



Lahore Grammar School  
Johar Town Senior Boys Campus



Newton's Gazette  
(Study Guide)



11<sup>th</sup>-13<sup>th</sup> OCTOBER



## Introduction:

Scientific discoveries have been immortalized for the future, allowing knowledge spanning centuries to accumulate and increase exponentially with every new generation. This perpetuation of scientific knowledge has been ensured only by the power of the written word, without which nearly every advancement in any conceivable scientific discipline would be lost. In this year's edition of Newton's Gazette, delegates shall maintain this spirit of carrying on scientific inquiry through writing by attempting to tackle scientific questions which continue to confound us today.

## Round 1:

Total time - 2 hours

Delegate cap - 2

The first round of Newton's Gazette will challenge delegates' skills in carrying out research effectively and analysing scientific literature to convincingly arrive at a conclusion. Several prompts will be selected, equal to one half of the total number of teams. Every two teams will be given the same prompt, with one team to craft an essay arguing in favour of the prompt and one arguing against. The word limit will be 750, and delegates are required to bring their devices to type the essay. Research and the use of infographics, graphs, or pictures is allowed as long as proper endnotes are given. The use of AI is not permitted. The prompts can include ethical dilemmas surrounding modern science experimentation, astrophysics, medicine, etc.

Some examples of possible topics are given below:

- i. Could a multiverse possibly exist?
- ii. Should we bio-engineer the planet?
- iii. Should genetic engineering be used to eradicate hereditary diseases?
- iv. Will artificial intelligence ever surpass human intelligence?
- v. Will quantum computing revolutionize current technological capabilities?
- vi. Is it possible to upload human consciousness to a computer?
- vii. Should we let synthetic life-forms loose?

The submissions will be judged based on the following metrics:

- a- Strength of arguments
- b- Avoidance of plagiarism (appropriate references given)
- c- Use of pictorial/graphical evidence to support claims
- d- Linguistic clarity
- e- Reliability of sources used to support arguments

## Round 2

Total time - 2:30

Delegate cap - 2

The second round features a quiz in which delegates will be tested on scientific knowledge relating to the broad fields which were part of the prompts in round 1. Teams will be divided into groups of 3-5 (depending on the number of teams) with unique questions for each group. Each team will be provided a buzzer, and the first team to tap their buzzer to provide a correct answer will be awarded points. Deductions will take place for incorrect answers, with no points being awarded or deducted for no answers.



### Round 3:

Total time – 1 hr 30 mins

Delegate cap – 3

Only the top 50% of teams from round 2 progress to this round. Delegates will be plunged into the past, and shall be informed of an alternate history: Following the end of World War II, nuclear warfare became more of a tool rather than a deterrent, and following 1946, much of the world has become a nuclear wasteland. Compared to our modern age, this fictitious world lacks severely behind in technology, industry, transport and medicine, to name a few key areas. We shall also assume that all scientific advancements from 1946 till now have not occurred at all. However, delegates have a chance to redeem this dystopia. They are allowed to choose any single scientific discovery/advancement made from 1946 till now in the real world, which they believe to have been the most impactful in aiding humanity. They will then have to write a brief essay with a word limit of 500, arguing why their chosen discovery is the most important in saving humanity amid a nuclear fallout.

Some examples include:

1. The discovery of a certain vaccine
2. The Human Genome Project
3. The invention of the MRI
4. The proposal of the structure of DNA
5. Discovery of the carbon nanotube

Delegates are required to carry out research on scientific discoveries from this time period well before the round. They can assume that the discovery they choose has the potential to have the same impact, and result in the same subsequent advancements in this fictitious world as they have in our real world.

The following judging metric applies:

1. Well-constructed argument explaining why the chosen discovery is the most prudent compared to others for alleviating the problems in this dystopia /3
2. Explanation for how this discovery is best-suited to the new problems specific to this alternate universe /2
3. A detailed argument, outlining the potential butterfly effect this discovery can have in inducing other medical/chemical/industrial advancements /2. For example, delegates can argue that the discovery of the structure of DNA has revolutionised the investigation of disease pathways, helped professionals assess an individual's genetic susceptibility to specific diseases, diagnose genetic disorders, and formulate new drugs.

Total - 7