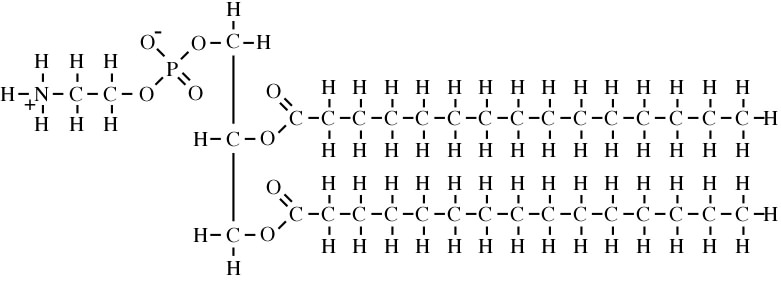
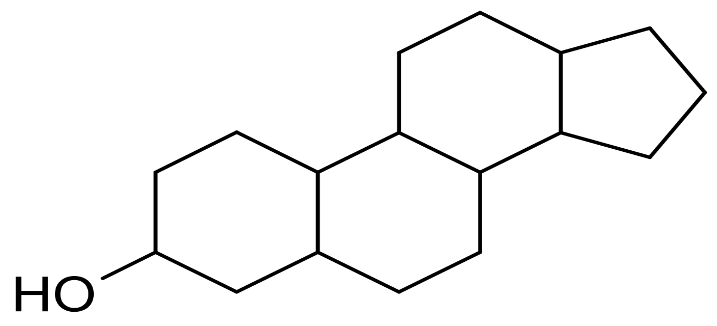
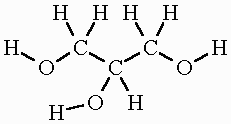
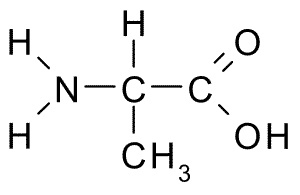
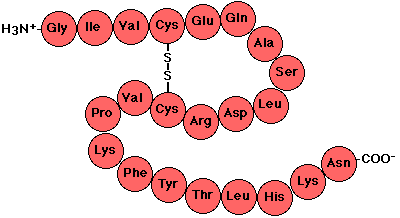
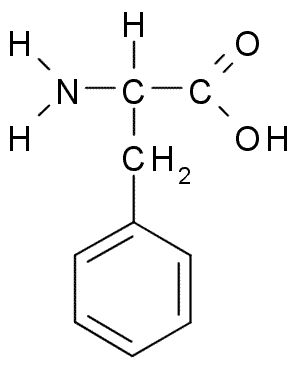
**PROTEIN PRACTICE QUIZ**

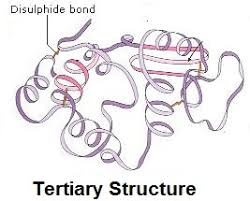
1. **Which of the following is the basic building block of a PROTEIN?**
2. **GLUCOSE**
3. **GLYCEROL**
4. **AMINO ACID**
5. **FATTY ACID**
6. **NUCLEIC ACID**
7. **Which formula below, would most likely be part of a PROTEIN?**
8. **C5H10O5**
9. **C3H7NO2**
10. **C17H34O2**
11. **HNO3**
12. **Which of the following molecules would be part of an ENZYME (all enzymes are proteins)?**
13. [](http://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwjD2YSwr5fZAhVT2GMKHdL8CHQQjRx6BAgAEAY&url=http://www.indiana.edu/~oso/Fat/SolidNLiquid.html&psig=AOvVaw35OfP6eeOCBKfjYEv6CasK&ust=1518215407453553)
14. [](https://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwjW04_Kr5fZAhVCwWMKHcd_D44QjRx6BAgAEAY&url=https://en.wikipedia.org/wiki/Sterol&psig=AOvVaw3S-FP-lDrOJfVcms8NuOXT&ust=1518215484478202)
15. [](http://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwiMt7mosJfZAhVBWWMKHWaHCtIQjRx6BAgAEAY&url=http://www.chem.purdue.edu/jmol/molecules/glycern.html&psig=AOvVaw3xWtSBX1dCsH5ob5nrceb7&ust=1518215683024802)
16. [](https://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwim-ZC-sJfZAhVP7WMKHXGbCHYQjRx6BAgAEAY&url=https://www.flickr.com/photos/79229085@N04/7259258598&psig=AOvVaw2S7XHiDRtvxFjBtN3E3fbu&ust=1518215729440625)
17. **The following polypeptide would have how many peptide bonds?**

