



CREST
Olympiads
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CREST Science Olympiad (CSO) **Worksheet** *for* **Class 9**



Topic

Why do We Fall Ill



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Worksheet on Why do We Fall Ill

1. **You are investigating the effects of a new antibiotic on a bacterial infection. After administering the antibiotic, you observe a reduction in bacterial count and an improvement in the patient's condition. What can you infer about the antibiotic's mechanism of action?**
 - a. It stimulates the immune system
 - b. It weakens the patient's immune response
 - c. It directly targets and kills the bacteria
 - d. It alters the patient's genetic makeup
2. **During a school camping trip, some students drank water from a stream without boiling it. A few days later, several students fell ill with symptoms like vomiting and diarrhoea. Which disease is most likely responsible for these symptoms?**
 - a. Malaria
 - b. Typhoid
 - c. Influenza
 - d. Tuberculosis
3. **Which of the following disease-causing agents is correctly matched with the disease?**
 - a. Virus – Influenza
 - b. Bacteria – Malaria
 - c. Fungi – Cholera
 - d. Protozoa – Tuberculosis
4. **A public health official is analysing vaccination data for a community. Out of 100 individuals, 80 are vaccinated against a certain disease. Additional data indicates that disease transmission remained minimal even in the absence of immunisation in some individuals. What concept does this scenario relate to?**
 - a. Immunisation coverage
 - b. Low disease transmission rate
 - c. Antibiotic resistance
 - d. Herd immunity
5. **Which of the following diseases share the same mode of transmission?**
 - a. Tuberculosis, malaria, typhoid
 - b. Cholera, influenza, ringworm
 - c. Typhoid, cholera, diarrhoea
 - d. Hepatitis, polio, elephantiasis

Answer Key

1. c - The observed reduction in bacterial count and improvement in the patient's condition indicates that the antibiotic directly targets and kills the bacteria causing the infection. It doesn't necessarily stimulate or weaken the immune response, nor does it alter the patient's genetic makeup.
2. b - Symptoms like vomiting and diarrhoea are characteristic of typhoid fever, which is caused by the bacterium *Salmonella Typhi*. Drinking contaminated water is a common way of contracting this disease.
3. d - Influenza, commonly known as the flu, is caused by viruses. The other options are not correctly matched with the diseases; Malaria is caused by a protozoan parasite, Cholera is caused by bacteria, and Tuberculosis is caused by bacteria as well.
4. d - The scenario describes the concept of "herd immunity," where a high percentage of individuals in a population are vaccinated, leading to reduced disease transmission even among those who are not immunised. This phenomenon occurs because the vaccinated individuals provide a protective barrier, making it difficult for the disease to spread within the community.
5. c - Typhoid, cholera and diarrhoea share the same mode of transmission, which is through contaminated food and water. These diseases are often waterborne and can spread when individuals consume water or food contaminated with the causative microorganisms.

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