Human Body, Vision, & The Brain

Name: _____

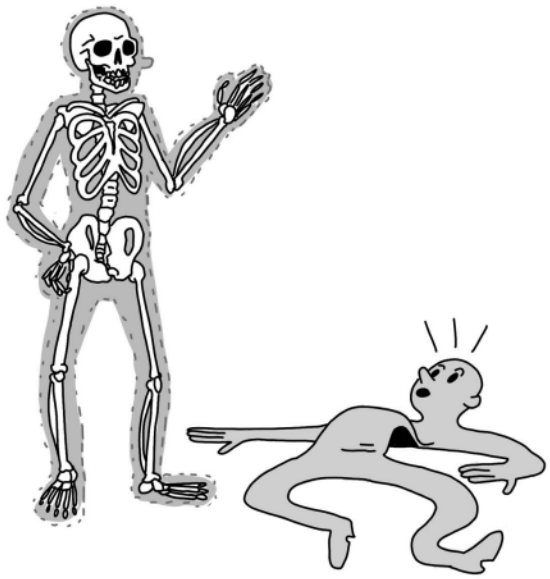
Date: _____

Unit Assessment

1. Shelly has an idea for a new superhero that she's calling "The Muscle." Shelly tells you:

"The Muscle doesn't have a skeletal system - they have no bones! Because they don't have any bones to get in the way, The Muscle is super strong. When The Muscle meets supervillains, they always win the battle and survive."

Do you agree with Shelly that The Muscle would be a strong superhero? Do you think they would survive a battle with a villain? Why or why not? Support your argument with reasoning.



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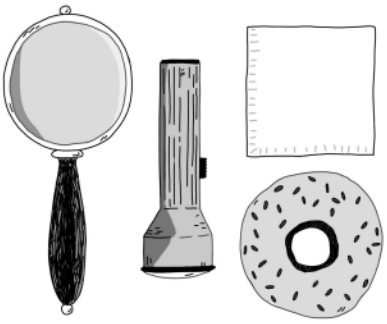
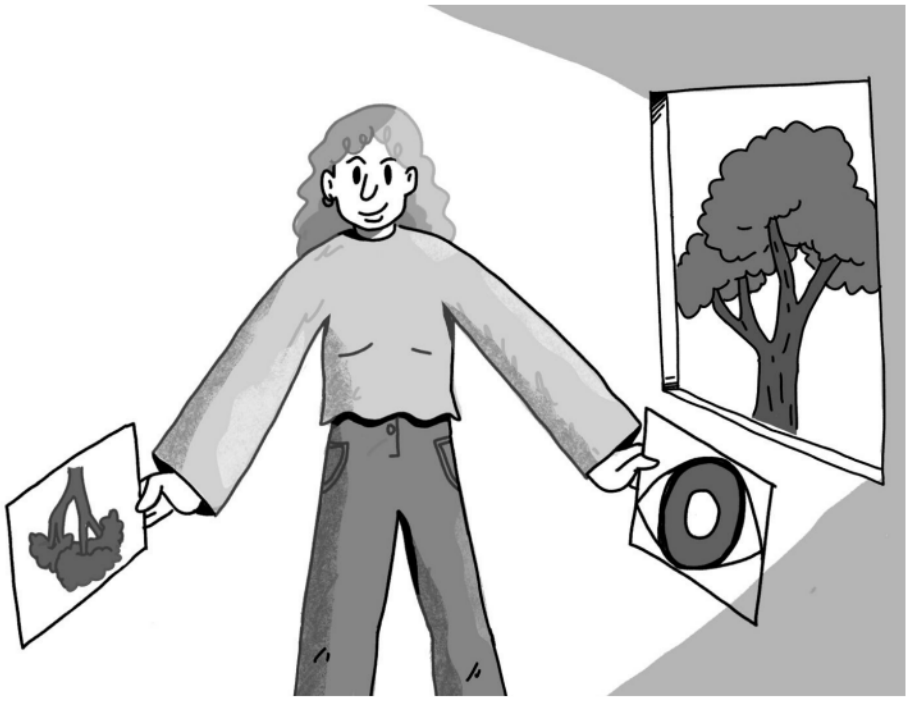
2. Jacob wants to make an eye model. He has a magnifying lens, a flashlight, a piece of paper, and a donut.



How should Jacob arrange these objects to make an eye model? In a real eye, light travels through the corneal lens, goes through the pupil, and reaches the retina at the back of the eye.

a. Flashlight, Donut, Paper, Magnifying Lens
b. Flashlight, Magnifying Lens, Donut, Paper
c. Flashlight, Paper, Donut, Magnifying Lens
d. Flashlight, Paper, Magnifying Lens, Donut

3. In the picture below, Shira is using a model of an eye to get an image of a tree on the model retina. Draw arrows that show the path that light takes to get the image onto the model retina.