[](https://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwio0_K4sZfZAhURwGMKHf3OAv8QjRx6BAgAEAY&url=https://schoolworkhelper.net/protein-structures-primary-secondary-tertiary-quaternary/&psig=AOvVaw2j3RJ0UxSBPhtkG3wTjWFL&ust=1518215983053483)

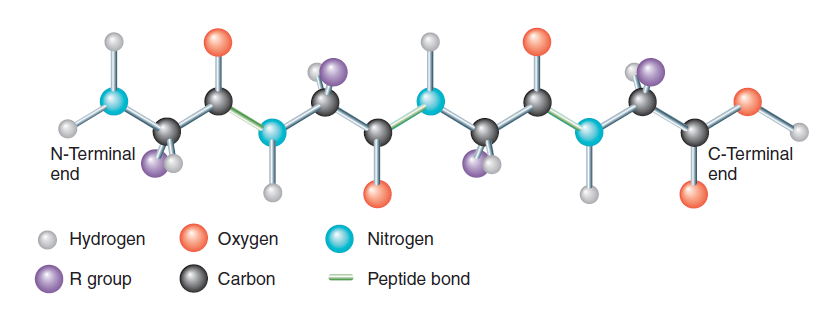
1. **22 C) 0**
2. **24 D) 21**
3. **When a polypeptide starts to spiral forming an "Alpha Helix" due to weak H-Bonding down the chain, what level of structure has it reached?**
4. **Primary C) Tertiary**
5. **Secondary D) Quaternary**
6. **The arrow in the picture below is pointing to what part of an amino acid?**
7. **R-Group**
8. **Amino Group**
9. **Carboxylic Acid Group**
10. **Alpha Carbon**

[](https://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwiK0oXDspfZAhUP32MKHfTwBy0QjRx6BAgAEAY&url=https://commons.wikimedia.org/wiki/File:Phenylalanine.png&psig=AOvVaw25OJD7b9O4sEL19cg5SL8D&ust=1518216259159766)

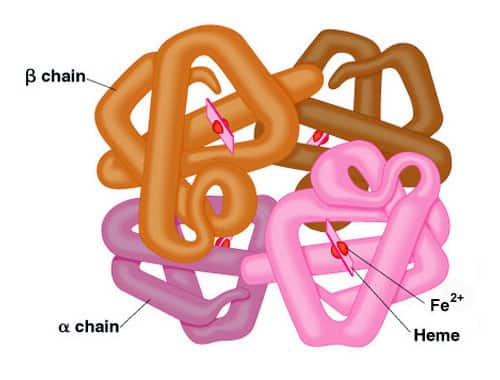
1. **The picture below, shows ONE polypeptide at what level of structure?**

[](https://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwi4hYyns5fZAhUJ3mMKHR7YCIAQjRx6BAgAEAY&url=https://chemistry.tutorvista.com/biochemistry/proteins.html&psig=AOvVaw2jPCcuhHiJj4rsGhU9p1Lh&ust=1518216467504795)

1. **Primary Structure**
2. **Secondary Structure**
3. **Tertiary Structure**
4. **Quaternary Structure**
5. **During the synthesis of the molecule (polypeptide) below, how many water molecules were produced?**

[](https://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwjpvqCMtZfZAhVO9mMKHY8vCmkQjRx6BAgAEAY&url=https://drgpinstitute.wordpress.com/category/chemistry/bio-chemistry/&psig=AOvVaw1lma9Lmodc_Zt_fD720LKU&ust=1518216782924496)

