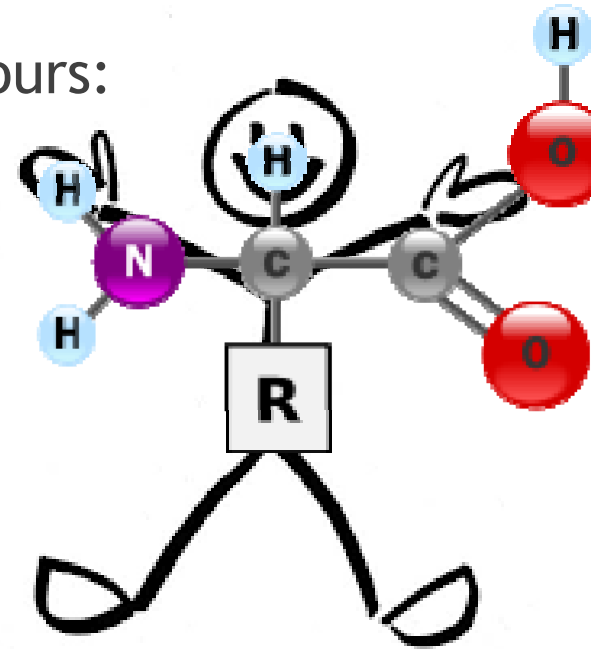


* Modeling Proteins

1. Colour the amino acids the appropriate colours:

- ❖ GREEN → Cysteine
- ❖ BLUE → Basic (+ve charge)
- ❖ RED → Acidic (-ve charge)
- ❖ YELLOW → Hydrophobic/Non-polar
- ❖ WHITE → Hydrophilic/Polar



2. Attach the parts of the molecule to yourself

3. “Peptide bond” with the other amino acids in your group. You are now a polypeptide.

4. Create α -helix & β -pleated sheets based on how amino acids would act with each other.

* Laws of Chemistry & Protein Folding

- **Hydrophobic** side chains will be buried on the inside of the globular protein, where they are hidden from water molecules
- Charged side chains (**acids** & **bases**) will be on the surface of proteins where they often neutralize each other and form salt bridges.
- **Polar** side chains will be on the surface of the protein where they can hydrogen bond with water
- **Cysteine** side chains often interact with each other to form covalent disulfide bonds that stabilize protein structure