Using the DNA code provided:

1. Outline the steps for transcription
   Include any necessary molecules or organelles and indicate directionality and use the appropriate names

   Where does this take place
   Why does this take place

2. Using the mRNA sequence obtained from (1).
   Outline the steps for translation
   Include any necessary molecules and indicate directionality use the appropriate names

   Where does this take place
   Why does this take place

3. Using the provided chart, translate RNA into amino acids
4 Using the amino acid chart, indicate polarity for these amino acids
5. Using all the amino acids obtained from the class:
   a. Suggest with evidence how this molecule could be bonded
   b. Indicate regions of polarity and explain how this would affect protein folding
   c. Outline the chemical reactions for how the first two amino acids would be joined

Self Testing reference:
http://www.nature.com/scitable/ebooks/essentials-of-cell-biology-14749010/15625597#bookContentViewAreaDivID

Make your own configuration of protein using chemical modeling program
jmol -- this will be referenced on the class website- APS link being blocked.

More questions to ask yourself

Suggest with a reason the orientation of these amino acids if this protein was part of a membrane- bound protein.

d. Draw a section of eukaryotic membrane
e. Compare the functions of eukaryotic membranes to prokaryotic membranes
f. Compare the DNA of prokaryotes to eukaryotes
g. Compare respiration of prokaryotes to eukaryotes
h. Compare cell size of eukaryotes to prokaryotes
i. Suggest how each can be visualized
h. Suggest how each type of cell can cause disease using a stated example
i. Explain with a reason how eukaryotic cells are used to treat a named disease
j. Explain how viruses are used to treat a named disease

6. Cystic Fibrosis has a specific DNA mutation and resulting disorder in a specific type of protein- explain why protein structure is important and explain the impact on cell transport

7. Discuss how this cell transport mechanism impacts absorption and/or assimilation

8. Explain how lipids are absorbed- outline each step

9. Explain the impact of dietary fats on the heart/blood vessels

10. Explain the impact of clotting on the cardiac system

11. Outline the clotting process

- jmol citation LGPL view terms
- File:Jmol screenshot thermus ribosome 1jgo and 1giy.jpg
- Uploaded by Jbarta
- Created: December 3, 2006