

## Walk the Function

The concept of a function is one of the most fundamental ideas in mathematics, and in life in general. Like any functional unit we encounter, a mathematical function takes an input and gives an output. The inputs can be from a pre-defined set, for example, all integers, or all positive real numbers (or in case of a living being, food and air) and the outputs are also usually limited to a specific set, for example

the set of even numbers, or the set of complex numbers (or in the case of a living being, air, water, solid waste).

We use mathematical functions all the time. When we look at a time-table for a train, it indicates the time as a function of location - you tell me the city (input) and the time table will tell you the time (output). Of course, if the input city is not in the set of cities where the train stops, there is no output!

Functions which depend only on one factor are most easily represented by a graph - the input is shown on the horizontal axes and the output is shown on the vertical axis. The “walk the function” exhibit, whose idea was borrowed from the Mathematikum in Giessen, Germany, is a way to make this idea of a “graph” perceptible - the visitor has to walk in such a way that the line indicating her/his position on the screen follows a predefined graph, or in mathematical terms, the graph of the position versus time would trace a predefined curve. More information about this exhibition is available on the ICTS web-page for this exhibit, to be soon linked from: <http://www.icts.res.in/program/MPE2013>

