1. Neurosecretory cells in the hypothalamus synthesise ADH, transport it down their axons and store it in nerve endings in the posterior pituitary gland

2. Osmoreceptor cells in the hypothalamus monitors the blood plasma concentration

3. If the blood plasma becomes too concentrated (i.e. from excessive sweating), the neurosecretory cells transmit impulses to the posterior pituitary

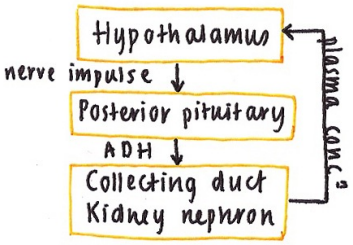
4. This causes the secretion of ADH which travels in the blood to the kidneys

5. ADH makes the collecting ducts more permeable to water by producing aquaporins, increasing water reabsorption and a small volume of hypertonic urine

6. This causes the blood plasma concentration to drop

7. This is negative feedback - when the blood plasma concentration rises, mechanisms are put into place to drop it

8. If the blood solute concentration drops, the neurosecretory cells do not stimulate the release of ADH causing ADH levels in the blood to drop, resulting in the aquaporins breaking down and larger volumes of hypotonic urine



Digestion

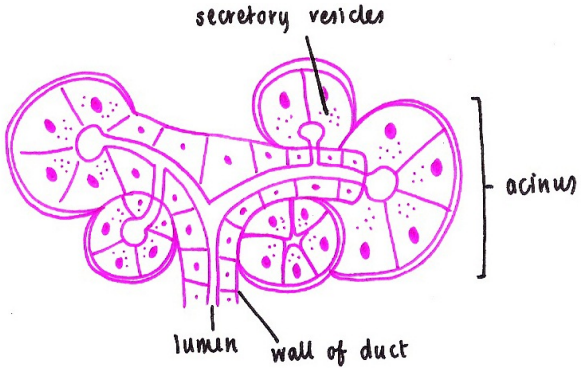
H.2.1 State that digestive juices are secreted into the alimentary canal by glands, including salivary glands, gastric glands in the stomach wall, the pancreas and the wall of the small intestine

Digestive juices are secreted into the alimentary canal by glands including salivary, gastric glands in the stomach wall, pancreas and wall of small intestine.

These are all exocrine glands.

H.2.2 Explain the structural features of exocrine gland cells

- Exocrine glands secrete their products through a duct
- The secretory cells in an exocrine gland form a single layer around the duct
- The total area of the layer of secretory cells can be very large due to invagination and branching to increase surface area
- A cluster of secretory cells is called an acinus (plural is acini)
- Secretory cells are surrounded by a basement membrane
- Secretory cells of an acinus will release the secretion into the lumen of the duct via exocytosis
- Secretory cells are held together by tight junctions



Secretory cells have distinctive features:
- One or two prominent nucleoli for ribosome production
- Many RER and Golgi apparatus for protein synthesis and processing
- Mitochondria to provide ATP and protein synthesis