



DANCE CONCEPT: DIRECTIONS

This week, we played with **DIRECTIONS**! Our bodies can move up, down, forward, backward, and side to side through space. Our brain uses the same 6 directions to process incoming and outgoing responses to stimuli. Information goes up and down through the brain stem, back and front through each hemisphere, and across between two hemispheres.

When we move our bodies in these 6 directions, we stimulate our brain to do the same, which supports the development of an integrated brain. What does an integrated brain mean? It means that our brain can easily process incoming and outgoing responses quickly and automatically. In order for integration to occur, the body and brain need to do, see, hear, and feel the world around them. Directions are full of contrast and very engaging for your little one.

Let's learn a little bit more about our "**Brain Anatomy & Functions**" in the next few pages! With there being so many parts to a brain, and the need for all the different parts to communicate with each other in order for us to function successfully, you'll see why integration is the name of the game in early brain development. And that's why activities that have a global impact like dance, music and sensory motor play are key to establishing a sound sensory system that can handle processing all sorts of incoming information.



Brain Anatomy and Functions

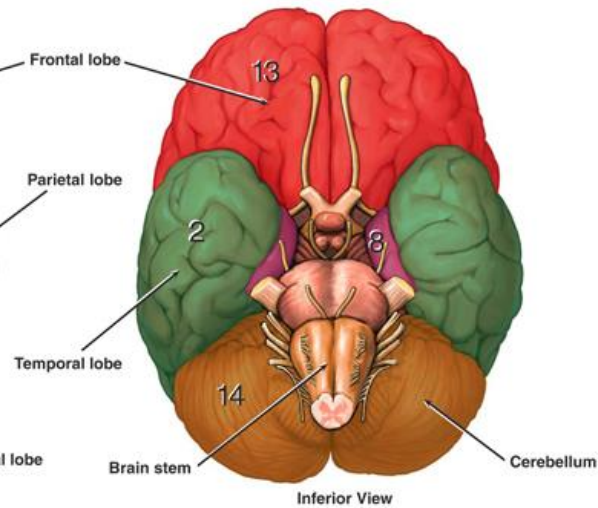
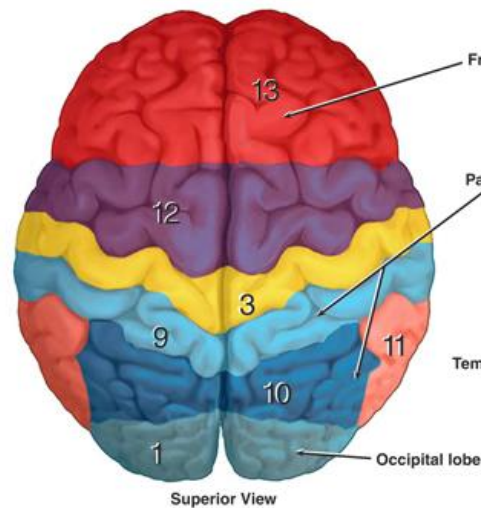
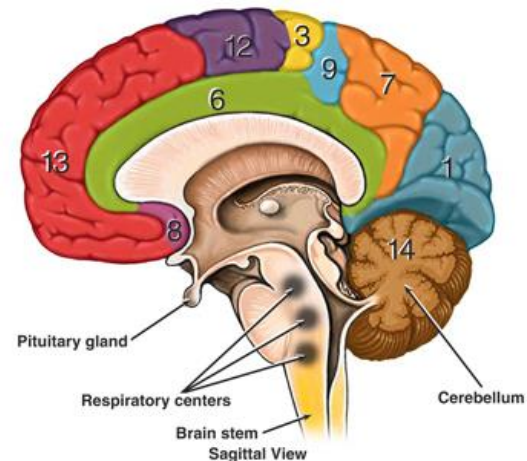
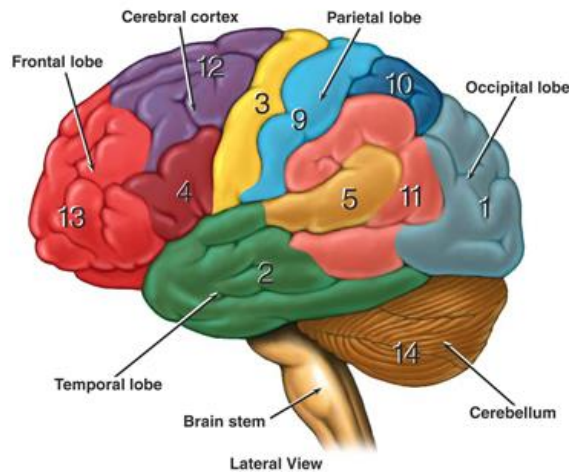
(Information flows back and forth within each hemisphere from frontal lobe to cerebellum and back)

