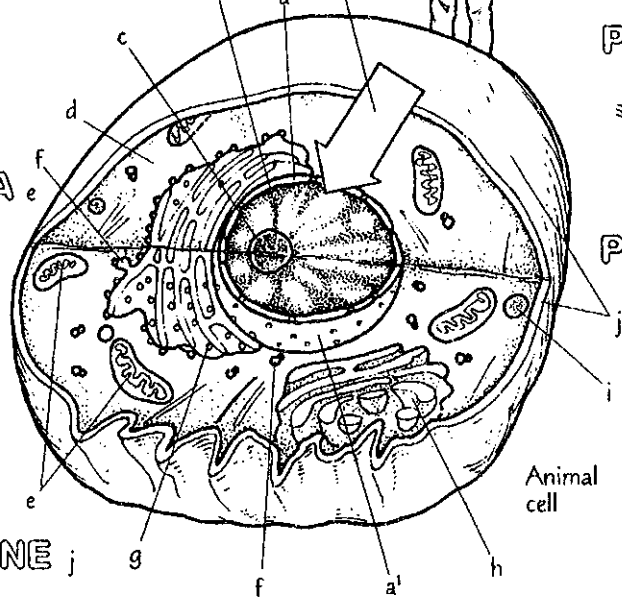
Cell Biology Name:

Prokaryotes and Eukaryotes Period:

EUKARYOTIC CELL ✿

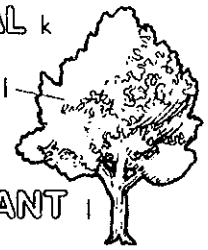
NUCLEUS a
NUCLEAR ENVELOPE a¹
CHROMATIN b
NUCLEOLUS c
CYTOPLASM d
MITOCHONDRIA e
RIBOSOME f
ENDOPLASMIC RETICULUM g
GOLGI APPARATUS h
LYSOSOME i
CELL MEMBRANE j



EUKARYOTES ✿

ANIMAL k

PLANT l

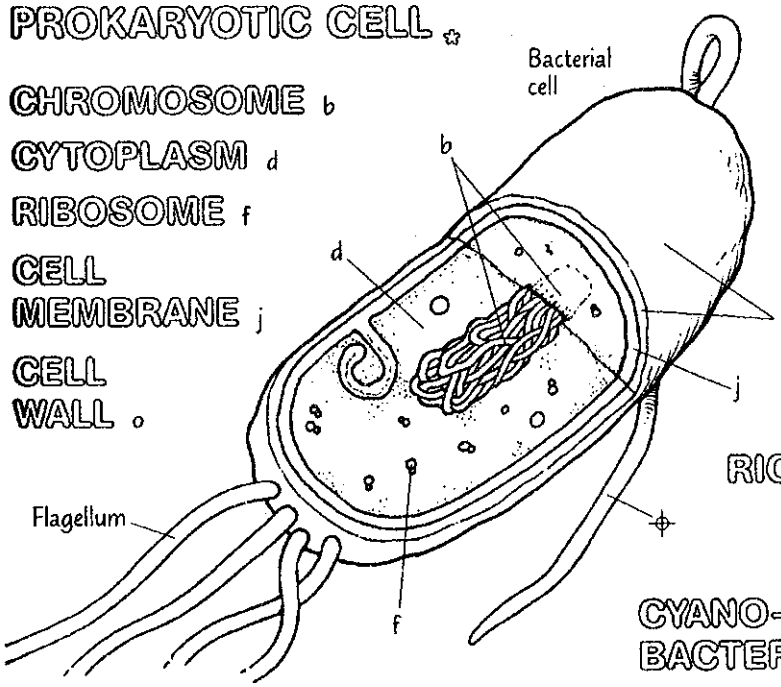


PROTOZOAN m

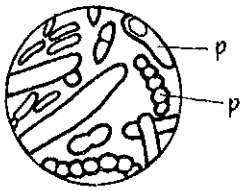
FUNGUS n

PROKARYOTIC CELL ✿

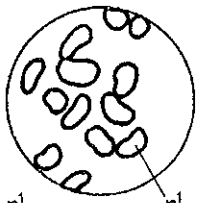
CHROMOSOME b
CYTOPLASM d
RIBOSOME f
CELL MEMBRANE j
CELL WALL o



PROKARYOTES ✿



BACTERIUM p



RICKETTSIA p¹

CYANO-BACTERIUM p²

7.1a, 7.1c; adapted from The Microbiology Coloring Book (1996) by I. Edward Alcamo & Lawrence M. Elson

Cell Biology Name:

Prokaryotes and Eukaryotes Period:

For this assignment, you will be comparing the characteristics of prokaryotes and eukaryotes. Fill in the blanks below using information you find on the coloring page of this assignment. Check off each box ☑ as you finish that part of the instructions.

1. On the coloring page, what are the examples of organisms (k, l, m, n) that have eukaryotic cells?

_____ _____ _____ _____

2. Color the words EUKARYOTIC CELL and EUKARYOTES in brown ☐. Color each of the four examples using colors that make them look realistic ☐.

3. Look at the tiny labeling for the eukaryotic cell. What kind of organism is it from? _____

4. Look at the tiny labeling for the prokaryotic cell. What kind of organism is it from? _____

5. Color the words PROKARYOTIC CELL and PROKARYOTES in orange ☐. Bacteria are usually stained pink so they can be seen with a microscope, so color each of the three examples in the circles in pink ☐.

6. Now it is time to start closely examining the similarities and differences between these two types of cells. Look down the list of the parts for each of the two cells. They both have 4 label *letters* in common. Below, list the diagram's *letters* for the labels of these parts, as well as the name of the part.

   the letter _____ stands for both _____ and _____

   the letter _____ stands for _____

   the letter _____ stands for _____

   the letter _____ stands for _____

7. Use 4 different colors to color these cell parts, one color for each different part ☐.

8. DNA is found in each of the structures marked "*b*" on your coloring page. In a eukaryotic cell, the DNA is in something called chromatin (*b*). What organelle (*a*) is the DNA stored in? _____

9. In the prokaryotic cell, the DNA is stored in something that looks like spaghetti (*b*) in the center of the cell. What is this part of a prokaryotic cell called?_____

10. What membrane-bound organelle stores DNA in a eukaryotic cell, but is not in any prokaryotic cell? The organelle is the _____ .

11. For a eukaryotic cell to divide in order to multiply itself, the DNA must divide in half and move to opposite sides of the cell during mitosis. What organelle (*a*) must temporarily break apart so that the DNA can divide up? _____

7.1a, 7.1c; adapted from The Microbiology Coloring Book (1996) by I. Edward Alcamo & Lawrence M. Elson