

AWIM Master Teacher and Volunteer Training Program - A Report Bhopal Region

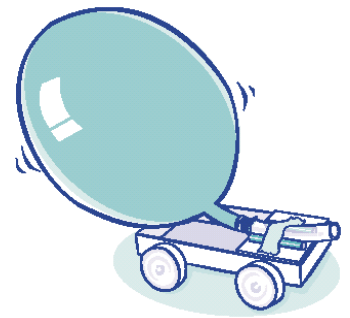
Designed by the Society of Automotive Engineers (SAE), A World in Motion® curriculum joins together teachers, students, and industry volunteers in an exploration of physical science while addressing essential mathematics and scientific concepts and skills. Industry volunteers play an essential role in motivating the next generation to pursue careers in science, technology, engineering and math by bringing their everyday experiences into an AWIM classroom.

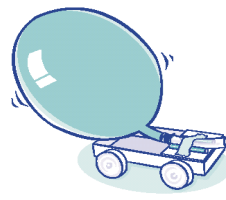
In this event the students are provided with a kit containing raw materials to build toys and they are taught to design, build and experiment with them. In this process, students explore Science, Engineering and Design aspects. Each toy is a challenge covering different automotive subjects. AWIM program comprises of a series of four curricula referred to as Challenges, whereas in India, only Jet Toy - for 6th grade students, is being conducted.

In Jet Toy Challenge Students make balloon-powered toy cars. Their challenge is to design an appealing toy that performs in a specific way, such as travels far, carries weight, or goes fast. Students experiment with different chassis designs and nozzle sizes to determine their effect on the JetToy's performance. Jet propulsion, friction, and air resistance are the core scientific concepts students explore in this challenge.

The challenges give young students many opportunities to explore and test the performance of a vehicle they have designed and constructed.

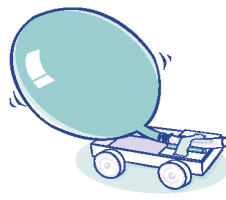
As students strive to optimize the performance of their toy vehicles, they express their ideas, test their hypotheses, and draw their own conclusions based on the evidence they gather. In this way, their experience resembles the work of scientists and engineers. The science notes that accompany each challenge describe concepts associated with the performance of the vehicles students design and build.





Process for AWIM event:-





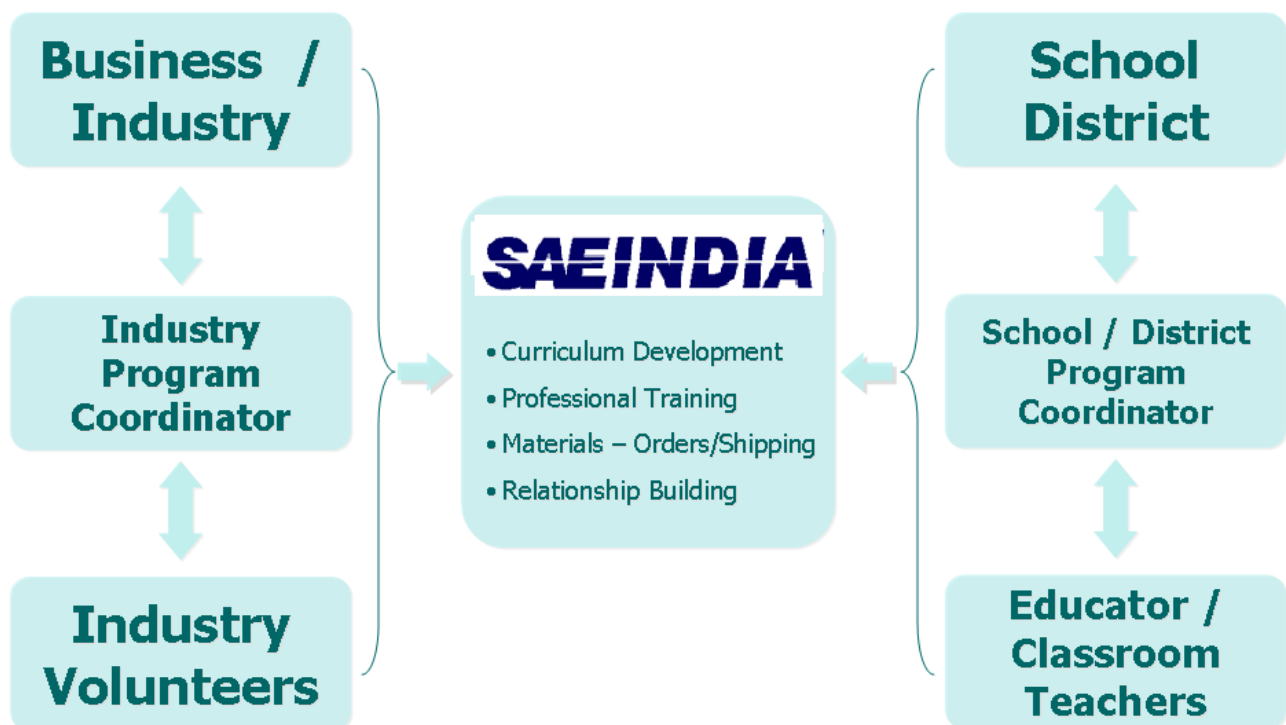
Five phases of engineering design experience:

- ❖ Set Goals
- ❖ Build Knowledge
- ❖ Design
- ❖ Build and Test
- ❖ Decorate
- ❖ Present

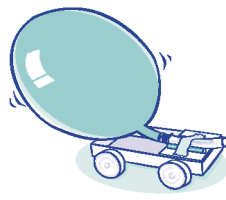
In completing these steps, students will have experienced design in an engineering context and gained some understanding of the design process and how the products they use have come to be.

ROLE OF INDUSTRIAL VOLUNTEERS

The Bridge from Industry to the Classroom



The A World in Motion program builds bridges between corporations and classrooms by giving teachers, volunteers, and students the opportunity to work together and learn from each other. Industry support is essential to this program. Corporations and their employees can influence the ways in which youth are prepared to meet the future by sponsoring schools in their communities. By doing so, schools can qualify to receive free or low cost AWIM Challenge kits.



This year SAEINDIA's AWIM culminated with participation of various schools teacher's at Sagar public school, Saket nagar , Bhopal on 19th September ,2010. The program hosted participation of 5 schools.

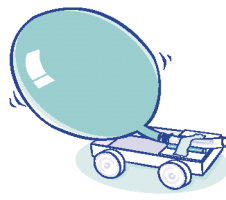
Mr. Pankaj Motiramani, Manager (Bharat Petroleum Corporation Ltd.) and Dr. Jaishree Kanwar, Principal (Sagar Public School, Saket Nagar) was the chief Guests in Inaugural Function. Mr. Sagar Dubey (ASE, Accenture Services Pvt. Ltd.) was the trainer of the event, also two industrial volunteers Mr. Abhijeet Chausalkar and Mr. Puneet Singh from Indian Oil Corporation Ltd. (IOCL) were present to share their views and train the teachers and volunteers jointly.



Chief Guest

The overall goals of AWIM are:-

- Promote science literacy.
- Increase interest in science, Math, and technology education.
- Help today's students to become tomorrow engineers and scientist.
- Encourage a spirit of healthy questioning through the discovery process.
- Provide opportunities for physical science experiences.
- Emphasize cooperative learning (teamwork).

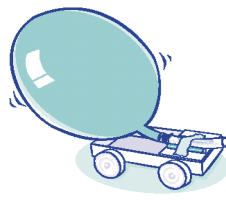


With a wonderful introductory session, the presentation begins with an introduction of AWIM and SAE. The session explains the vision and purpose of SAE.



Mr. Sagar Dubey giving Presentation on AWIM

A team of four is formed in which One Science teacher, one craft teacher, one industry volunteer and one Engineering Student volunteer. After the formation teams are asked for a car name, team name, logo and a slogan for their car. The next step is to distribute badges and explain the roles of Project Engineer, Facilities Engineer and Test Engineer. In a team there are two Test Engineer one Facilities Engineer and one Project Engineer.



NOW THE CHALLENGE BEGINS

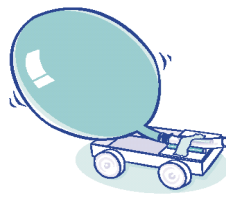
Presentation started an excitement in listeners and then teachers and volunteers started thinking and working like a 6th standard student. The tasks allotted was to build a jet toy, air propelled vehicle. During the commencement of task they all learned the important concepts of physics and science. This whole program was to ignite an idea in teachers and in student volunteers, to relate theoretical concepts with practical one. The scientific concepts like Jet propulsion, friction, and air resistance were explored by the Teachers & volunteers. Teachers are also undergone with the general concepts of physics such as laws of motion, Pressure, Force and Area. AWIM Training was not confined to the learning & making of the toy but the volunteers & Teachers were also involved in the Toy testing and understanding the reasons behind the science concept.

Other useful concepts were:-

- Conducting scientific research using appropriate methods
- Interpreting scientific evidence
- Analyzing the interrelationships of several variables
- Communicating the results of scientific investigation
- Understanding forces acting on a moving object
- Understanding the difference between science and technology and use of design process and skills



Teaching the concepts of Science



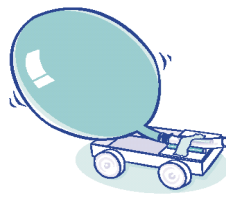
The competition saw teachers and volunteers work as a team, apply scientific design concepts and explore the principles of jet propulsion, friction and air resistance to create and race balloon powered toy cars named 'Jet-Toys'. The Volunteers & Teachers actively participated in the training & to design an appealing toy that performs in a specific way, such as travels far, carries weight, or goes fast with their own hand. Teachers experimented with different chassis designs and nozzle sizes to determine their effect on the Jet Toy's performance.



Teachers interacting with Industrial Volunteers



Jet Toy made by one of the Team



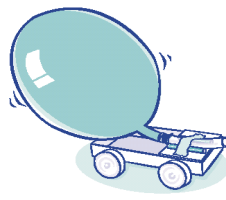
Firstly the toy was tested without a balloon and was launched from an incline. The vehicle was then revised and re built to remove the previous faults. This went on even after the balloon motor was added to the toy for its propulsion. Toy testing helped in understanding the reasons behind the science concepts.



Testing of Balloon Size



Teachers Testing the Jet Toy

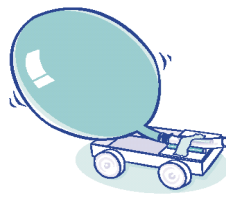


After all the learning & testing the Toy the Teachers & the Volunteers also gave the Presentations about their Team Name, Logo & the Vehicle specifications. They also faced the Questions of the team as in the AWIM Olympics.



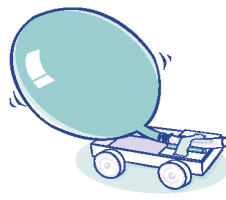
PRESENTATION BY TEAMS





FELICITATION CEREMONY





MTTP Detailed Analysis

S.NO.	School	Location	No. of teachers
1.	Sagar Public School	Saket Nagar	2
2.	Sagar Public School	Gandhinagar	1
3.	Campion School	Arera Colony	2
4.	St. Joseph Coed School	Arera Colony	2
5.	International Public School	Hoshangabad Road	2
Total No. of Teachers			9
Total No. of Industrial Volunteers			4
Total No. of College Volunteers			7
Total			20

By:-

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AWIM Bhopal Local Olympics 2010

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