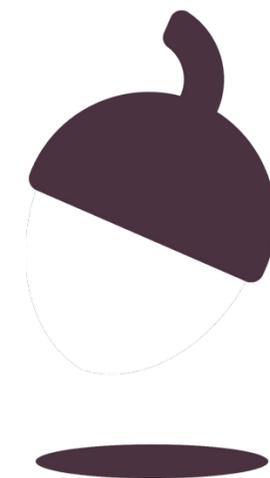


Biology only - KS4
Homeostasis and Response

The Eye

Miss Ray



OAK
NATIONAL
ACADEMY

Quick Quiz

1. Name the part of the eye that forms the protective layer.
2. Name the part of the eye that contains light sensitive receptors called rods and cones.
3. Name the part of the eye that holds the lens in place and the part of the eye that can change the shape of the lens.
4. Name the two parts of the eye that refract rays of light.



Quick Quiz

1. Name the part of the eye that forms the protective layer. **Cornea**
2. Name the part of the eye that contains light sensitive receptors called rods and cones. **Retina**
3. Name the part of the eye that holds the lens in place and the part of the eye that can change the shape of the lens. **Suspensory ligaments and ciliary muscle**
4. Name the two parts of the eye that refract rays of light. **Cornea and lens**



Select the correct answer to complete the table.

Light intensity	Pupil size	Circular muscle	Radial muscle
Low	<i>dilates/constricts</i>	<i>Contracts/relaxes</i>	<i>Contracts/relaxes</i>
High	<i>dilates/constricts</i>	<i>Contracts/relaxes</i>	<i>Contracts/relaxes</i>



Answers

Light intensity	Pupil size	Circular muscle	Radial muscle
Low	Dilates	Relaxes	Contracts
High	Constricts	Contracts	Relaxes



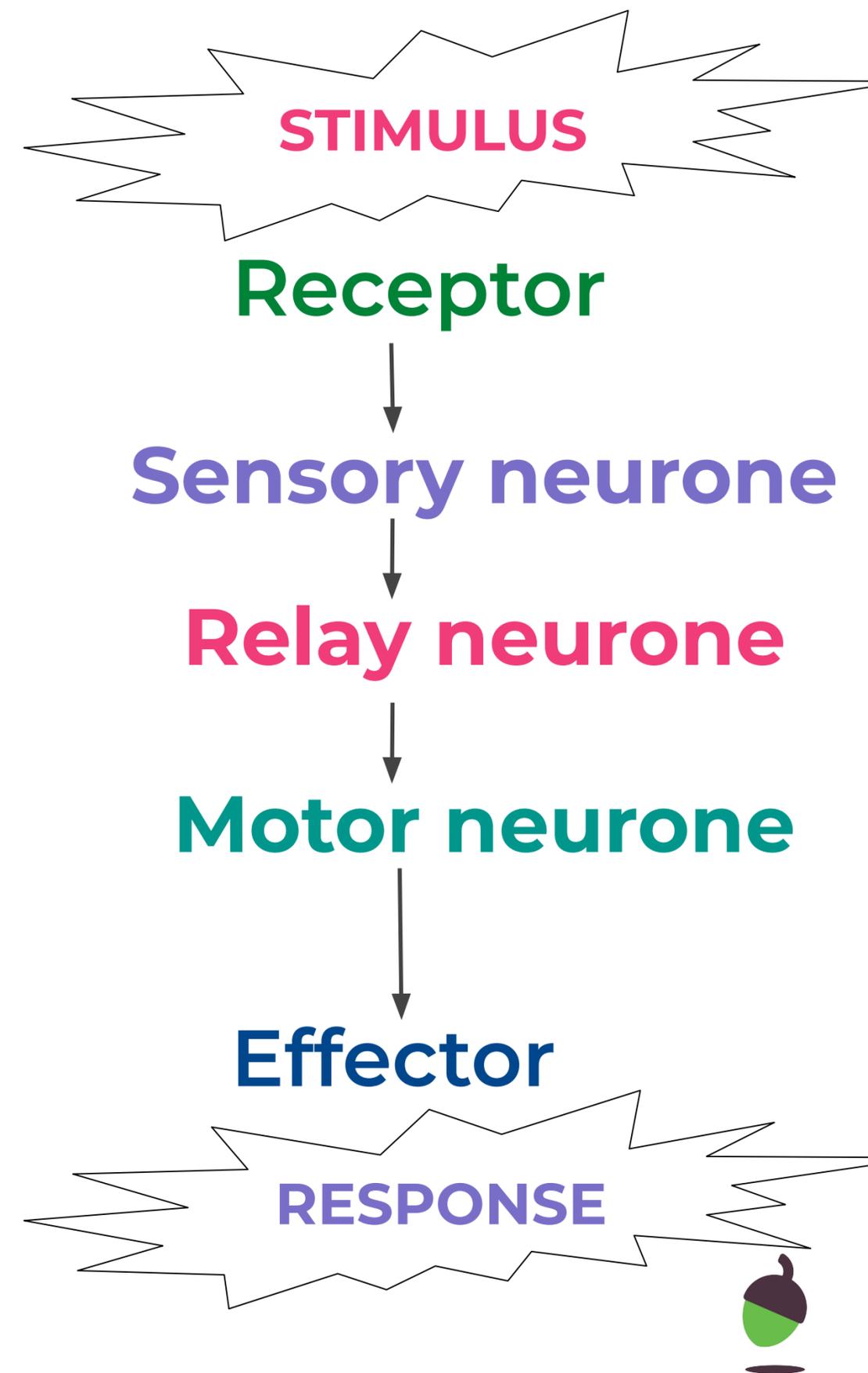
Exam style question

Explain how the eye changes when in bright light. [5]

Light rays _____ off of the object and into the eye. The cornea and lens _____ the light rays onto the _____.

