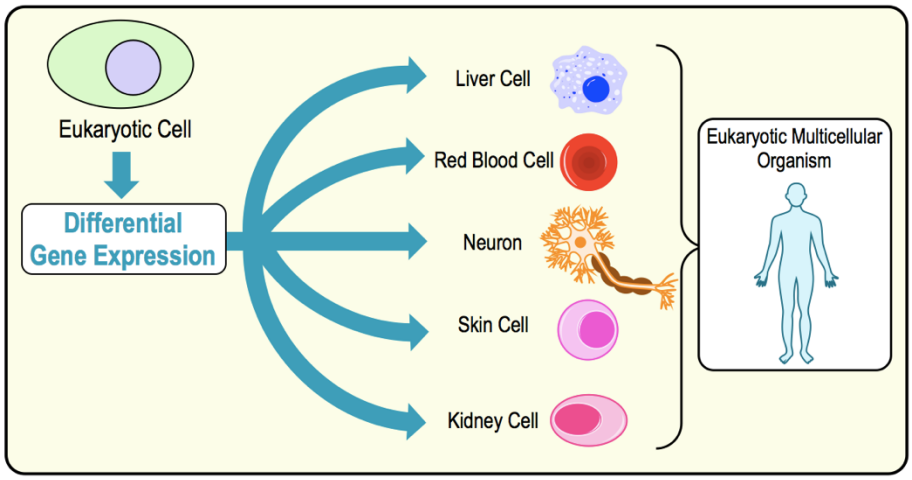
CONCEPT: INTRODUCTION TO EUKARYOTIC GENE REGULATION

●Gene regulation in eukaryotes is extremely important to allow for _____ *gene expression*.

●**Differential Gene Expression**: process allowing multi-cellular organisms to express genes *differently* in *different* cells.

●*All* cells of a multi-cellular organism have the _____ genome/DNA, but a _____ proteome (set of proteins)

EXAMPLE: Liver cells and skin cells have the same DNA, but different genes are expressed.



PRACTICE: The process of cellular differentiation is a direct result of:

a) Differential gene expression.
b) Mutations made in specific cells.
c) Different types of cell division.
d) Apoptosis.
e) Differences in cellular genomes.

Map of Eukaryotic Gene Regulation

●*Recall*: Eukaryotic gene regulation occurs at any of these _____ stages: