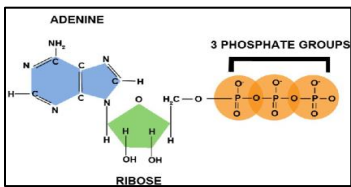
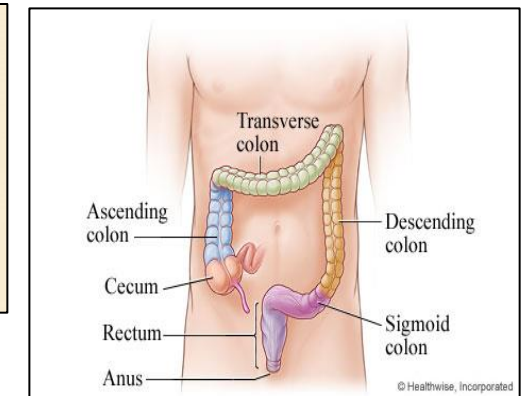
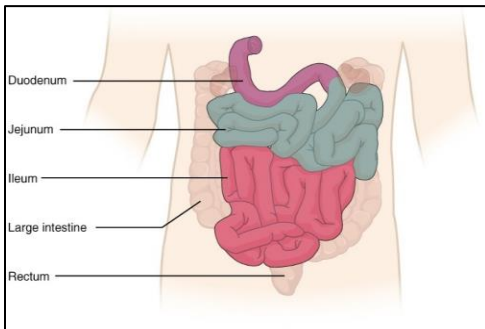
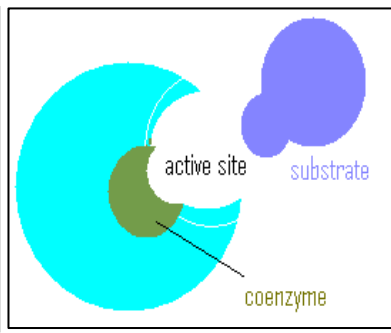
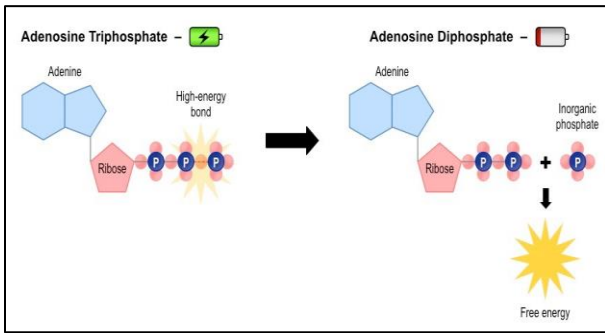
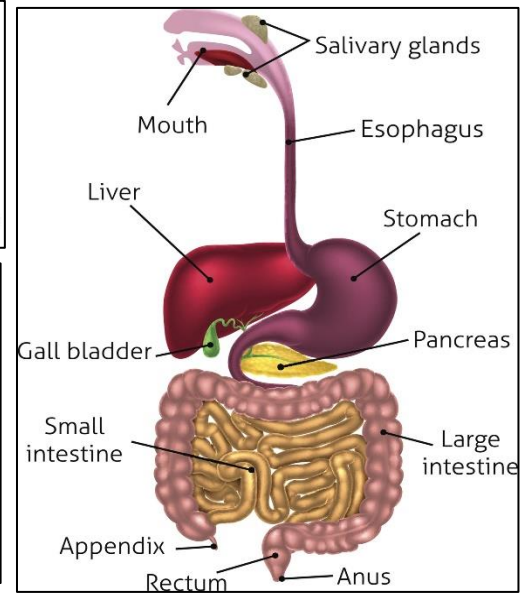
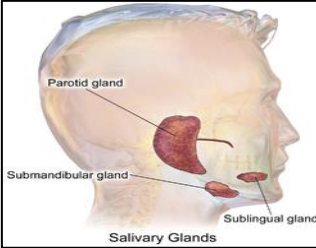
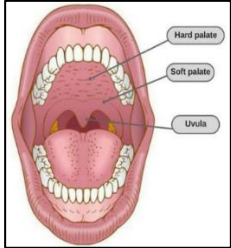
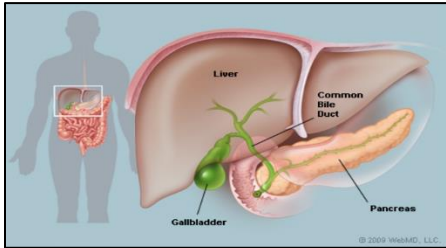
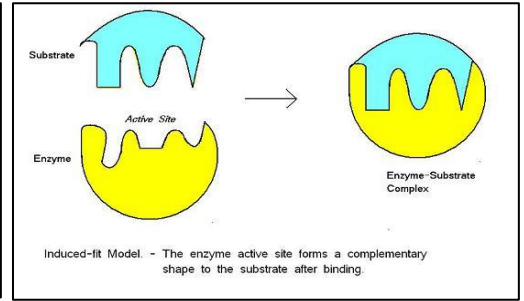
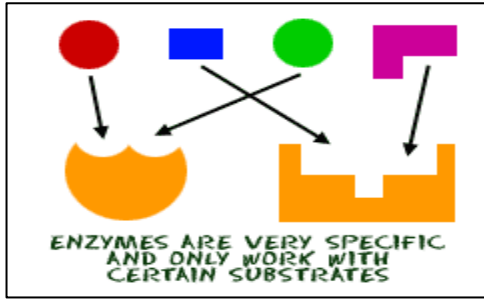
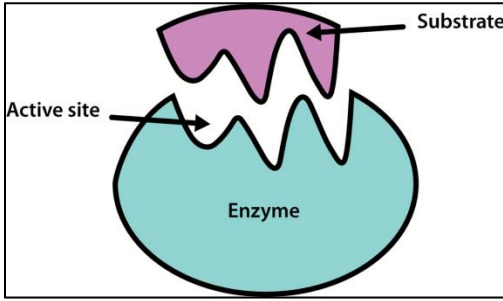


