

2020 Technology Awareness Day Essay Contest Rules

Contest Rules:

The essay must be:

- An original, unpublished work. Essays deemed not original work will be disqualified.
- Include a cover page with: student's name, school, program, grade, and chosen prompt.
- Word Count for 9th/10th graders: At least 350 words
- Word Count for 11th/12th graders: At least 500 words
- Double-spaced, 12-point font
- Bibliography is **not** included in the word count
- Contestants should proofread entries for spelling and grammar errors.

Regarding sources:

- It is recommended that you support your arguments with qualified sources.
- Use direct quotes when taking a source word for word. Use MLA style in-text citations and bibliography entries.
- Don't focus on strict adherence to MLA – the important thing is that we know which parts of your essay are from an outside source, and where we can find that source.

Contestants will be competing in one of two groups: 9/10th graders and 11/12th graders. The top three contestants from each group will be recognized and awarded prizes at Technology Awareness Day on **February 22nd, 2020**. Prizes have not been confirmed but typically include laptops and tablets.

Choose one of the following prompts:

Artificial Intelligence

Artificial intelligence will continue to have a profound effect on the future of the world and the way businesses operate. Rapid improvements in microprocessor performance are making increasingly complex AI operations possible and available in the palm of your hand. Almost any task that requires the power of the higher level cognitive functions of the brain is a candidate for replacement with AI. Driving, mapping a package delivery network, and human language processing are just a few examples of problems that have already been tackled by AI.

It is such a powerful force that some prominent scientists worry it will grow too quickly and that society is not prepared to handle all of the unforeseen consequences. For better or worse, it is sure to disrupt the future.

Put yourself in the shoes of a technology professional at BNSF Railway who is asked by their boss to explore how AI can be used to help our business. What

are some ways you would suggest? How can we avoid potential pitfalls? What other considerations should be made before implementing AI?

Cyber Security

Technology has enabled the collection, storage, and distribution of large amounts of data. But with that great power comes the great responsibility of ensuring that sensitive data does not end up in the hands of cybercriminals.

BNSF employs a team of cyber security specialists who test the effectiveness of our cyber security capabilities and employs strict policies regarding the handling of personally identifiable information to minimize the risk of data exposure.

The future demands individuals who have the skills to combat cyber security threats. Put yourself in the shoes of an employee asked by their boss to put together a plan for our company's cybersecurity. How do you maintain the security of all 44,000 employees' personal information? Keep in mind that each of those 44,000 employees needs access to BNSF systems and at the same time presents an opportunity for intrusion by a bad actor. How do you test the effectiveness of your cybersecurity? How do you balance it with a need to have systems that are easily accessible to all of the people who need it?

Submission Details:

C.T.E. and Upward Bound coordinators: please send the contest entries to the Financial Aid Committee Chair at BNSF Railway, Bryan Frank, via email: bryan.frank@bnsf.com.

Deadline: Entries must be received from the designated C.T.E. or Upward Bound Coordinator no later than **January 22nd, 2020**.

For questions contact Bryan Frank at bryan.frank@bnsf.com.