Parts of Prokaryotic & Eukaryotic Cells

CELL THEORY

1. All living things are made of ______________.
2. Cells are the basic unit of ___________ & __________ in an organism.
3. All cells come from the reproduction of ______________ cells.

CELL MEMBRANE MODEL

- Phospholipids and proteins move ___________ or side to side for short distances.
- Proteins make a pattern on the surface known as the ___________ ___________ model.

NUCLEUS and NUCLEOLUS

NUCLEUS is:

- Surrounded by ______________ MEMBRANE called the NUCLEAR ______________
- Serves as the ______________ CENTER OF CELL
- Nuclear _________ allow molecules in and out
- CONTAINS CELL'S GENETIC MATERIAL (___________)
- Contains NUCLEOLUS (Dark spot) which makes ______________ (RNA)

DNA is scrunched up as _________________ in DIVIDING CELLS
DNA is spread out as_______________ in NON-DIVIDING CELLS
CYTOSKELETON
Made of PROTEINS called __________________ and __________________

FUNCTION: _____________________________________
____________________________________________

LYSOSOMES
Sac containing _______________________________

FUNCTION:
Digests: _____________________________________________

Plays a role in ____________________________ “programmed cell death”
Cell suicide for the good of the ______________

VACUOLE

STORAGE SPACE FOR: _______________________________________

Huge in ______________________cells, small in _____________
cells, NOT in _____________________________ cells.

CENTRIOLES
Made of PROTEINS called ___________________________

Only seen in ______________________ cells during cell division

Function: ____________________________________________
CILIA & FLAGELLA
Made of PROTEINS called _____________________
organized in a ________ arrangement
that help with __________________________

CILIA: ______________ & ______________
FUNCTION ______________________________

FLAGELLA: ______________ & ______________
FUNCTION ______________________________

RIBOSOMES
Can be ______________________ in the cytosol or __________________ to
the surface of Rough ER
MADE OF ______________ & _______
FUNCTION: ___________________________

CELL MEMBRANE or PLASMA MEMBRANE
Made mainly of _________________ and _________________

HYDROPHOBIC “tails” of phospholipids make molecules line up
as a LIPID ________________ with POLAR heads facing
_______ and NON-POLAR tails facing ________

Proteins attached to surface (inside or outside)=
____________________
Proteins stuck into membrane = ________________________
(can go part way in or all the way through)

Membranes are _______________ ______________________ when
they allow certain molecules to pass through; but keep others out.


** OTHER MOLECULES: **

- **GLYCOPROTEINS** with attached ________________ tails to recognize self
- **Contain the steroid ______________ to make membranes more flexible**

** MITOCHONDRION (plural: MITOCHONDRIA)**

- Surrounded by ______________ membrane.
- Contains its own ________________ of cell
- Called the ________________ of cell
- Burns ______________ to release energy.
- Stores energy released as __________.
- __________ outer membrane

** GOLGI APPARATUS (BODY) **

- Looks like a stack of flattened ________________.
- **FUNCTION:** Modify, sort, and package substances from ER for ________________ out of cell.

** ENDOPLASMIC RETICULUM(ER) **

- Internal network of ________________.
- Rough ER: Attached ribosomes make ________________ which are modified & exported.
ROUGH ER / SMOOTH ER
Rough ER has _____________ on its surface, while _____________ does not.
FUNCTION ROUGH ER: __________________________________________
FUNCTION SMOOTH ER: _________________________________________

CHLOROPLASTS
Surrounded by _____________ membrane
Has its own _________
Outer membrane ____________
___________ membrane sacs called
____________________ contain CHLOROPHYLL where
_______________________ happens. Stacks of thylakoids called
_______________. Gel like material around thylakoids called
________________._
FOUND ONLY IN _____________ CELLS

CELL WALL
Found OUTSIDE the _________________________________.
Provides _________________ & _________________.
_______________________ in the cell wall makes plant cells sturdy.

Bacteria have cell walls made of _________________ instead of cellulose.

PROKARYOTES
_______ are the most common prokaryotic cell. They do not have a
______________, but do contain a single ________________ made of DNA.

Like all cells, bacteria are surrounded by a ____________________ which
contains the gel-like ________________ of the cell.
USE WORDS FROM THE WORD BANKS TO COMPLETE THE VENN DIAGRAM COMPARISON

BACTERIAL CELL

ANIMAL CELL

PLANT CELL

PROKARYOTES
EUKARYOTES
CELL MEMBRANE
CYTOSKELETON
CONTAIN DNA
NUCLEUS
RIBOSOMES
ER
GOLGI APPARATUS

CENTROIILES
LYSOSOMES
VACUOLES
MITOCHONDRIA
CHLOROPLASTS
CELL WALL (CELLULOSE)
CELL WALL (PEPTIDOGLYCAN)

Modified from: http://brookings.k12.sd.us/biology/other_units.htm