# HBS 3.2 Diagrams

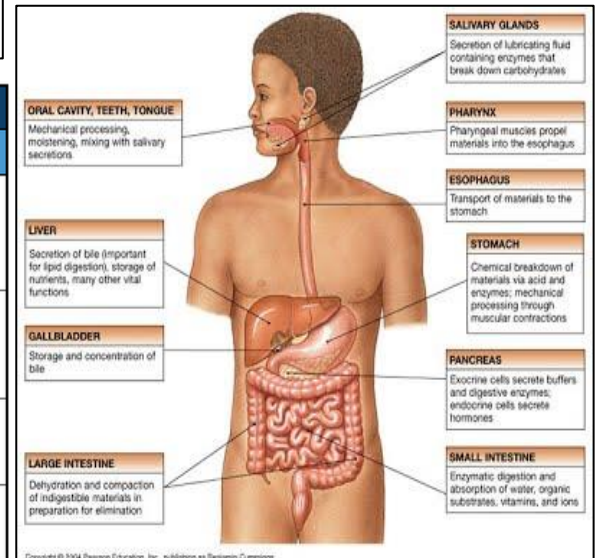


| Major Digestive Enzymes        |                 |                 |          |
|--------------------------------|-----------------|-----------------|----------|
| Enzyme                         | Produced In     | Site of Release | pH Level |
| <b>Carbohydrate Digestion:</b> |                 |                 |          |
| Salivary Amylase               | Salivary Glands | Mouth           | Neutral  |
| Pancreatic Amylase             | Pancreas        | Small Intestine | Basic    |
| Maltase                        | Small Intestine | Small Intestine | Basic    |
| <b>Protein Digestion:</b>      |                 |                 |          |
| Pepsin                         | Gastric Glands  | Stomach         | Acidic   |
| Trypsin                        | Pancreas        | Small Intestine | Basic    |
| Peptidases                     | Small Intestine | Small Intestine | Basic    |
| <b>Nucleic Acid Digestion:</b> |                 |                 |          |
| Nuclease                       | Pancreas        | Small Intestine | Basic    |
| Nucleosidases                  | Pancreas        | Small Intestine | Basic    |
| <b>Fat Digestion:</b>          |                 |                 |          |
| Lipase                         | Pancreas        | Small Intestine | Basic    |

