**The Human Body: Secrets of Life Revealed**

**Episode 3: Learn**

What is a primitive reflex that babies posses?

Grasping

What systems do we use together for coordination?

Vestibular & proprioreception

Where is the information to the sensory neurons in our system coming from?

Touch receptors in the body, eyes & ears (balance)

What is the first stage of learning?

Cognitive (watch & listen)

Why did Tahu have an advantage in learning how to juggle?

His brain is still growing and white matter hasn’t completely formed- he can produce more of it

What are the name of the cells that assist in making new neural connections and what do they do?

Oligodendrocites, build the myelin sheath (white matter)

What does innate mean?

Something we are born with

What do the babies do when they hear music?

They move to the rhythm

What do they think could be the key to language in humans?

Rhythm

Why do the children practicing for the spelling bee spend time studying the words?

To make a long term memory out of the new words they are learning

What 3 areas of the brain are stimulated by the spelling activity?

Visual cortex, auditory cortex & temporal lobe

What are the spots on the neurons that are helping to make memories?

Messenger RNA

Why is sleep important during this process?

The brain actively strengthens these pathways during sleep (doubling chances of remembering)

What are 2 types of sleep?

REM and deep

What is the vital type of sleep for learning?

Deep sleep (slow waves)

Where in the brain are the memories stored and what part is involved in recalling them from the part?

Cerebrum stores them and hippocampus retrieves them

Why could Akash not spell the word Boarders?

He had not heard it before and therefore did not have a neural pathway to draw on to spell the word

Why do scientists think that humans can’t remember anything before the age of 4?

Because the hippocampus is not developed until this time, there is no way for the brain to access these memories

What activates the lacrimal gland in the eye?

Acetylcholine (neurotransmitter)

What is the most adaptable tissue in the human body and why is that?

Skeletal muscle because it has multiple nuclei