Functional Areas of the Cerebral Cortex

- 1 **Visual Area:**
Sight
Image recognition
Image perception
- 2 **Association Area**
Short-term memory
Equilibrium
Emotion
- 3 **Motor Function Area**
Initiation of voluntary muscles
- 4 **Broca's Area**
Muscles of speech
- 5 **Auditory Area**
Hearing
- 6 **Emotional Area**
Pain
Hunger
"Fight or flight" response
- 7 **Sensory Association Area**
- 8 **Olfactory Area**
Smelling
- 9 **Sensory Area**
Sensation from muscles and skin
- 10 **Somatosensory Association Area**
Evaluation of weight, texture, temperature, etc. for object recognition
- 11 **Wernicke's Area**
Written and spoken language comprehension
- 12 **Motor Function Area**
Eye movement and orientation
- 13 **Higher Mental Functions**
Concentration
Planning
Judgment
Emotional expression
Creativity
Inhibition

Functional Areas of the Cerebellum

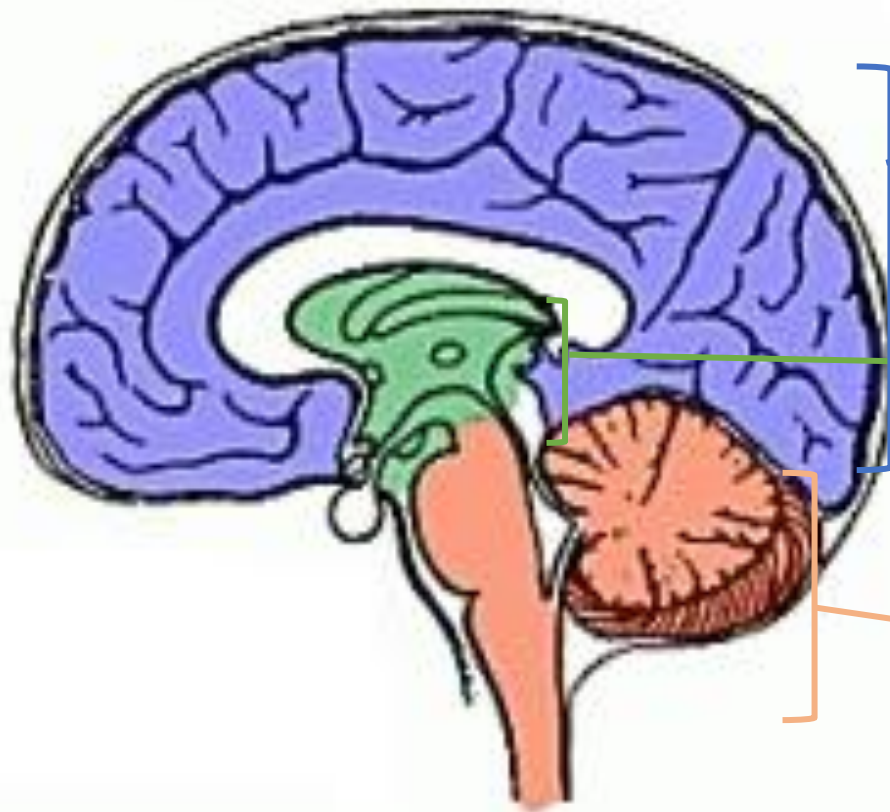
- 14 **Motor Functions**
Coordination of movement
Balance and equilibrium
Posture





The Three Levels of the Brain

(Information up and down the three levels of the brain, through the brain stem)



HIGH BRAIN (Cortex)

- Develops when they're upright up to 23 for girls and 25 for boys
- Executive function skills like reasoning/judging, thinking, learning, inhibiting

MID BRAIN (Limbic System)

- Develops from creeping stage to 4 years old
- Attachment and emotional development

LOW BRAIN (Brain stem and cerebellum)

- Develops rapidly during first 6 months
- Sensory, motor and survival functions



The Left and Right Hemisphere of the Brain

(Information flows side to side between each hemisphere through the corpus callosum)

