

## **Science: the magic of publicly communicating and inspiring students to study it**

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Science and math teachers compete with the hyper-reality of the everyday world to get the attention of the public at large and students in particular. The teacher and the material presented must at the very least be as interesting as video games, TV shows, Internet chat rooms, movies, radio, music of all genres, etc. In addition, the material presented must also have content. The presentation of scientific principles under the guise of magic tricks proves to be a compelling method for getting the attention of the too often disinterested audiences, both rural and urban. Science mysteries, presented as amusements, piques the interest of many, age being no barrier. Science can seem mystical and is often poorly understood by the average, non-science-literate person. Our approach has been shown to draw their interest through entertainment values, and allows them to construct their own knowledge of science in a visceral sense. Students, teachers and the public always want to know, "how does it work?" or "how do you do that?"

General concept:

- A "(science-based) magic trick (experiment)" is demonstrated - frequently with audience participation
- The demonstration is discussed, analyzed and deconstructed by the students and the teacher/performer/lecturer
- The demonstration is always based upon a scientific (physics, biology, chemistry, psychology) or mathematical principle. (topology, algebra, binary code, arithmetic, statistics, etc.)
- In almost all cases, hands on learning by the audience members takes place
- This approach to teaching and learning allows science to be taught using no-cost/low-cost equipment
- The students are inspired and gains a visceral understanding of the scientific principles.