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| **TASK 1**  **INSTRUCTIONS** |

* **Read the question carefully.**
* **Circle the correct letter.**
* **Answer all questions.**

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| 1. | What is a pathogen? | |
|  | a. | A disease. |
|  | b. | A microorganism. |
|  | c. | A disease-causing microorganism. |
|  | d. | A disease caused by a microorganism. |
| 2. | Which of the following invades cells before multiplying? | |
|  | a. | Bacteria |
|  | b. | Viruses |
|  | c. | Fungi |
|  | d. | Protists |
| 3. | Which statement best describes vaccination? | |
|  | a. | A virus is injected or swallowed. |
|  | b. | A bacterium is injected or swallowed. |
|  | c. | A dead or weakened form of a pathogen is injected or swallowed. |
|  | d. | A disease is injected or swallowed to stimulate the production of antibodies. |
| 4. | What is in an antigen? | |
|  | a. | Molecules of dead or inactive pathogens. |
|  | b. | A medicine that treats bacterial infections. |
|  | c. | A microorganism that causes a disease. |
|  | d. | Molecules on the surface of a pathogen. |
| 5. | What is meant by the word vector? | |
|  | a. | An organism that transmits a pathogen. |
|  | b. | A bacterium that causes a disease. |
|  | c. | A single celled eukaryote. |
|  | d. | A pathogen that reproduces on the surface of cells. |

**1 question, 5 sentences, 5 words**

**GCSE Biology – Health, disease and medicines**

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| **TASK 2**  **INSTRUCTIONS** |

* **For the statement in the task, use either the suggested website or your own text book to write a 5-point summary. In examinations, answers frequently require more than 1 key word for the mark, so aim to include a few key words.**
* **It is important to stick to 5 sentences. It is the process of selecting the most relevant information and summarising it, that will help you remember it.**
* **Write concisely and do not elaborate unnecessarily, it is harder to remember and revise facts from a long paragraph.**
* **Finally, identify 5 key words that you may have difficulty remembering and include a brief definition. You might like to include a clip art style picture to help you remember it.**

**Example:**

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| **QUESTION:** | What is the difference between communicable and non-communicable diseases? | | | | |
| **Sources:** | **Website –** [**http://filestore.aqa.org.uk/textbooks/sample/gcse-biology/AQA-8461-OXFORD-SAMPLE.PDF**](http://filestore.aqa.org.uk/textbooks/sample/gcse-biology/AQA-8461-OXFORD-SAMPLE.PDF)  **Interactive -** | | | | |
| 1. Pathogens are microorganisms such as viruses and bacteria that cause infectious diseases in animals and plants. 2. They depend on their host to provide the conditions and nutrients that they need to grow and reproduce. They frequently produce toxins that damage tissues and make us feel ill. 3. Communicable (infectious) diseases (e.g., tuberculosis and flu) are caused by pathogens such as bacteria and viruses that can be passed from one person to another 4. Non-communicable diseases cannot be transmitted from one person to another (e.g., heart disease and arthritis). 5. Both communicable and non-communicable diseases are major causes of ill health, but other factors can also affect health. | | | | | |
| **Pathogen**  Disease causing microorganism. | | **Communicable**  Can be passed on from one person to the next. | **Non-communicable**  Cannot be passed on to another person. | **Virus**  Smallest pathogen that invades the cell. | **Bacteria**  Pathogen that releases toxins into the blood. |

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| **QUESTION 1:** | Explain how vaccination will prevent illness in an individual and how the spread of disease can be reduced by immunising a large proportion of the population. | | | | |
| **Sources:** | **Website –** [**http://www.nhs.uk/Conditions/vaccinations/Pages/How-vaccines-work.aspx**](http://www.nhs.uk/Conditions/vaccinations/Pages/How-vaccines-work.aspx)  **Interactive -** [**https://www.youtube.com/watch?v=3aNhzLUL2ys**](https://www.youtube.com/watch?v=3aNhzLUL2ys) | | | | |
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**TASK 3**

**Science in the News**

**GCSE Biology – Health, disease and medicines**

**Fake news**

Sensationalized news stories have been around for some time, but with the mass growth of social media, the problem seems to have grown in recent years. At the very least, the US Presidential election has certainly highlighted the impact that misleading information can have. [www.tiny.cc/fakenews2](http://www.tiny.cc/fakenews2)

At home, the Brexit vote also suffered from the circulation of misleading news stories [www.tiny.cc/fakenews3](http://www.tiny.cc/fakenews3)

Therefore, the ability to identify real information, track it back to the source article and make your own judgement is a very important skill. This activity will help you develop that skill.

**Malaria free- Is this a possibility?**

News article: <https://www.theguardian.com/society/2016/sep/05/sri-lanka-malaria-free-world-health-organisation>

NHS article: <http://www.nhs.uk/Conditions/malaria/Pages/Introduction.aspx>

Discussion article: <https://www.nhs.uk/news/medication/new-malaria-vaccine-could-save-millions-of-lives/>

Real article: <https://www.bupa.co.uk/health-information/directory/m/malaria-disease>

**Task 3:**

You need to produce a 1-page essay discussing how action and understanding of how a disease is transmitted can lead to eradication of a disease.

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| **Essay section** | **Activity** |
| **Introduction** | Why is Sri Lanka claiming that they are now malaria free? |
| **Describe** | Describe what malaria is and how it is spread. |
| **Explore** | Explain the symptoms and treatments of malaria. |
| **Evaluate** | Evaluate new methods of treating malaria- write down your own opinions about the new vaccine. |