**The endocrine system: Fight or flight**

**Instructions: Click on the link to watch a brief video about Flight or Flight** [**https://www.youtube.com/watch?v=uxweRCXaLVAlight**](https://www.youtube.com/watch?v=uxweRCXaLVAlight)

Then attempt to fill out the gapped work sheet below using the appropriate word to answer this 6 mark exam question.

**Outline the key processes involved with the fight or flight response, make reference to the role of adrenaline in your answer (6 marks)**

**Core knowledge 1**: up for the fight (or flight)

A person will change from their normal resting state (the parasympathetic state) to the physiologically aroused \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ state when faced with a perceived \_\_\_\_\_\_\_\_\_\_\_\_. This causes the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ to release \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (ACTH). This has the effect on the cells of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ causing them to release \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. This triggers physiological changes in the body which creates the physiological arousal necessary for the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ response

**adrenaline threat sympathetic adrenocorticotrophic hormone**

**adrenal gland fight pituitary gland flight**

**Core knowledge 2**: what biological changes occur due to increased adrenaline?

The physiological changes initiated by the secretion of adrenalin include increased heart rate, increased breathing rate, dilated pupils, inhibits digestion and inhibits saliva production

*Q) feeling anxious? This often leads to the sensation of butterflies in the stomach, can you guess using a physiological reason why these may occur?*

**Core knowledge 3**: - calming down again

Once the threat has passed, the parasympathetic nervous system is activated to \_\_\_\_\_\_\_\_ the person down and return them to a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is no longer secreted from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_. Heart and breathing rates return to normal, and the person establishes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The parasympathetic nervous system works in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the sympathetic nervous system and act like a \_\_\_\_\_\_\_\_\_ so we do not use up all our vital resources by staying in a constant state of heightened physiological arousal

**adrenal gland calm homeostasis adrenaline**

**resting state brake opposition**

**TASK 2: Label the diagram using the words and phrases below**

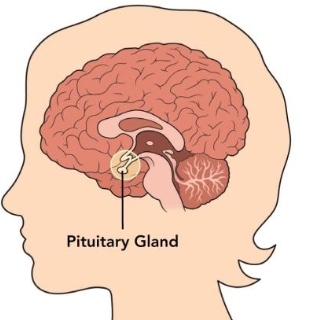
threat heart rate increases to pump blood to vital organs pituitary gland

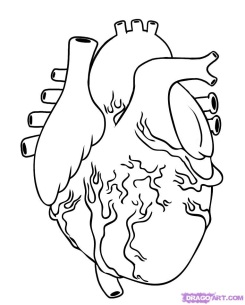
Releases adrenocorticotrophic hormone (ACTH) Lungs to increase breathing rate for more oxygen

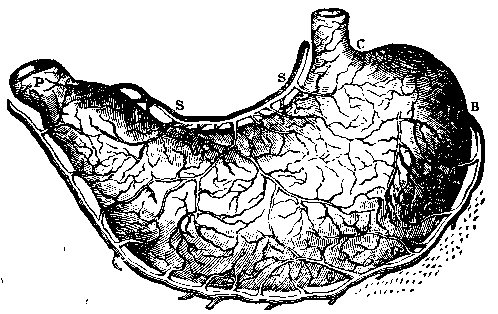
Detected by cells in the adrenal glands (adrenal medulla) adrenaline

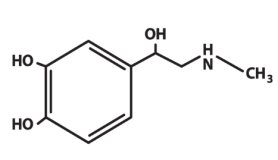
pupils dilate for increased vision detected by sensors (eye) and passed to…

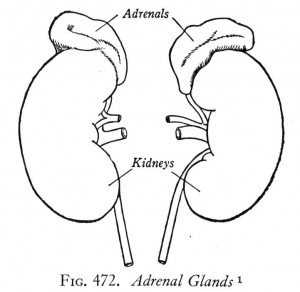
stomach to divert blood to the muscles to increase strength

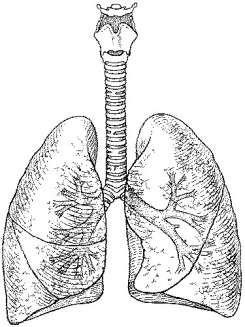












**Don’t forget the parasympathetic response: After a few minutes, the parasympathetic branch of the ANS is activated, and the body returns to normal by establishing homeostasis. Heart rate and respiratory rates decrease, adrenaline secretion slows down, the feeling of butterflies subside and sweating stops.**