The Excretory System

Excretion:

* To \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the body e.g.
  + CO2 from \_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from kidneys
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from liver
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the skin
* These unwanted substances are the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (cells produce energy from nutrients) and are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to keep in the body.
* Excretion is needed in order to achieve \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- the balance of everything in the body

The Organs of the Excretory System

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The Lungs:

**\*\*\***See Respiratory System notes\*\*\*

The Liver:

* responsible for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and breaking down toxins (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that enter our bodies)
* converts \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (from the breakdown of amino acids found in proteins) to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which is excreted in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Links to Digestion and Circulation:
  + Produces \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: stored in the gallbladder, small intestine uses bile to break down \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (ammonia, fats, ethanol) by converting into less harmless waste (emulsification)
  + Maintains glucose levels in the blood: using the blood’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ levels, the liver regulates how much \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ should be in the blood
* Effects of Alcohol:
  + Alcohol interferes with the functions of the liver and can cause an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the liver’s cells – this leads to a buildup of \_\_\_\_\_\_\_\_\_\_ in the liver
  + Oxidative Stress: this is when the liver is working too hard to break down the alcohol and results in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Toxins from gut bacteria: if alcohol damages the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the resulting toxins will enter the liver and can cause \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The Kidney:

* Kidney Excretion: Each kidney contains one million \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
  + Nephrons \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
  + Wastes (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) and excess substances (e.g. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) are removed from blood and excreted into the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (tubes from kidney to bladder)
  + Return purified blood to the **renal vein** (**vein from kidney to heart)**
  + This regulates the water and mineral content of the blood

Bladder:

* + Urine is collected in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, resembles \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Urine is excreted from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ via the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(from bladder out of body)

Components of Urine:

* + \_\_\_\_\_\_\_\_% of urine is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_% is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (chemicals dissolved in water e.g. urea, uric acid, salts, etc.)

Urine should be:

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in colour depending on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the body. Unusual colours can indicate different problems.
* Usually \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (except after certain foods e.g. asparagus)
* Clear. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (cloudy) urine can be due to infections or crystals
* Neutral. A pH of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ a day
* Have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of 1.003 to 1.035 g/ml

Conditions Detectable by a Urine Test:

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- the protein albumin, in urine can occur if the kidneys or blood vessels are damaged. This can be caused by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- glucose in urine can be caused when the body does not produce enough \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is excreted
* Hyperuricosuria- too much \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in urine would produce a pH \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. This could be a sign of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The Skin:

Skin Excretion:

* Heat regulation:
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (increase in diameter) blood vessels \_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to surface and excrete \_\_\_\_\_\_\_\_\_\_\_\_\_ (e.g. flushed face when hot)

* + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (decrease in diameter)vessels \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and conserve \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (e.g. bluish lips when cold)
* Excreted \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ contains a small amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ function to temperature regulation.