Hello, sir/ma'am,

I am Anirudh Vempati, grade 8 of Unicent school.

I'd like to provide the following article for the NIE paper: -

**Title: "Effects of Electric Current"**

Article:

Did you know that electric current has different effects? In this article, we are going to explore the three effects of electric current: the heating effect, the magnetic effect, and the chemical effect.

Heating effect of electric current: When electric current passes through a conductor, it produces heat, which is known as the heating effect of electric current. Electric bulbs produce light as the current flows through their filaments. Such bulbs are known as incandescent bulbs. Sandwich makers, geysers, and some electric kettles also use this phenomenon. In ancient engineering, a device called a fuse was used for safety, which worked with the heating effect of electric current. A fuse is a glass cylinder with metal edges, and a thin metal wire connects both the metal edges from inside. This wire melts when excess current flows through it due to the heating effect of electric current, and the circuit opens. Nowadays, fuses are replaced by MCBs (Miniature Circuit Breakers) as we no longer need to replace the fuse every time it melts.

Magnetic effect of electric current: A current-carrying conductor produces the same effect as produced by the magnetic field of a magnet. This effect of current is called the magnetic effect of electric current. If you want to read more about the magnetic effect of electric current, visit techumination.blogspot.com.

Chemical effect of electric current: When current is passed through a conducting liquid, it causes some chemical reactions. To understand this concept, let us perform an experiment. First, take two iron nails, a wide glass or plastic container, some saturated salt (full of salt) water, a few wires, and a battery. Make a circuit by connecting the iron nails to both terminals of the battery with wires, making sure that the two iron nails do not come into direct contact with each other, and place them in the water. After 3-4 minutes, do you notice gas bubbles near the iron nails? Near the nail connected to the positive terminal, the bubbles are oxygen, and near the nail connected to the negative terminal, the bubbles are hydrogen.

by Anirudh Vempati

