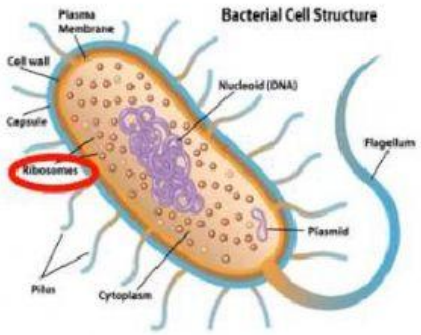
Learning Target: I can predict the causes or effects of a change in, or disruption to, one or more components in a biological system based on data.

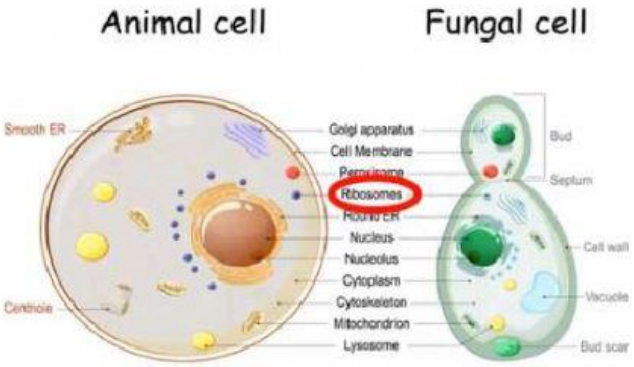
AP Biology Topic 5.3 Mendelian Genetics notes

- Heritable information provides for _____
  - Nucleic Acids (DNA and RNA) are _____
  - Genetic information is _____
  - Transmission of genetic information from one _____

    _____
- Shared, conserved, fundamental processes and features _____
  - Major features of the genetic code are _____
    - All organisms use nucleic acids to _____
    - All organisms have _____ and use ribosomes to _____

      _____





- What do all three cells contain? _____ What does this mean? _____

  _____
- Shared, conserved, fundamental processes and features support _____

  _____
  - Core metabolic pathways are _____
  - Cellular respiration is a process used by _____ What are the two types of cellular respiration? _____ What part of cellular respiration is in both processes? _____ What does this mean? _____

    _____

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Skill Practice:

Insulin is a hormone produced by some pancreatic cells. Scientists have isolated the DNA sequence that codes for human insulin production. Which of the following best ***predicts*** *the effect of inserting this gene into the DNA of a bacterial cell?*

a. The recombinant bacterium will produce human insulin using its own machinery.

b. The recombinant bacterium will not use the human insulin gene because this gene is not normally found in the bacterial genome.

c. The recombinant bacterium will contain the gene but will be unable to produce the protein.

d. The recombinant bacterium will die because it has been exposed to foreign DNA.

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