**BMR Formula**  
(Harris-Benedict)

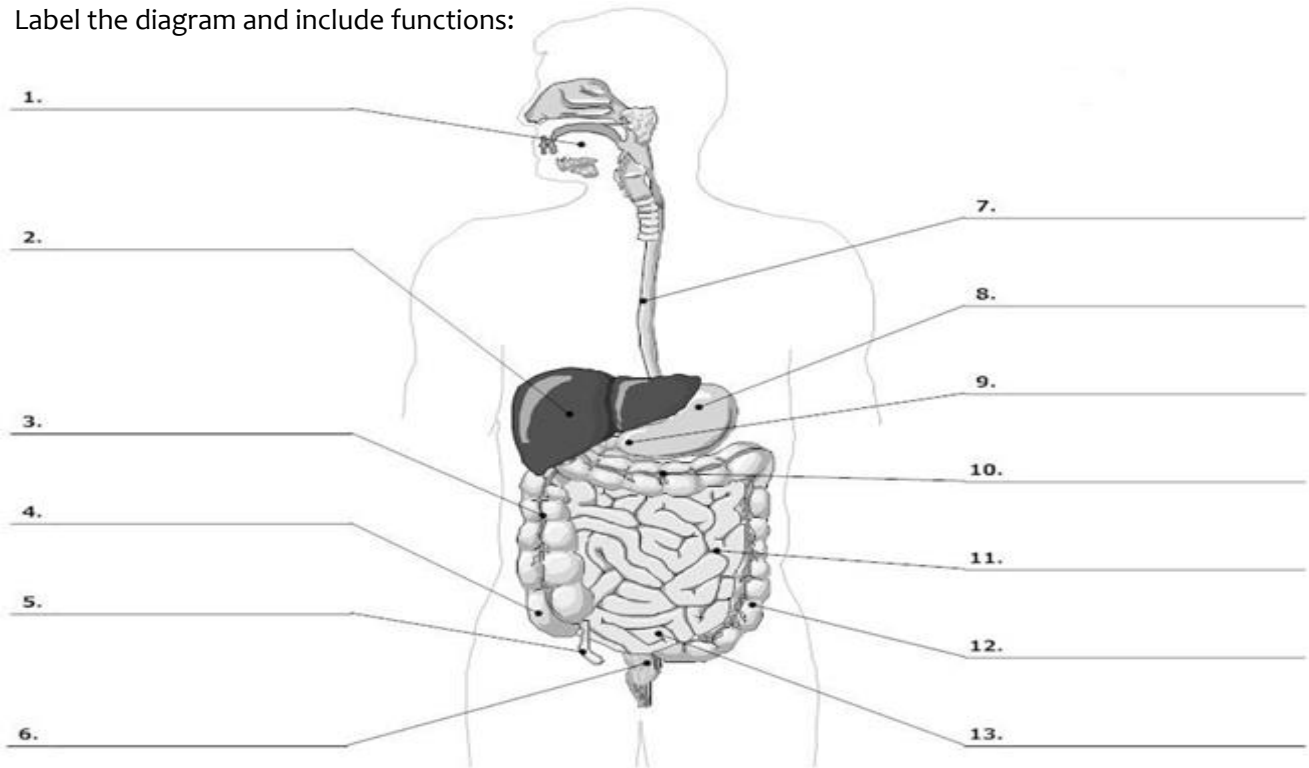
**MEN**  
 $BMR = 66.47 + (6.24 \times \text{weight in lbs}) + (12.7 \times \text{height in inches}) - (6.755 \times \text{age})$

**WOMEN**  
 $BMR = 655.1 + (4.35 \times \text{weight in lbs}) + (4.7 \times \text{height in inches}) - (4.7 \times \text{age})$



## PRACTICE:

- Label the diagram and include functions:



- What does hydrolysis of ATP mean? Write the equation:

- Fill in the chart to the right:

- Calculate BMI:

- 5 ft. 6in
- 130 pound female
- Daily calories = 2300
- Exercises 2 – 3 times/week

$$\text{BMI} = \frac{\text{weight (kg)}}{[\text{height (m)}]^2}$$

| Enzymes            | Location | Break down: |
|--------------------|----------|-------------|
| Salivary Amylase   |          |             |
| Pepsin             |          |             |
| Pancreatic Amylase |          |             |
| Lipase             |          |             |
| Trypsin            |          |             |

- Calculate BMR:

$$\text{BMR} = 66.5 + (13.75 \times W) + (5.003 \times H) - (6.775 \times A)$$

*W is weight in kg, H is height in cm, and A is age in years.*

- Calculate TDEE:

#### Harris Benedict Formula

To determine your total daily calorie needs, multiply your BMR by the appropriate activity factor, as follows:

- If you are sedentary (little or no exercise) : Calorie-Calculation = BMR x 1.2
- If you are lightly active (light exercise/sports 1-3 days/week) : Calorie-Calculation = BMR x 1.375
- If you are moderately active (moderate exercise/sports 3-5 days/week) : Calorie-Calculation = BMR x 1.55
- If you are very active (hard exercise/sports 6-7 days a week) : Calorie-Calculation = BMR x 1.725
- If you are extra active (very hard exercise/sports & physical job or 2x training) : Calorie-Calculation = BMR x 1.9

- Suggestions for patient: