
PRO- NO nucleus or mem. organelles
EU- Has nucleus and mem. organelles

b. What is the difference between a plant and animal cell?

Plant
cell wall
chloroplasts
large vacuole

Animal
Lysosomes

Name:_____ Date:_____ Period:_____

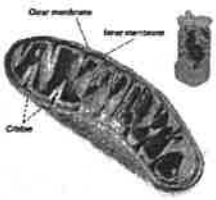
4.How are bacteria and prokaryotes related?

Same thing

5.Do prokaryotes have a nucleus? Yes or No

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

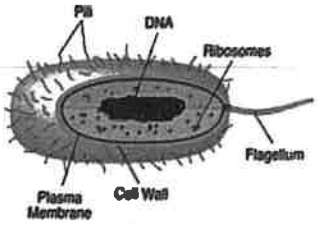
A) to control what enters the cell
B) to break down wastes
C) break down food for energy
D) Instruct ribosomes to make proteins



Mitochondria

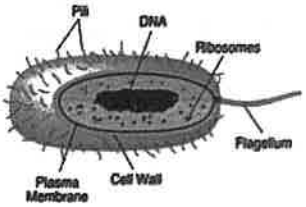
7. Which organelle is not membrane bound (surrounded by a membrane) and is found in prokaryotes?

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



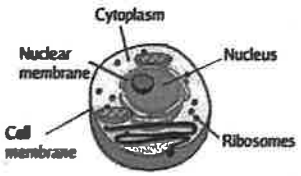
8. What do ALL cells have in common?

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



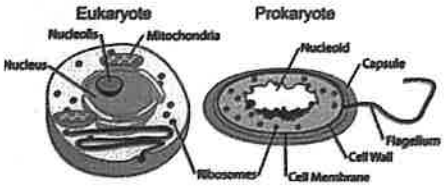
9. What structure can be found in both plants and prokaryotes (bacteria), but not animal cells?

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



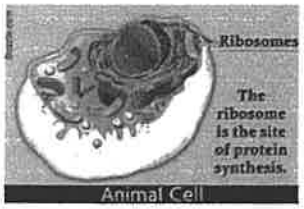
10. If looking at a unicellular organism under the microscope, how would you know it is NOT a prokaryote?

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



Name:_____ Date:_____ Period:_____

Answer questions (11-14) below in complete sentences:

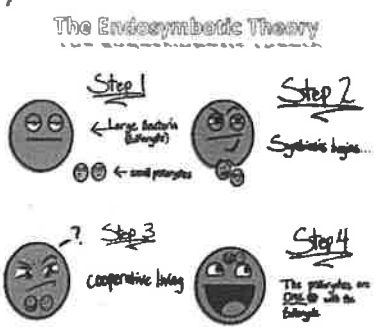


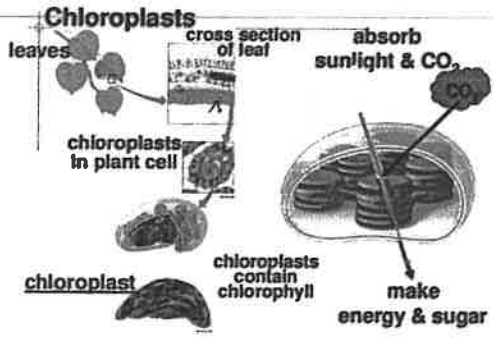
11. Why must ALL cells, prokaryotes and eukaryotes, have ribosomes?
Ribosomes make proteins - needed to make cells (synthesis).

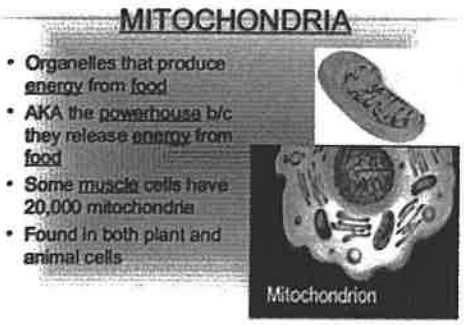
12. What two cell organelles have their own DNA and support the theory of endosymbiosis?
mitochondria + chlorqplast

13. Which organelle creates energy for plant cells only?
Chloroplast

14. Which organelle creates energy for both plants and animal cells?
mitochondria







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

Bone Skeleton Heart Kidney

Skin cell Skin Tissue Bacteria

Name:_____ Date:_____ Period:_____

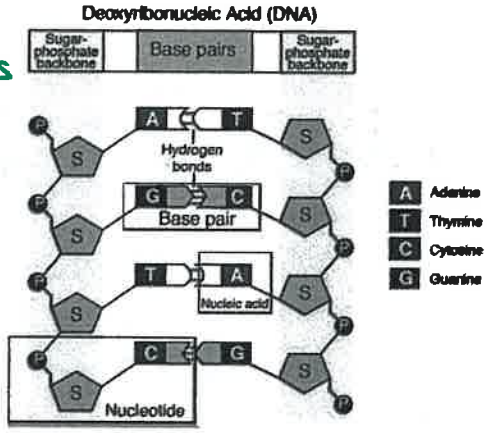
16. How does DNA code for traits in an organism?
Order of nucleotide bases

