

Describe the parts of the brain activated in the following situation:

ANN, the landscape artist, is standing at **her easel, painting** with her **right hand** as she **looks out** the window at her garden. She is **listening** to classical music as she paints.

Brain	Function	Related to Scenario
<b>Brain stem</b>	The <b>crossover point</b> , where sensory & motor <b>nerves send/receive info between the brain &amp; the peripheral nervous system.</b>	
Medulla	Controls heartbeat & breathing	<b>Controls</b> heartbeat, breathing and other vital life <b>functions</b> that keep the artist alive.
Reticular formation	Controls arousal	<b>Receives inputs</b> from the thalamus and the cerebra cortex that <b>help maintain the artist's arousal.</b>
<b>Thalamus</b>	Switchboard between sensory neurons and higher brain regions that deal with seeing, hearing, tasting and touching; <b>routes sensory information</b> from the artist's <b>eyes, ears and hands</b> to the higher brain regions <b>connecting seeing &amp; touching.</b>	Through the thalamus <b>the artist's brain receives the necessary sensory info to enable decision-making, regarding all aspects of painting the picture.</b> Also <b>routes</b> some of the higher brain responses <b>to the cerebellum,</b>
<b>Cerebellum</b>	Coordinates voluntary movement	Coordinates movement of the right arm and hand
<b>Limbic System</b>	The limbic system's involvement in emotion, motivation and memory will influence many aspects of a <u>artistic experience</u>	
Hypothalamus	Regulates thirst, hunger, body temperature & sexual behavior. Controls maintenance functions, i.e., eating; Linked to emotion & reward center; Relays visual and auditory cues	The <b>pleasure centers</b> of the hypothalamus comprise the brain's reward system and will <b>help maintain the artist's motivation</b> for creating the painting.
Amygdala	Functions include the processing of emotional memories	Depending upon the theme of the music and/or the painting, it may have a role in expressing the artist's passion
Hippocampus	Memory and memory formation	<b>Involved in the formation of memories</b> of what to <u>paint, and how to set perspective, as well as memories of mixing colors and painting techniques</u>
<b>Cerebral Cortex</b>	The cerebral cortex will <b>oversee</b> will oversee all <b>aspects of the artist's behavior.</b> Sensory projection areas in the occipital, temporal, parietal lobes will process messages from the artist's, <b>eyes, ears, and hands.</b> It also helps in the planning of the painting.	
Left Frontal Lobe	Higher level thinking; Contains motor cortex;	Association Areas will be involved in the <b>planning &amp; decision making inherent in executing the painting.</b>
Left Motor Cortex	Moves body parts; sends messages out to the body; controls voluntary movements	<b>Organize the necessary body movements.</b> Sends message to the right hand regarding what to do
Broca's area		
<b>Parietal lobe:</b>	Includes sensory cortex; Spatial context	Painter's perceptual perspective
Sensory cortex	Incoming messages from skin & movement of body parts; registers & processes body sensations	Feeling the paintbrush
<b>Occipital lobe:</b>	Receives visual info from opposite visual field	Processes what she sees as she looks out the window and puts it into her painting
Visual cortex	Used for vision	
<b>Temporal lobe:</b>	Contains auditory cortexes	Auditory
Auditory cortex	Processes sounds	Used for hearing the music
Wernicke's area		
Right hemisphere	Associated with creativity; spatial ability for painting; Includes visual comprehension	
Left hemisphere	Processes information sequentially, as she plans out her painting	