8.4 Digestion (pages 264 – 270)

**Small Intestine**

* Longest section of the digestive tract (up to 7m long)
* Composed of 3 sections:
1. Duodenum –
2. Jejunum and illium –
* Digestive juices from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ enter the small intestine at the duodenum.
* Most absorption takes place in the small intestine
* Surface area increases tenfold because of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Food is moved through the small intestine using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Pancreas**

* As acids from the stomach enter the small intestine, chemical signals trigger a release of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(HCO3) from the pancreas and is carried to the small intestine. This buffers the mixture of HCl and undigested food changing the pH from\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Secretes insulin to regulate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Secretes enzymes to digest fats, proteins and some sugars

**Liver**

* Largest glandular organ in the body
* Produces \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_– greenish – yellow substance that helps digest fats
* Bile is carried from the liver to the small intestine
* Manufactures \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Stores glucose as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Breaks down \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(alcohol)
* Breaks down \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_– this gives feces the characteristic brown color

**Gallbladder**

* Small muscular sac beneath the liver
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and concentrates bile
* Bile \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_fat (physical break down of fats into smaller fat droplets)
* Gallstones are large bile salt crystals that can block the bile duct

**Large Intestine**

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and elimination of undigested waste (feces)
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of water
* Bacteria live in the colon that synthesize vitamins B and K
* Fibre in the diet is essential to ensure frequent bowel movements which do not allow waste to remain in the body for any length of time

**Enzymes and where they are produced:**

|  |  |  |
| --- | --- | --- |
| **Enzyme** | **Produced by** | **Reaction** |
| Lipase |  | Fat droplets 🡪 glycerol + fatty acids |
| Trypsin |  |  |
| Erepsin |  |  |
| Pancreatic amylase |  |  |
| maltase |  |  |

**Digestive organs and their functions:**

|  |  |
| --- | --- |
| **Organ** | **Function** |
| Mouth |  |
| Stomach |  |
| Small intestine |  |
| Pancreas |  |
| Large intestine |  |