

## OLYMPIADS SCHOOL/IB/TOPS/MACS/CLASS 21 HANDOUT

### APPLICATION PREPARATION

Read the following draft of a personal profile that was written for a TOPS application. Discuss its strengths (and areas for improvement). The student succeeded in entering MaCS.

The TOPS Program is the best program I can see myself striving in. My love for Mathematics and Science can go wild here because I know TOPS is definitely going to help since it is a math, science, and English enriched program. To me, math and science are my favourite subjects in school. This year, I am in the Grade 8 programme at P.A.C.E. I will "reach ahead", studying grade 9 courses and receiving grade 9 credits in Mathematics (MPM 1DG), Science(SNC 1DG), and French(FSF 1DG). In addition, just listening to the teachers and staff during the TOPS information night shows me how dedicated they are to their students. I can see myself joining the band and playing the flute or piano. Not to mention, joining the Robotics team, joining Art clubs, and joining the many successful athletic teams of tops. As for my interests, I love puzzles, baking, designing, sketching, playing music, reading novels, drawing manga, and so much more! In the future, I see myself either going into the engineering field or the medical field. I would really to always like to practice and improve in Visual Arts. Personally I consider myself as an extrovert, outgoing, and fun. I know at TOPS, I will enjoy myself and let myself free. I will finally be able to release my inner giant!

**Read the following excerpt from the Wikipedia entry on science fiction.**

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According to science fiction writer Robert A. Heinlein, "a handy short definition of almost all science fiction might read: realistic speculation about possible future events, based solidly on adequate knowledge of the real world, past and present, and on a thorough understanding of the nature and significance of the scientific method." Rod Serling's definition is "fantasy is the impossible made probable. Science fiction is the improbable made possible." Lester del Rey wrote, "Even the devoted aficionado—or fan—has a hard time trying to explain what science fiction is", and that the reason for there not being a "full satisfactory definition" is that "there are no easily delineated limits to science fiction."

Science fiction is largely based on writing rationally about alternative possible worlds or futures. It is similar to, but differs from fantasy in that, within the context of the story, its imaginary elements are largely possible within scientifically established or scientifically postulated physical laws (though some elements in a story might still be pure imaginative speculation).

The settings for science fiction are often contrary to those of consensus reality, but most science fiction relies on a considerable degree of suspension of disbelief, which is facilitated in the reader's mind by potential scientific explanations or solutions to various fictional elements. Science fiction elements include:

1. A time setting in the future, in alternative timelines, or in a historical past that contradicts known facts of history or the archaeological record.
2. A spatial setting or scenes in outer space (e.g. spaceflight), on other worlds, or on subterranean earth.
3. Characters that include aliens, mutants, androids, or humanoid robots and other types of characters arising from a future human evolution.
4. Futuristic or plausible technology such as ray guns, teleportation machines, and humanoid computers.
5. Scientific principles that are new or that contradict accepted physical laws, for example time travel, wormholes, or faster-than-light travel or communication.
6. New and different political or social systems, e.g. dystopian, post-scarcity, or post-apocalyptic.
7. Paranormal abilities such as mind control, telepathy, telekinesis, and teleportation.
8. Other universes or dimensions and travel between them.

Choose a science fiction element and discuss how it helps us rethink an issue in the real world.

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Pay close attention to the following 5 panels from a graphic page and answer the questions that follow. The page comes from a graphic novel adaptation of *The Time Machine*.





### Group Discussion

1. Why do you think the first panel is bigger than the four panels on the same page?

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2. Choose one interesting detail in the 5 panels above and explain why the detail is significant.

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2. Can you infer who that being who looks like a "human spider" is, and where does he come from? Explain the evidence that you used to make that inference.

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### Open-ended Question

What do you think science fiction writers or movie-makers are interested in telling their readers or audiences? In other words, is there an underlying purpose in what they do? Discuss with evidence or examples from *The Time Machine* or any science fiction movie you have seen or science fiction book you have read.

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### READING

Read an excerpt from Chapter 4 of *The Time Machine*. Circle all the words that are unfamiliar with you.

