 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]**