 Province of the

EASTERN CAPE

EDUCATION

**DIRECTORATE SENIOR CURRICULUM MANAGEMENT**

**(SEN-FET)**

**HOME SCHOOLING SELF-STUDY WORKSHEET ANSWER SHEET**

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| **SUBJECT** | LIFE SCIENCES | **GRADE** | 12 | **DATE** | 1 June 2020 |
| **TOPIC** | HUMAN EAR – STRUCTURE AND FUNCTION | **TERM 1****REVISION** |  | **TERM 2 CONTENT** | 🗸 |

**LEARNER ACTIVITY: EAR STRUCTURE AND FUNCTION**

**QUESTION 1**

1.1

 1.1.1 Eustachian tube🗸 (1)

 1.1.2 Pinna🗸 (1)

 1.1.3 Cerumen🗸 (1)

 1.1.4 Stirrup🗸 (1)

 1.1.5 Ampulla🗸 (1)

 **(5)**

1.2

 1.2.1 None 🗸🗸 (2)

 1.2.2 B only 🗸🗸 (2)

 **(4)**

 **[9]**

**QUESTION 2**

2.1

 2.1.1 (a) 1 – Semicircular canals🗸

 Have receptors for balance that convert stimulus into impulse🗸

 /responsible for balance (2)

 (b) 2 - Cochlea🗸

 Has receptors for hearing that convert sound waves into impulses🗸 (2)

 (c) 3 - Tympanic membrane🗸

 Transmits sound waves to the middle ear🗸 (2)

 (d) 4 - Ossicles

 Transmit vibrations from the tympanic membrane to inner ear🗸

 Amplify sound vibrations🗸 (3)

 (e) 5 – Auditory nerve🗸

 Transmits impulses to the brain🗸 (2)

 2.1.2 Cerebrum🗸 (1)

 2.1.3 Sensory🗸neuron (1)

 2.1.4 Allows ossicles/tympanum to vibrate freely🗸 (1)

 2.1.5 Pharynx🗸 (1)

 2.1.6 Auditory canal🗸 (1)

 2.1.7 The ear wax can be removedP from the auditory canal

 to allow sound to reach the tympanic membraneP /which will allow the

 tympanic membrane to vibrate freely (2)

 **(18)**

**QUESTION 3**

3.1

 3.1.1 Diagram of the middle ear 🗸 (1)

 3.1.2 A – Hammer🗸(malleus)

 D – Oval window🗸 (2)

 3.1.3 - Yawning or swallowing opens the eustachian tube🗸

 - air enters into the middle ear🗸

 - equalizing pressure on both side of the tympanic membrane🗸 any 2 (2)

3.1.4 C/ the tympanic membrane is larger/ larger surface area

 - than D/ the oval window🗸/smaller surface area

 - Therefore the incoming sound waves are concentrated on to a smaller area🗸

 thus amplifying the sound (3)

 **(8)**

 **[35]**