Depth Study Assessment Task 2024



YEAR 12 BIOLOGY

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| **TOPIC**: Depth Study – Humans and Disease | **MARKS:** /25 |
| **SUBMISSION REQUIREMENTS:**  Thursday 28th March by 11:59pm via CANVAS submission. | **WEIGHTING:** 25% |
| **OUTCOMES TO BE ASSESSED:**  **BIO12-1 Develops** and **evaluates** questions and hypotheses for scientific investigation.  **BIO 12-2** Designs and evaluates **investigations** to obtain primary and secondary data and information.  **BIO12-3** Conducts **investigations** to collect valid and reliable primary and/or secondary data and  Information.  **BIO12-4** Selects and **processes** appropriate qualitative and quantitative data and information using a range of appropriate media.  **BIO12-7 Communicates** scientific understanding using suitable language and terminology for a specific audience or purpose.  **BIO12-14 Analyses** infectious disease in terms of cause, transmission, management, and the organism’s  response, including the human immune system. | |
| **DIRECTIONAL VERBS:**  **Analyse** - Identify components and the relationship between them; draw out and relate implications **Communicate -** to share information with others by speaking, writing, or using other signals.  **Develop** - to create or produce.  **Evaluate** - Make a judgement based on criteria, determine the value of  **Investigate** - carry out a systematic or formal inquiry to discover and examine the facts to establish the truth.  **Process** - A series of actions or steps taken to achieve a particular end. | |
| **TASK DESCRIPTION:**  Students are to undertake a depth study that requires them to **investigate** an infectious disease. Students will **communicate** their findings in the form of a scientific research report and present their sources as a portfolio. | |
| **ASSESSMENT CRITERIA:**   1. Choose an infectious disease from the list:    * Influenza - Covid-19 - MERS - SARS - Chlamydia    * HIV/AIDS - Meningitis - Ebola - Measles - Hepatitis B    * Diphtheria - Chickenpox - HPV/Cervical Cancer - Whooping Cough    * Gonorrhoea - Streptococcal Pneumonia 2. Briefly research the cause, transmission, prevention, treatment, and control measures currently in place. 3. **Develop** an inquiry question relating to the infectious disease.   For example, “Does hand washing reduce the transmission rates of COVID-19?” | |

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|  | 1. **Develop** a hypothesis that their **investigation** will endeavour to answer.   For example, “Using handwashing techniques significantly reduces the transmission of COVID-19.”   1. Collect and **process** valid and reliable secondary sources of both qualitative and quantitative data and information, that will endeavour to prove or disprove the hypothesis. These documents will become your portfolio. 2. **Analyse** the data and information in relation to cause, transmission, management, and the organism’s response, including the human immune system in relation to the infectious disease. KEY POINTS:    * Linking your justification to disease pathology and epidemiological health data.    * Analysing case studies related to the infectious diseases.    * Future method/technique to prevent or the spread of the disease. 3. **Develop** a scientific research report to **communicate** the **evaluation** based on the above **processing**   and **analysis** by reviewing the marking criteria and as a guide a research report should include:   * + Relevant headings and subheadings   + Relevant images, diagrams, tables, graphs   + Bibliography within text citations.   + Logical progression and appropriate formatting with correct use of spelling, grammar, and structure (ie paragraphs and double line spacing)  1. **Develop** a Portfolio of secondary documents    * Containing a minimum of 10 annotated articles (handwritten or typed annotations).    * CRAAP analysis completed on 5 sources.   As a guide the research report should be between 2000- 2500 words (portfolio not included). | | |  |
| **ASSESSMENT MARKING CRITERIA** | | | | |
|  | | **Mark** | **Grade** | |
| Student conducts a comprehensive **investigation** on Infectious Disease. The scientific report indicates clear and sophisticated evidence of in-depth research into the chosen disease, including the cause, transmission, prevention, treatment, and control of the disease. A resource portfolio that includes articles that have been comprehensively annotated and utilised in the scientific report. The data collected is from a wide range of sources, and is **analysed** accurately, including evaluating the validity and reliability of secondary sources. The research report is **communicated** expertly, with all  components of a scientific report present, accurate and well-developed. | | 21-25 | A | |
| Student conducts a thorough **investigation** on Infectious Disease. The scientific report indicates clear and sophisticated evidence of in-depth research into the chosen disease, including the cause, transmission, prevention, treatment and control of the disease. A resource portfolio that includes articles that have been thoroughly annotated and utilised in the scientific report. The data collected is from a wide range of sources, and is **analysed** accurately, including evaluating the validity and reliability  of secondary sources. The research report is **communicated** succinctly, with minor errors in the presentation, accuracy and composition of the scientific report. | | 16-20 | B | |

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| Student conducts a sound **investigation** on Infectious Disease. The scientific report indicates clear and detailed evidence of in-depth research into the chosen disease, including the cause, transmission, prevention, treatment and control of the disease. A resource portfolio that includes articles that have been annotated and utilised in the scientific report. The data collected is from a range of sources, and is **analysed**, including evaluating the validity and reliability of secondary sources. The research report is **communicated** clearly, with several errors in the presentation, accuracy and  composition of the scientific report. | 11-15 | C |
| Student conducts a basic **investigation** on Infectious Disease. The scientific report indicates some evidence of research into the chosen disease, including the cause, transmission, prevention, treatment and control of the disease although some information may be lacking. A resource portfolio that includes articles that have been annotated and referred to in the scientific report. The data collected is from several sources, and there is an attempt to **analyse**, although it may not include evaluating the validity and reliability of secondary sources. The research report is **communicated**  appropriately, however there are several errors in the presentation, accuracy and composition of the scientific report. | 6-10 | D |
| Student conducts a limited **investigation** on Infectious Disease. The scientific report indicates little evidence of research into the chosen disease, including the cause, transmission, prevention, treatment and control of the disease although information is lacking. There is little to no evidence of a portfolio or secondary data collection but  there is an attempt to **communicate** the research in the form of a report with scientific terminology, and/or scientific inaccuracy present. | 1-5 | E |