The inferior temporal gyrus is placed below the middle temporal gyrus, and is connected behind with the inferior occipital gyrus; it also extends around the infero-lateral border on to the inferior surface of the temporal lobe, where it is limited by the inferior sulcus. This region is one of the higher levels of the ventral stream of visual processing, associated with the representation of complex object features, such as global shape.[citation needed] It may also be involved in face perception, and in the recognition of numbers.

The inferior temporal gyrus is the anterior region of the temporal lobe located underneath the central temporal sulcus. The primary function of the inferior temporal gyrus - otherwise referenced as IT cortex - is associated with visual stimuli processing, namely visual object recognition, and has been suggested by recent experimental results as the final location of the ventral cortical visual system.[3] The IT cortex in humans is also known as the Inferior Temporal Gyrus since it has been located to a specific region of the human temporal lobe.

The IT processes visual stimuli of objects in our field of vision, and is involved with memory and memory recall to identify that object; it is involved with the processing and perception created by visual stimuli amplified in the V1, V2, V3, and V4 regions of the occipital lobe. This region processes the color and form of the object in the visual field and is responsible for producing the “what” from this visual stimuli, or in other words identifying the object based on the color and form of the object and comparing that processed information to stored memories of objects to identify that object.