17. How does DNA compare in all living things?
same components different order bases

18. Which biomolecule is for insulation?
Lipid

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

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



21. What are polymers made of?
monomers (small subunits)

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

23. Which biomolecule is formed by saccharides?
Carbohydrate

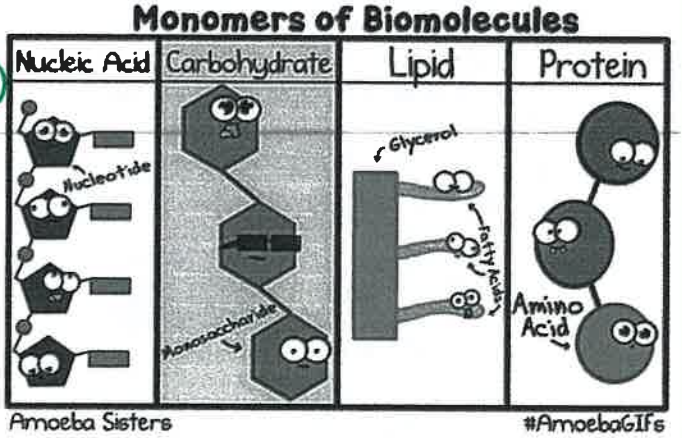
24. Enzymes are in which biomolecule group?
Protein

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

26. Which biomolecule is for genetic information?
Nucleic Acid

27. Which biomolecule contains instructions for making proteins
Nucleic Acid

28. Small subunits of polymers are called monomers



29. The process where you're breaking down polymers is called?
Hydrolysis

30. The process where you're building monomers into polymer is called?
Dehydration Synthesis

Name:_____ Date:_____ Period:_____

Fill in the following table:

Organic molecules	Building blocks	Functions	Elements	Examples
Carbohydrates	Saccharides	Quick energy Short term energy storage structure in plants	CHO	glucose sucrose starch Glycogen
Lipids	Fatty acid glycerol	long term energy Insulation Protect organ	CHO	cholesterol wax, oil fat
Protein	amino acids	Build cells Transport Enzymes	CHON	Hormones, Enzymes
Nucleic acids	nucleotides	Genetic information & instruction	CHONP	DNA RNA

Draw the structures below for the following biomolecules:

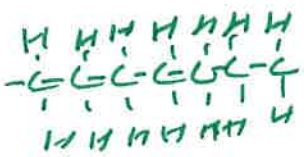
Carbohydrate

Lipid

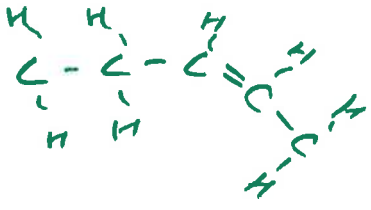
Nucleic acid

Protein

Saturated fat

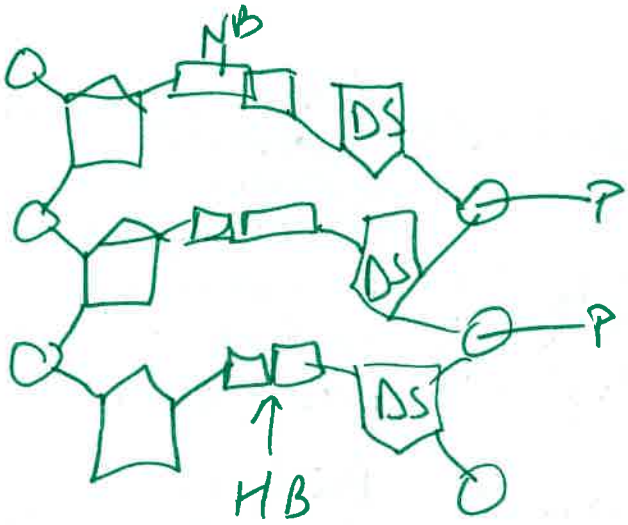


Unsaturated fat



Name:_____ Date:_____ Period:_____

Draw the structure of a DNA model and label the following: **Nitrogenous bases, Hydrogen bonds, Deoxyribose sugar, Phosphate.**



Complete the complimentary strand below:

5'ATCCGGTTATCGACTGCAT3'

3'TAGGCCAATAGCTGACGTA5'

Explain the Endosymbiosis theory in complete sentence:

Large prokaryote engulfs smaller prokaryotes that live inside.

Photosynthetic prokaryote becomes Chloroplast

Oxygen using prokaryote becomes mitochondria