1. **13 C) 6**
2. **3 D) 4**
3. **When excess H+ ions, due to a low pH, start interacting with the bonds in a protein it starts to unfold and lose its shape. This is called?**
4. **Dehydration mutation**
5. **Polymerization**
6. **Hypertonicity**
7. **Denaturation**
8. **Helicalization**
9. **If an amino acid has an R-Group that is not polar or ionic, it will prefer to stay away from water. That R-group is then categorized as being….**
10. **Charged**
11. **Hydrophilic**
12. **Anti-hydraulic**
13. **Hydrophobic**
14. **How many polypeptides are found in this protein and what level of structure is this protein exhibiting?**

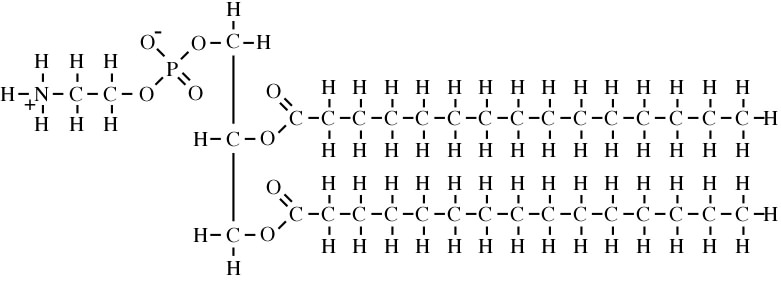
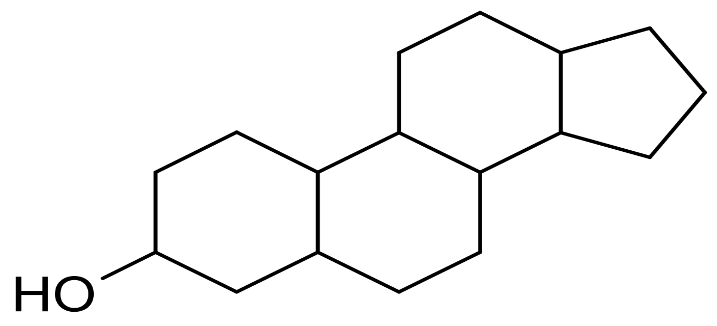


1. **Two polypeptides and Tertiary Structure  
   B) Four polypeptides and Quaternary Structure  
   C) Four polypeptides and Tertiary Structure  
   D) Two polypeptide and Quaternary Structure**

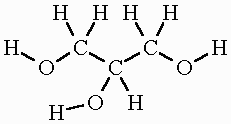
**ANSWER KEY**

1. **Which of the following is the basic building block of a PROTEIN?**
2. **GLUCOSE**
3. **GLYCEROL**
4. **AMINO ACID**
5. **FATTY ACID**
6. **NUCLEIC ACID**
7. **Which formula below, would most likely be part of a PROTEIN?**
8. **C5H10O5 (carbohydrate formula 1:2:1)**
9. **C3H7NO2 (Nitrogen is in amino acids)**
10. **C17H34O2 (no nitrogen, fatty acid)**
11. **HNO3 (Inorganic – no carbon – nitric acid)**
12. **Which of the following molecules would be part of an ENZYME?**

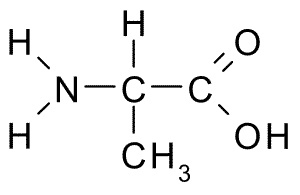
**Phospholipid = 2 Fatty Acids on a glycerol and one polar phosphate head**

1. [](http://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwjD2YSwr5fZAhVT2GMKHdL8CHQQjRx6BAgAEAY&url=http://www.indiana.edu/~oso/Fat/SolidNLiquid.html&psig=AOvVaw35OfP6eeOCBKfjYEv6CasK&ust=1518215407453553)
2. [](https://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwjW04_Kr5fZAhVCwWMKHcd_D44QjRx6BAgAEAY&url=https://en.wikipedia.org/wiki/Sterol&psig=AOvVaw3S-FP-lDrOJfVcms8NuOXT&ust=1518215484478202)

