

CRANIAL NERVES

Pure Motor	Pure Sensory	Mixed	Parasympathetic	Contain Taste Fibers
3, 4, 6, 11, 12	1, 2, 8	5, 7, 9, 10	3, 7, 9, 10	7, 9, 10

	1	2	3	4	5	6	7	8	9	10	11	12
Motor			✓	✓		✓					✓	✓
Sensory	✓	✓						✓				
Mixed					✓		✓		✓	✓		
Parasympathetic			✓				✓		✓	✓		
Taste fiber							✓		✓	✓		

FUNCTIONS

Cranial Nerve	Opening in skull	Functions
I Olfactory	Cribriform plate	<ul style="list-style-type: none"> <li>Sensory to olfaction (smell)</li> </ul>
II Optic	Optic canal	<ul style="list-style-type: none"> <li>Sensory to vision</li> </ul>
III Oculomotor	Superior orbital fissure	<ul style="list-style-type: none"> <li>Motor to the superior, inferior, medial rectus muscles, the inferior oblique muscle, the levator palpebrae superioris muscle</li> <li>Parasympathetic innervation to constrict pupil and accommodate eye</li> </ul>
IV Trochlear	Superior orbital fissure	<ul style="list-style-type: none"> <li>Motor to the superior oblique muscle that turns the eye downward and laterally</li> </ul>
V Trigeminal	V1: Superior orbital fissure V2: Foramen rotundum V3: Foramen ovale	<b>V1</b> <ul style="list-style-type: none"> <li>Sensory to cornea, skin of the forehead, scalp, eyelids, and nose; mucous membrane of the paranasal sinuses and nasal cavity</li> </ul>
		<b>V2</b> <ul style="list-style-type: none"> <li>Sensory to skin of face over the maxilla and upper lip; teeth of upper jaw; mucous membrane of the nose; maxillary air sinus</li> </ul>
		<b>V3</b> <ul style="list-style-type: none"> <li>Sensory to skin of the cheek, skin over the mandible, and side of head; teeth of lower jaw and TMJ; mucous membrane of the mouth and anterior two-thirds of the tongue</li> <li>Motor to muscles of mastication (temporalis, masseter, medial and lateral pterygoids), anterior belly of the digastric, mylohyoid, tensor tympani, and tensor veli palatini</li> </ul>
VI Abducens	Superior orbital fissure	<ul style="list-style-type: none"> <li>Motor to the lateral rectus muscle – turns eye laterally</li> </ul>
VII Facial	Internal auditory meatus, facial canal, stylomastoid foramen	<ul style="list-style-type: none"> <li>Motor to muscles of facial expression, stapedius, stylohyoid, posterior belly of the digastric</li> <li>Taste from the anterior two-thirds of the tongue, and palate</li> <li>Parasympathetic innervation of the submandibular and sublingual salivary glands, lacrimal gland, and glands of the nose and palate</li> </ul>
VIII Vestibulocochlear	Internal auditory meatus	<ul style="list-style-type: none"> <li>Vestibular nerve: Position and movement of the head</li> <li>Cochlear nerve: Hearing</li> </ul>
IX Glossopharyngeal	Jugular foramen	<ul style="list-style-type: none"> <li>Motor to the stylopharyngeus muscle</li> <li>Taste from the posterior third of the tongue</li> <li>Sensory to general sensation from pharynx, sensory fibers from the carotid sinus</li> <li>Parasympathetic innervation of the parotid gland</li> </ul>
X Vagus	Jugular foramen	<ul style="list-style-type: none"> <li>Motor: innervates constrictor muscles of the pharynx and intrinsic muscles of the larynx</li> <li>Parasympathetic innervation to structures in the neck, thorax and most of abdomen to splenic flexure of colon</li> <li>Taste from valleculae and epiglottis</li> <li>Afferent fibers (sensation) from above structures</li> </ul>
XI Accessory	Jugular foramen	<ul style="list-style-type: none"> <li>Motor to the SCM and trapezius muscles</li> </ul>
XII Hypoglossal	Hypoglossal canal	<ul style="list-style-type: none"> <li>Motor to the intrinsic and extrinsic muscles of the tongue (except the palatoglossus muscle)</li> </ul>

<b>Mnemonics</b>	<b>Mnemonic to Remember Names of the Cranial Nerves</b>
	On Old Olympus' Towering Top, A Finn And German Vaulted And Hopped
	<b>Mnemonic to Remember Whether Nerve is Sensory, Motor, or Both</b>
	Some Say Marry Money, But My Brother Says Bad Business Marrying Money