

Protein Folding – Rigid/Flexible Structure Models

Your team will use the RCSB Protein Data Base to find a protein that actually changes its shape (i.e., opens and closes) as part of its functionality. You will then construct a simple model of the protein using popsicle sticks that will demonstrate both its approximate shape and function.

Your score will be based on the following:

_____ 10 points Finding and identifying the protein – fill in the blank below with the name and PDB ID number (from the RCSB PDB). If you find a protein that has both an open and a closed PDB ID, your group will earn an additional point if you show both PDB IDs. You must also print the main page for each PDB (note: in the printer dialogue box, click on “preferences” and then check the option “flip on long edge” to use 2 sided printing and save paper) and attach it to this form.

PDB ID _____ (open) PDB ID _____ (closed)

_____ 5 points Uniqueness. Your group will earn these points if no other group uses the same protein as yours. Groups will list PDB IDs on the board.

_____ 10 points Model – your group may earn up to 10 points as follows:

5 points – your model accurately resembles the actual protein in shape

5 points – your model can actually simulate the movement of the protein

_____ 10 points Explanation – you must write a brief explanation of what the protein is for and how the protein uses movement to do its job.

_____ TOTAL SCORE