

Q28 a) (i) the Corti allows sounds to be processed and relayed to the brain. The Corti contain the hairs which detect sound.

(ii) wavelengths are affected by frequency and pitch, the wavelength is shorter for lower frequencies + longer for higher frequencies. the higher the pitch the faster that the wave length travels, the lower the ~~pitch~~ pitch, it travels slower.

(iii) ~~crickets~~ crickets produce sound ~~not~~ by rubbing their front legs together
→ the movement of the hairs creates the air to vibrate, producing the sound.

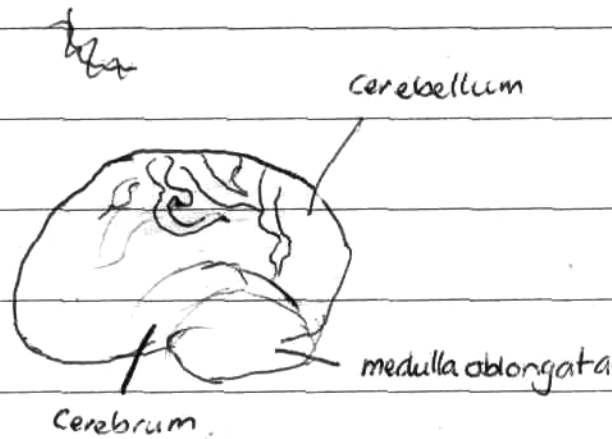
Frogs produce sound ~~through~~ through vocal cords. they make their noise by contracting + lengthening the cords.

b) (i) the ^{cerebellum} ~~cerebellum~~ is the largest section of the brain which appears to be highly twisted

the ~~cerebellum~~ medulla oblongata is the smaller section of the brain which sits underneath it near the base

the ^{cerebrum} ~~cerebellum~~ ~~appears to sit~~ sits almost inbetween the ~~are~~ cerebrum + medulla oblongata.

(ii)



c)(i)

(ii) ~~the thinner the focal length, the longer the lens~~

the thicker that the lens is, the shorter the focal length.

(iii) The eye can focus on objects at different distances through

accommodation, ~~or~~ if we want to focus on an object that

is close to us, the lens in our eyes becomes ~~thinner~~

thicker, if we want to see something further away then the lens

becomes longer and thinner. The thicker the lens is, the ~~more~~ less

the light refracts.

d) when the light reaches the retina, it is detected by the photoreceptors, these are in the form of cones + rods. The retina consists of more rods as they detect colour, while rods detect ~~low~~ light ~~at~~ levels. ~~and~~ once the light has been detected by the photoreceptors these signals are taken to the optic nerve where they are transformed into the electrochemical signals and then are taken to the brain which then they are converted into the images we see. ~~later~~ the brain also turns these images the right side up as they are upside down when they reach the retina.

2002 HIGHER SCHOOL CERTIFICATE EXAMINATION

Biology

Q 28 c(i)

This page is to be detached, completed and attached to the inside front cover of your writing booklet for the option question you have attempted.

The different focal lengths of lens of different thickness but with the same diameter