4. In the above picture, if the tree image on the model retina is blurry and fuzzy, what is something that Shira could do to make the image crisp and clear?

a. Shira can remove the cornea lens from the eye model.
b. Shira can darken the room to let less light through.
c. Shira can change the distance between the retina and the cornea lens.
d. Shira can change the color of the iris.

5. If Shira tries to use her eye model at 10:00 pm at night, what do you think will happen?

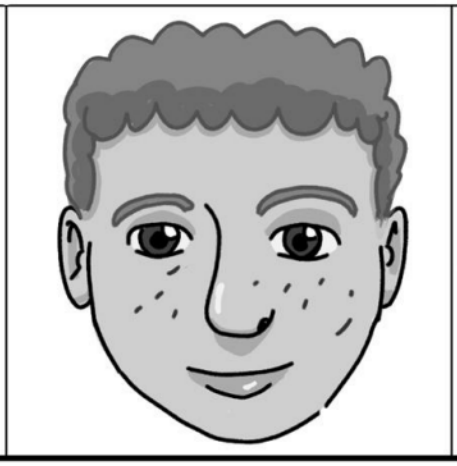
a. The eye model will work just as well as it did during the day.
b. The eye model won't work as well because there won't be as much light to illuminate objects.
c. The eye model won't work as well because the pupil is too big and lets too much light through.

CAT

OWL

RACCOON

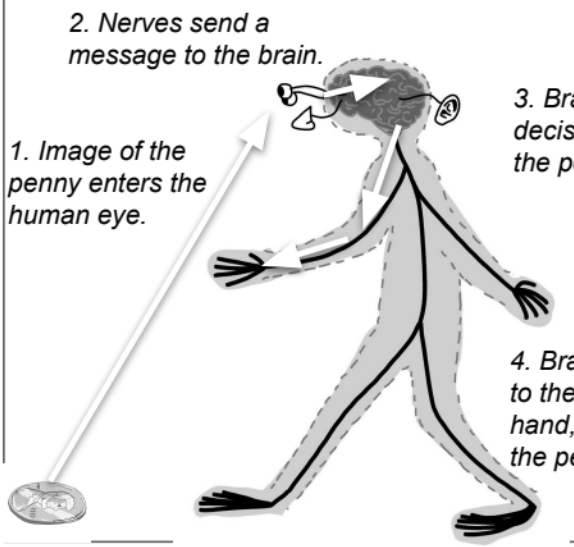
BLUE JAY



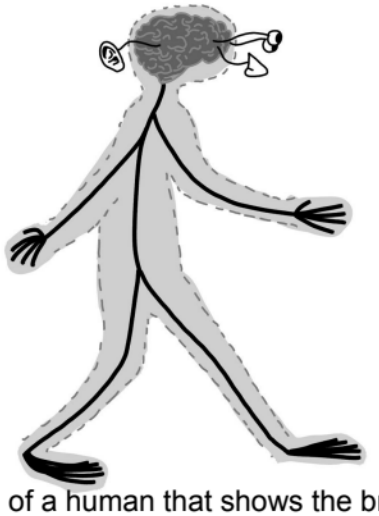
HUMAN

COYOTE

6. Darius closely examines the eyes of different animals. He notices that cats, owls, and raccoons have much larger pupils than blue jays, humans, and coyotes. Darius makes the claim that the reason cats, owls, and raccoons have larger pupils is because they are predators. He says that predators have large pupils because the main function of pupils is to help animals search for prey and survive. Do you agree with Darius? Why or why not? Support your answer with evidence.



The image on the left shows a model of a human. The arrows and words show each step of what happens when a human sees a penny on the ground. Use this example to help you answer Question #7 and #8.



7. In the picture above, there is a sleeping cat and a model of a human that shows the brain and connected nerves (the nervous system). Add arrows and words to the model to describe each step of what happens to the human when the cat starts purring.

8. In the picture above, there is a sleeping cat and a model of a mouse that shows the brain and connected nerves (the nervous system). Add arrows and words to the model to describe each step of what happens to the mouse when the cat starts purring.

9. Circle TRUE or FALSE for each of the three sentences below.

TRUE FALSE Humans and mice both receive the information “purring cat” through their senses.

TRUE FALSE Humans and mice both process the information of “purring cat” in their brain.

TRUE FALSE Humans and mice both respond to the information of “purring cat” in the same way.