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QUESTION 28 – COMMUNICATION

Q.28. A) i. In hearing the organ Corti regulates sound waves, frequency and pitch so the brain can process the appropriate information.

ii. Wavelength, frequency and pitch all have to be present for the human ear to hear a sound. They are all inconceiveable to the human eye.

iii. Two structures used by animals to produce sound are echolocation and the larynx. Through the larynx, just like people the animals make the appropriate sounds to communicate and survive. Without the structure of the larynx mating calls would not be able to be made and some hunting would not be allowed. Echolocation is used by bats, toothed whales and some species of bird to hunt and mate. Both the larynx and the use of echolocation are quite different. The larynx is an actual physical feature whilst echolocation could be refered to as more of a sixth sense. The larynx relies on muscle vibrations to function properly whilst echolocation

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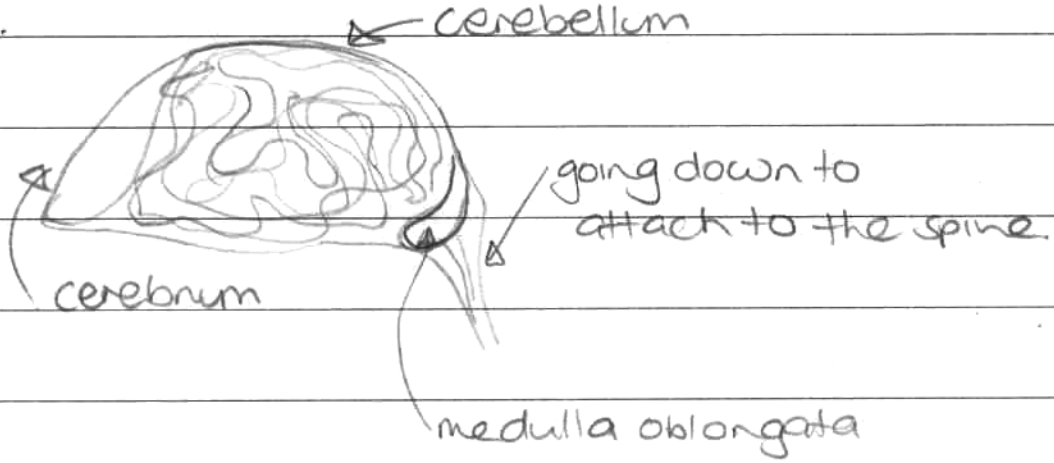
NEW SOUTH WALES

Q.28

mainly relies on the animals ability to hear at high freqencys.

B) i. When identifying the cerebrum look towards the front of the brain. It is at the front and looks like a hard plate sheilding the rest of the brain. It is the most important part of the structure. The cerebellum makes up the largest part of the brain. It is soft and slimy and looks somewhat like a maze. The medulla oblongata is located at the back of the brain and is quite small. It is a soft, small membrane and its location in the brain somewhat protects it.

ii.



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Q.28

c) i.

ii. As the lens thickness decreases the focal length increases. High thickness = closer focal length.

iii. Distance from an object is a large factor when talking about focal length. Human eyes are able to focas on objects at different distances because of the structere of the human eye. The human eye is able to focus on things which are at a distance because the lens which forms a clear sheild over the retina is neither too thick nor to thin. People who develop long or short sightedness have had either an increase or decrease in the thickness of this lens and glasses are required to make up for that malfunction.

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Q28 D) Energy transformation in the retina is done through many different structures and processes inside the retina. The iris helps to disperse colour pigments. The small muscles inside the retina help to move the eye around when it is subjected to energy transformations such as light signals.

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Biology

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