The _____ on the retina detect the light and generate an _____ that is sent along the _____ to the _____.

The electrical impulse travels along the _____ to the _____ muscles in the iris which contract. The pupil becomes constricted.



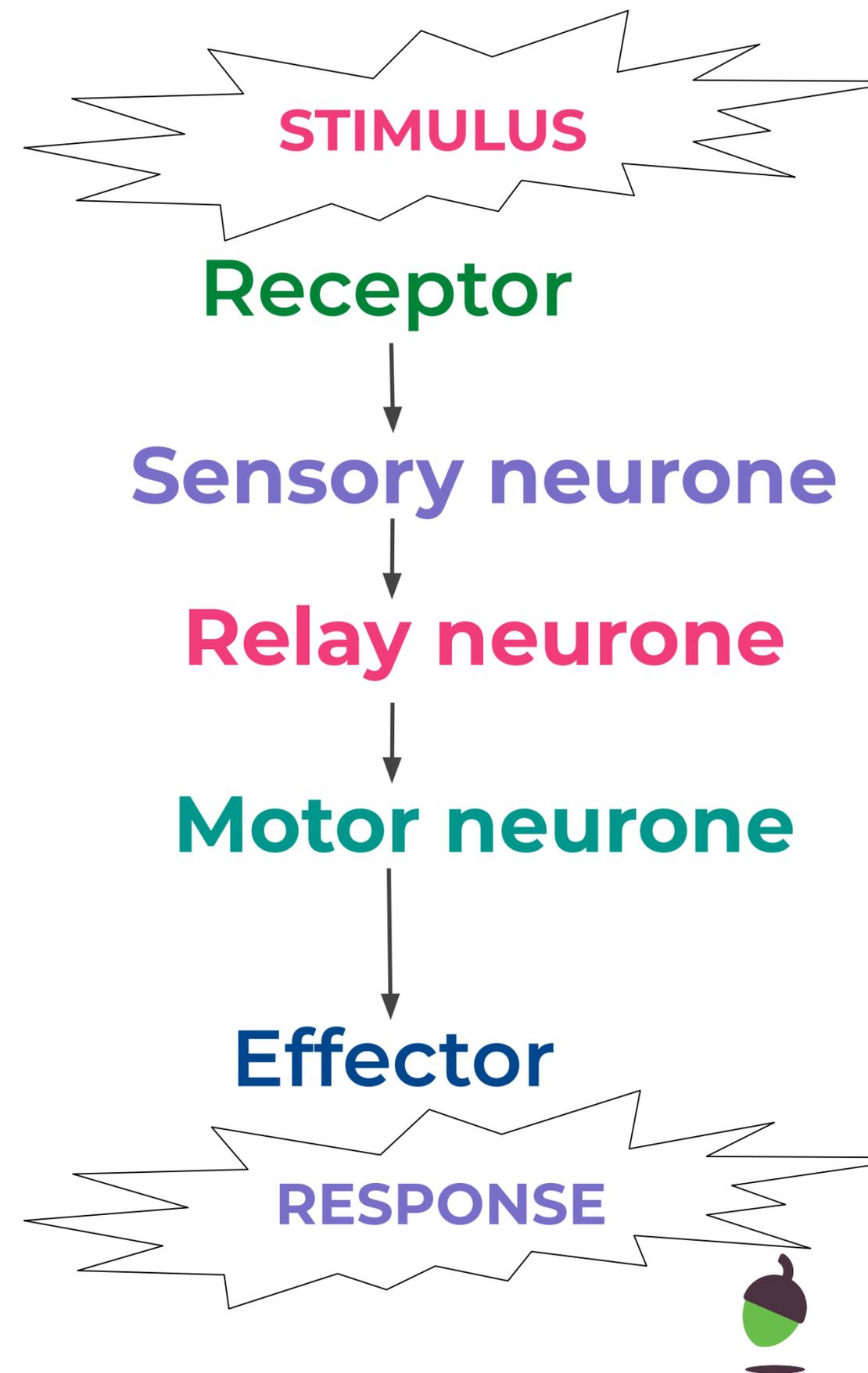
Answer

Explain how the eye changes when in bright light. [5]

Light rays reflect off of the object and into the eye. The cornea and lens refract the light rays onto the retina.

The light receptors on the retina detect the light and generate an electrical impulse that is sent along the sensory neurone to the relay neurone.

The electrical impulse travels along the motor neurone to the circular muscles in the iris which contract. The pupil becomes constricted.



Exam style question

Describe how an image is formed on the retina and how this information is taken to the brain. [6]

Word bank:

Refraction, light, receptors, retina, electrical impulse, cornea, lens, sensory neurone, pupil, optic nerve.



Exam style question

Describe how an image is formed on the retina and how this information is taken to the brain. [5]

Light rays are **reflected** off of the object and enter the eye through the **cornea** and the **pupil**.

The light rays are **refracted** by the **cornea** and then by the **lens** so that they focus on the **retina**. At this point the image is upside down.

Light falling on the retina stimulates **light receptors** and an **electrical impulse** is generated which travels along the **sensory neurone (optic nerve)** to the **brain**.