'Beneath my feet, then, the earth must be tunnelled enormously, and these tunnellings were the habitat of the new race. The presence of ventilating shafts and wells along the hill slopes—everywhere, in fact, except along the river valley—showed how universal were its ramifications. What so natural, then, as to assume that it was in this artificial Underworld that such work as was necessary to the comfort of the daylight race was done? The notion was so plausible that I at once accepted it, and went on to assume the *how* of this splitting of the human species. I dare say you will anticipate the shape of my theory; though, for myself, I very soon felt that it fell far short of the truth.

'At first, proceeding from the problems of our own age, it seemed clear as daylight to me that the gradual widening of the present merely temporary and social difference between the Capitalist and the Labourer, was the key to the whole position. No doubt it will seem grotesque enough to you—and wildly incredible!—and yet even now there are existing circumstances to point that way. There is a tendency to utilize underground space for the less ornamental purposes of civilization; there is the Metropolitan Railway in London, for instance, there are new electric railways, there are subways, there are underground workrooms and restaurants, and they increase and multiply. Evidently, I thought, this tendency had increased till Industry had gradually lost its birthright in the sky. I mean that it had gone deeper and deeper into larger and ever larger underground factories, spending a still-increasing amount of its time therein, till, in the end—! Even now, does not an East-end worker live in such artificial conditions as practically to be cut off from the natural surface of the earth?

'Again, the exclusive tendency of richer people—due, no doubt, to the increasing refinement of their education, and the widening gulf between them and the rude violence of the poor—is already leading to the closing, in their interest, of considerable portions of the surface of the land. About London, for instance, perhaps half the prettier country is shut in against intrusion. And this same widening gulf—which is due to the length and expense of the higher educational process and the increased facilities for and temptations towards refined habits on the part of the rich—will make that exchange between class and class, that promotion by intermarriage which at present retards the splitting of our species along lines of social stratification, less and less frequent. So, in the end, above ground you must have the Haves, pursuing pleasure and comfort and beauty, and below ground the Have-nots, the Workers getting continually adapted to the conditions of their labour. Once they were there, they would no doubt have to pay rent, and not a little of it, for the ventilation of their caverns; and if they refused, they would starve or be suffocated for arrears. Such of them as were so constituted as to be miserable and rebellious would die; and, in the end, the balance being permanent, the survivors would become as well adapted to the conditions of underground life, and as happy in their way, as the Upper-world people were to theirs. As it seemed to me, the refined beauty and the etiolated pallor followed naturally enough.

'The great triumph of Humanity I had dreamed of took a different shape in my mind. It had been no such triumph of moral education and general co-operation as I had imagined. Instead, I saw a real aristocracy, armed with a perfected science and working to a logical conclusion the industrial system of to-day. Its triumph had not been simply a triumph over Nature, but a triumph over Nature and the fellow-man. This, I must warn you, was my theory at the time. I had no convenient cicerone in the pattern of the Utopian books. My explanation may be absolutely wrong. I still think it is the most plausible one. But even on this supposition the balanced civilization that was at last attained must have long since passed its zenith, and was now far fallen into decay. The too-perfect security of the Upper-worlders had led them to a slow movement of degeneration, to a general dwindling in size, strength, and intelligence. That I could see clearly enough already. What had happened to the Under-grounders I did not yet suspect; but from what I had seen of the Morlocks—that, by the by, was the name by which these creatures were called—I could imagine that the modification of the human type was even far more profound than among the "Eloi," the beautiful race that I already knew.

'Then came troublesome doubts. Why had the Morlocks taken my Time Machine? For I felt sure it was they who had taken it. Why, too, if the Eloi were masters, could they not restore the machine to me? And why were they so terribly afraid of the dark? I proceeded, as I have said, to question Weena about this Under-world, but here again I was disappointed. At first she would not understand my questions, and presently she refused to answer them. She shivered as though the topic was unendurable.'

**SCIENCE AND LIFE**

Imagine you are presented with the following poem for an entrance test. How would you respond to it? And why would you choose to respond to it in a particular way?

**Us**

Where once a Neanderthal man stood,  
And evolution did what it could.  
    If it could turn back the time  
    In its evolutionary climb,  
Honestly, have we turned out for the good?

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**THE END**