**Honeycomb = Sterol Lipid**

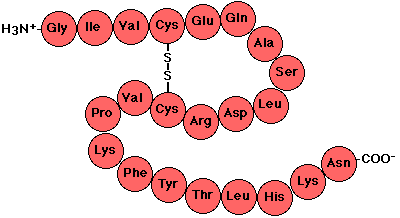
1. [](http://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwiMt7mosJfZAhVBWWMKHWaHCtIQjRx6BAgAEAY&url=http://www.chem.purdue.edu/jmol/molecules/glycern.html&psig=AOvVaw3xWtSBX1dCsH5ob5nrceb7&ust=1518215683024802)

**3 carbon back-bone = Glycerol**

1. [](https://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwim-ZC-sJfZAhVP7WMKHXGbCHYQjRx6BAgAEAY&url=https://www.flickr.com/photos/79229085@N04/7259258598&psig=AOvVaw2S7XHiDRtvxFjBtN3E3fbu&ust=1518215729440625)

**This has an Amino Group (NH2) and a Carboxylic Acid Group (COOH) = Amino Acid. All enzymes are proteins**

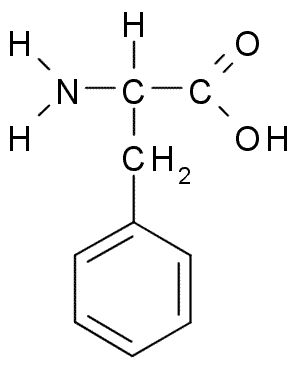
1. **The following polypeptide would have how many peptide bonds?**

[](https://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwio0_K4sZfZAhURwGMKHf3OAv8QjRx6BAgAEAY&url=https://schoolworkhelper.net/protein-structures-primary-secondary-tertiary-quaternary/&psig=AOvVaw2j3RJ0UxSBPhtkG3wTjWFL&ust=1518215983053483)

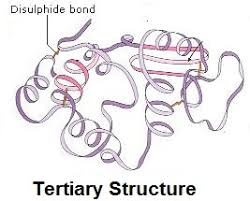
1. **22 C) 0**

**This polypeptide has 22 amino acids in it. A peptide bond forms where one AA joins another. There are 21 bonds.**

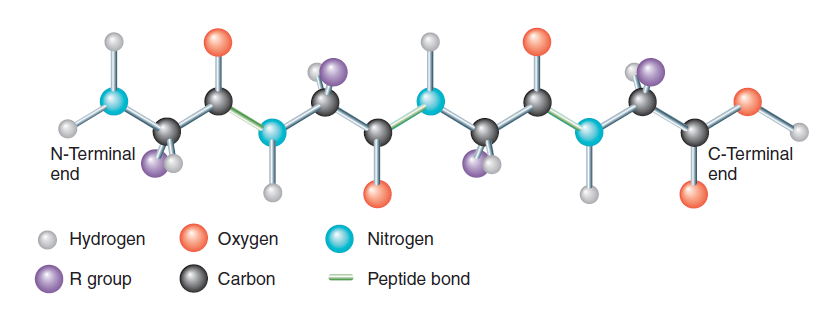
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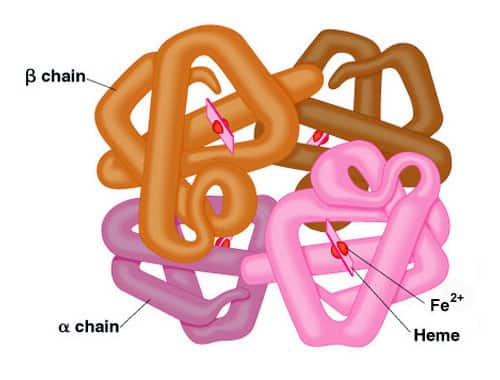
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[](https://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwjpvqCMtZfZAhVO9mMKHY8vCmkQjRx6BAgAEAY&url=https://drgpinstitute.wordpress.com/category/chemistry/bio-chemistry/&psig=AOvVaw1lma9Lmodc_Zt_fD720LKU&ust=1518216782924496)

1. **13 C) 6**
2. **3 D) 4**

**4 R-Groups indicates 4 AA's joined together = 3 peptide bonds formed = 3 waters synthesized.**

1. **When excess H+ ions, due to a low pH, start interacting with the bonds in a protein it starts to unfold and lose its shape. This is called?**
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4. **Hypertonicity**
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