**Trace the path of information flow from looking at an object, to picking it up (let’s say a cup). Also, tell the function of each area mentioned.**

Visual Pathway

Retina, rods and cones conveying information about the color of the cup and the amount of light

Ganglion cells, optic nerve

Lateral Geniculate Nucleus of the Thalamus information to magnocellular (getting info from rods) and parvocellular (getting info from cones) cells

Primary visual (striate) cortex Divides into Dorsal and Ventral Streams

Secondary visual cortex (Prestriate and Inferotemporal cortex)

Ventral Stream would tell you you are looking at a cup

Association Cortex (Posterior Parietal Association Cortex) Paying attention to where you are in space and where the cup is

Motor Pathway

Posterior Parietal Association Cortex Knowing where you are in space and where cup is so you can interact with it

Dorsolateral Prefrontal Association Cortex Making the decision to pick up the cup

Secondary Motor Cortex (Supplementary Motor area, Premotor Area, Frontal Eye Field, Cingulate motor areas) Planning and Programming the movement

Primary motor cortex species typical pattern of movement (reaching out and picking up the cup)

Spinal motor circuits (Dorsolateral and Ventromedial) moving your arm and maintaining posture so you don’t fall over

Muscles Making the movement

Cerebellum and Basal ganglia would monitor, correct, and refine movement as it is happening