

# RST countdown

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**Rocket science tutors**  
www.rocketsciencetutors.com

*Rocket Science Tutors is a volunteer, non-profit 501 c-3 organization dedicated to improving math and science education. See our website for more information.*



## RST Begins Third Year

October 1<sup>st</sup> marked the third year of the RST program. We are operating at two schools in Santa Ana: Carr and McFadden Intermediate, focusing on 8<sup>th</sup> grade math and science. Incidentally, the first RST session of the year introduced students to the 50<sup>th</sup> anniversary of Sputnik.



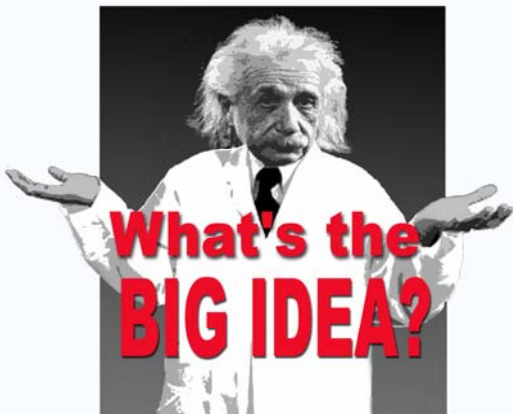
## Performance Evaluation

RST plans to evaluate student performance data from last year's students to assess the long-term impact of RST on student performance. We're hoping for at least one Nobel Prize of the next decade!

## Kids Experience "Space '07"

In September, RST arranged to have two busloads of students from Carr and McFadden intermediate Schools attend the AIAA "Space '07" convention at the Long Beach Convention Center. The students spent most the day in "Education Alley" an exhibit hall filled with interactive displays from sponsors such as NASA, Applied Physics Lab, Raytheon, Boeing and many

others. Their adventure also included a tour of the main exhibit hall where they were able to view exhibits and talk to major aerospace contractors and subcontractors. By all accounts, the kids had a great time with this kick-off to the new school year and the RST program. RST volunteers also served as tour guides on all three days of the event.



## What's the BIG Idea?

The core of RST is to show students the link between math and science. To that end, our "What's the BIG Idea" campaign demonstrates specific examples of that relationship. Students are challenged to find examples of science using math, discuss at the RST session and are rewarded with an official RST T-Shirt.



## Summer Work Pays Off

RST volunteers worked all summer refining and expanding their curriculum and polishing student labs. Thanks to the support of our sponsors, we were able to purchase supplies and equipment that enabled RST to generate examples of "Science Using Math To Model Nature". Examples completed so far this school year include:



### Chemistry: Density and Buoyancy, Chemical Reactions

- Students experienced first-hand the effects of fluids with various densities and objects immersed in them.
- The kids had a great time creating "goop" from common materials and understanding the chemical reaction behind it.

### Interactive Demos: Ratio Sticks, Solar Cells, Density of Aluminum.

- PVC pipes of various lengths were used to demonstrate the ratio of shadow lengths. Students then used this method to determine the height of buildings, trees, lampposts, etc.
- The solar cell demo showed that sunlight could produce electricity and that different types of light had an effect of the voltage generated.
- Students used information from the Periodic Chart to determine the weight of a block of aluminum and then verified their calculations on a scale.



### Simple Machines:

Catapults and Balance Beam K'Nex were used to build simple machines and conduct measurements demonstrating  $Work = Force \times Distance$ .

### RST Library:

This year RST initiated a "library" where students were able to borrow books describing applications of math/science such as "Cool Stuff and How it Works" and "Space Travel".



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