

Test – Lesson 4 – Eyes – Answer Key

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1. Light entering the eye crosses the following structures in the following order _____ . (Select all that apply.)

- (A) cornea, iris, lens vitreous humor
- (B) lens, iris, vitreous humor, sclera
- (C) iris, vitreous humor, retina, sclera
- (D) vitreous humor, iris, sclera, retina

2. Light rays entering the eye are bent (diffracted) so that they focus on the retina. Most of the light bending is done by the _____ .

- (A) cornea
- (B) lens
- (C) iris
- (D) vitreous humor

3 Which statements about the retina are true? (Select all that apply.).

- (A) Rods are more sensitive to light than cones.
- (B) Rod and cones are equally sensitive to light.
- (C) Central vision is detected by the macula of the retina.
- (D) The macula does not detect night vision.

4. Which statements about the retina is true?

- (A) There are four types of cones.
- (B) Rods and cones lie between the vitreous humor and ganglion cells.
- (C) The first synapse of the ganglion cells is the thalamus.
- (D) The macula is the tip of the optic nerve plugging into the back of the retina.

5. Which statement about light sensitivity is true? The reason we squint when the lights are suddenly turned on in a darkened room is that _____ .

- (A) cones need time to become activated
- (B) rods need time to become deactivated
- (C) ganglion cells need time to be activated
- (D) the iris needs a moment to close

6. Which statement about the blind spot is true? The blind spot corresponds to the _____ .

- (A) thinning of the retina over the macula
- (B) optic nerve plugging into the back of the retina
- (C) perimacular region with few if any cones
- (D) central retinal artery entering the back of the retina

7. Which statements about the optic chiasm are correct? (Select all that apply.)

- (A) The optic chiasm sits directly above the pituitary gland.**
- (B) Nerve fibers from the macula do not cross in the optic chiasm.
- (C) Nerve fibers controlling peripheral vision cross in the optic chiasm.**
- (D) Nerve fibers controlling the inside half of our visual field cross in the optic chiasm.

8. Which statement about the eye is true?

- (A) The cornea has no blood supply.**
- (B) Most of the focusing of light rays is performed by the lens of the eye.
- (C) The amount of light striking the lens is controlled by the iris behind the lens.
- (D) Light rays are focused onto the optic disc in the back of the retina.

9. Which statements about the retina are true? (Select all that apply.)

- (A) Light is detected by the molecule rhodopsin inside cones and by a more light-sensitive molecule, capsacin, inside rods.
- (B) In order for light rays to reach the rods and cones in the retina, light rays have to pass through ganglion cells.**
- (C) Signals from the rods and cones are returned in the direction they came from to signal ganglion cells.**
- (D) Nerve fibers exit the eye through the optic disc.**

10. Which statements about the macula are true? (Select all that apply.)

- (A) The macula is made up of only cones, no rods.**
- (B) The macula is surrounded by a dense collection of rods.**
- (C) The macula has no blood vessels.**
- (D) The macula has no ganglion cells.**

11. Which statements about the optic disc are true? (Select all that apply.)

- (A) The optic disc contains no blood vessels.
- (B) There are no rods or cones in the optic disc.**
- (C) The optic disc corresponds to the blind spot.**
- (D) The blind spot in the visual field is lateral to (to the side of) whatever the eye is focused on.**

12. Which statements about the eye muscles are true? (Select all that apply.)

- (A) Eye movements are controlled by six eye muscles on each eye.**
- (B) The superior and inferior oblique muscles rotate the eye up and down when the eye is looking laterally.**
- (C) The superior rectus muscle rotates the eye downward.
- (D) The lateral rectus muscle rotates the eye to the side.**

13. Which statements about the lens are true? (Select all that apply.)

- (A) The lens is situated in front of the iris.
- (B) The lens is most needed to focus on close-up objects.**
- (C) For far-away objects, the lens relaxes and returned to its thicker, more rounded state.
- (D) The thickness of the lens is controlled by the ciliary body.**

14. Which statements about the iris are true? (Select all that apply.)

- (A) Between the cornea and the iris lies the anterior chamber.**
- (B) Between the iris and the lens lies the posterior chamber.**
- (C) The fluid inside the anterior and posterior chambers is made by the ciliary body.**
- (D) Fluid flows from the anterior to the posterior chamber.

15. Which statement is correct? Glaucoma causes blindness as a result of excessive pressure building up first in the _____.

- (A) anterior chamber**
- (B) vitreous humor
- (C) lens
- (D) optic nerve

16. Which statements about the occipital lobes are true? (Select all that apply.)

- (A) By crossing in the optic chiasm, retinal nerve fibers allow the occipital lobes to form a three-dimensional image of the world.**
- (B) Once visual fibers have crossed in the optic chiasm, each bundle of visual fibers, called the optic tract, has a complete view of the visual field.**
- (C) Each optic tract stops in the thalamus before delivering their signals to the occipital lobes.**
- (D) The occipital lobes see the world upside down.**