

TABLE 8.1: EXTERNAL ANATOMY OF THE COW EYE

FEATURE	DESCRIPTION
Extrinsic eye muscles	Six different muscles attached to the posterior surface of the eyeball that connect it to the bony orbit of the skull
Optic nerve	Nerve located posteriorly and medially; about 3mm in diameter
Conjunctiva	Thin, mucous membrane covering the anterior surface of the eyeball; you may be able to separate it from the anterior sclera
Cornea	Transparent, anterior portion of the sclera (preservative turns it opaque)
Sclera	White, thick, outer protective covering

TABLE 8.2: INTERNAL ANATOMY OF THE COW EYE

FEATURE	DESCRIPTION
Anterior cavity (consists of anterior and posterior chambers) <ul style="list-style-type: none"> - Anterior chamber - Posterior chamber 	Space between lens / suspensory ligaments and the cornea; contains the aqueous humor (watery substance) Space from iris to cornea Space from lens to iris
Posterior cavity	Space between the lens and the retina; contains vitreous humor (transparent gel-like substance)
Cornea	Transparent, anterior portion of the sclera (preservative turns it opaque)
Pupil	Hole in the center of the iris
Iris	Round sheets of smooth muscle; colored portion of the eye
Ciliary body and muscle	Anterior, thickened portion of the choroid; seen as a series of radiating folds posterior to the iris; suspensory ligaments attached here
Suspensory ligaments	Suspend the lens in place; connected to the ciliary body
Lens	Spherical, clear structure (preservative turns it opaque)

TABLE 8.2 CONTINUED: INTERNAL ANATOMY OF THE COW EYE

FEATURE	DESCRIPTION
Retina	Innermost layer of the eye; only in posterior cavity; delicate, thin, cream colored sheet of tissue
Optic disc	A single point of attachment of the retina – to the optic nerve (also called the blind spot)
Choroid	Middle layer of the eye, posterior portion; pigmented and highly vascularized; seen internally by peeling away a portion of the retina
Tapetum lucidum	Found in cows and other mammals, but not humans. Iridescent silver-blue pigmented portion of the choroid; reflects light in the posterior cavity for increased efficiency of light absorption under low-light conditions
Sclera	White, thick, outer protective covering, seen internally by peeling away a portion of the choroid