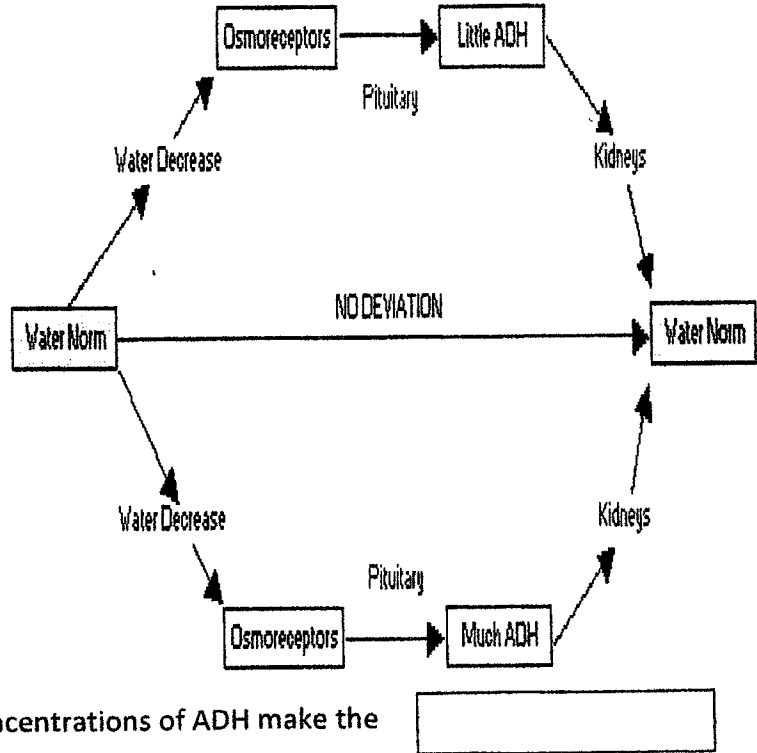


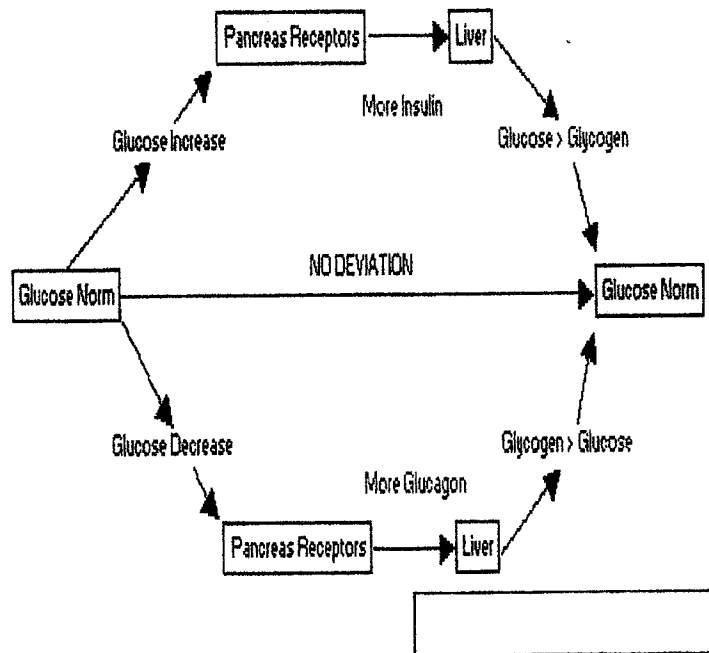
Homeostasis in Action

Determine whether the following examples are positive or negative feedback. Write your answer in the box

- Osmoreceptors are capable of detecting water concentration. They are located on the hypothalamus (part of the brain) next to the circulatory system. The hypothalamus sends chemical messages to the pituitary gland next to it. The pituitary gland secretes anti-diuretic hormone (ADH), which targets the kidney which is responsible for maintaining water levels. When the hormone reaches the kidney, it alters the kidney to allow **more or less** water to pass through (permeable.) If more water is required in the blood, high concentrations of ADH make the kidney more permeable. If less water is required in the blood stream, low concentrations of ADH make the kidneys less permeable.



- The level of glucose in the bloodstream drops. The person requires glucose in cells to meet the demand for ATP (glucose is broken down to create ATP). The body detects glucose levels with a particular receptor designed for this function. These receptors release hormones, chemical messages that initiate the start of the feedback mechanism. The hormones travel to their target tissue and initiate a corrective response. In this case, the corrective response is the secretion of more glucose into the bloodstream.



- When you are cut, your cells begin to produce an enzyme called thrombin that forms the matrix of the blood clot. The presence of thrombin speeds up the production of still more thrombin. It has a self-accelerating effect, so that once the clotting process begins, it runs faster and faster.