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"MARS SOCIETY OF CANADA (MSC) AND THE MARS EXPLORER MOBILE EDUCATION STATION (MEMES): OPENING DOORS TO INSPIRATION – BRINGING CLASSROOMS TO YOUR DOORSTEP, IGNITING STUDENTS' STEM DREAMS"

Abstract

The Mars Society of Canada (MSC) is actively shaping STEM education through its innovative Mars Explorer Program (MEP), an initiative geared towards inspiring Canadian primary school students to pursue careers in STEM fields. The MEP is an open access online resource offering Mars and Moon-themed learning modules for primary school teachers and parents across Canada strategically designed to introduce STEM topics to a younger audience. Following the successful implementation of the initial modules presented at pilot schools in Ontario and Quebec, the MSC is embarking on an ambitious expansion. This includes the development of 34 new learning modules, hands-on classroom sessions, and the creation of the Mars Explorer Mobile Education Station (MEMES).

MEMES, a mobile classroom housed in a retrofitted trailer featuring a deployable origami habitat, is designed to travel to schools and communities across Canada and bring education to your door, offering immersive learning experiences to students and teachers, with a focus on fostering interest in STEM and space exploration. At zero cost for participants, MEMES serves as a dynamic platform to showcase essential technologies for off-world exploration and habitation! Central to its design is the incorporation of augmented and virtual reality (AR/VR) displays, offering an immersive and interactive learning environment. The goal of the station is to captivate students and teachers, sparking interest and encouraging the pursuit of STEM careers and space exploration.

MEMES stands as a testament to the MSC's commitment to advancing STEM education by facilitating on-site demonstrations of crucial technologies for Moon and Mars exploration. Featuring a vertical hydroponics unit, a renewable energy system, and space-themed living quarters, MEMES provides a tangible experience for students and educators alike. Lesson plans, including topics such as "How to Build a City on the Moon?" and "Understanding the Human body in Space", empower teachers to convey complex ideas in an engaging manner.

This paper explores the conceptualization, development, implementation, and anticipated impact of MEMES, including testimonies from educators and communities involved, and highlighting its role as a catalyst for inspiring the next generation of scientists, engineers, and visionaries. Ultimately, MEMES stands as a dynamic and innovative approach to STEM education, poised to leave a lasting impression on students and educators alike across the diverse landscapes of Canada.