BMS 255 lectures

Brain is a control centre to control most of the movements that occur

Brain sends signals to the muscles for movement to occur

Without the brain, the muscles producing movement, will not occur

Excitation contraction coupling (ECC) – excitation comes from brain, contraction is muscle movement

In order to feel emotions, the brain stem (limbic system), sensory organ will pick up the signals from external stimuli and send it back to the brain to process information and then to the target organ

If a stationery object, e.g. sea squirt, not going anywhere, environment is predictable.

If have movement, environment becomes unpredictable.

The brain allows us to predict what will happen, so that we can adapt, adjust to it

Changing environment and unpredictability of it – brain acts as a predicting machine

Sensory receptors turn on and off depending on the changes within the environment

The brains/cortex have evolved to deal with certain adaptations to the environment that the animals are on

The more folds on the brain, the bigger area of the cortex, more area to utilise and more neurons in there and have different types of adaptation

Within each lobe, there are valleys and ridges, which are referred as gyrus

These ridges have certain functionality, as there are ascending and descending information coming to particular parts of the cortical area

Precentral gyrus – in front of the central sulcus, Brodmann's area 4 and primary motor area

Brodmann's area 17 - vision, primary visual cortex, 18 and 19 are visual supplement areas

Many people who have head injuries due to falling on back of the head, whiplash and once the brain hits hard surfaces, there will be compression, and there will be possibly some behavioral changes with people with brain injury

Cells that provide information initiating pressure, back of the brain is being pushed against the cranial bones and leading to a response e.g. seeing stars

Frontal lobe – responsible for decisions making and actions

Limbic system – emotional centre that works with the frontal lobe, whether feeling sad or happy, comes from limbic system

Amygdala – balance to the prefrontal cortex, an overactive amygdala, someone who is more anxious, stressed, depressed, increased functionality of amygdala