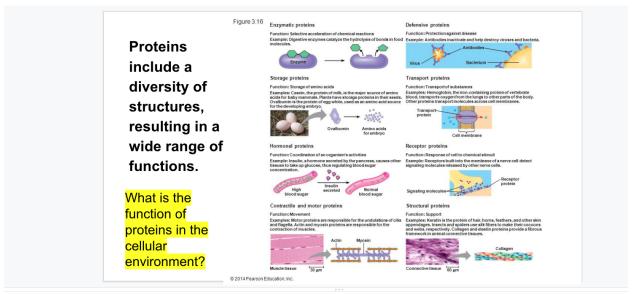
Source: [KBhBlO101Macromolecules]

#ref #disorganized

## 1 | Overview

- · Rubisco is apparently a cool protein
- · Most abundant protein in the world
- · Enzyme that is very slow, which is why plants make so much of it
- · Rubisco in pop science

## 2 | Slide Intro



- 1. Proteins include a diversity of structures made of folded chains of amino acids, resulting in many molecules with a wide range of functions.
  - a. Proteins are made up of long, folded chains of amino acids held together by peptide bonds. Amino acids share a common structure with an amino group, a carboxyl group, a hydrogen atom, and an R-group around a central a-carbon.
  - b. R-groups have variable chemical structures and properties, which determines how the amino acid chain will fold, and subsequently the structure and the function of the protein
  - Proteins share three levels of superimposed structure: primary, secondary, and tertiary. Quaternary structure arises when two or more polypeptide chains are bonded together.

Figure 1: Pasted image

## 3 | Carbon Fixation

- · Turning carbon from the air into carbohydrates
- Combines carbon from CO<sub>2</sub>, light, and water to get carbohydrates
  - $6CO_2 + 6H_2O + light =$ carbs # Faults
- · Rubisco sometimes accidentally binds oxygen to a sugar chain in a process called photorespiration
  - · The cell actually has to expend more energy to fix this mistake

Exr0n · 2020-2021 Page 1