

Mark

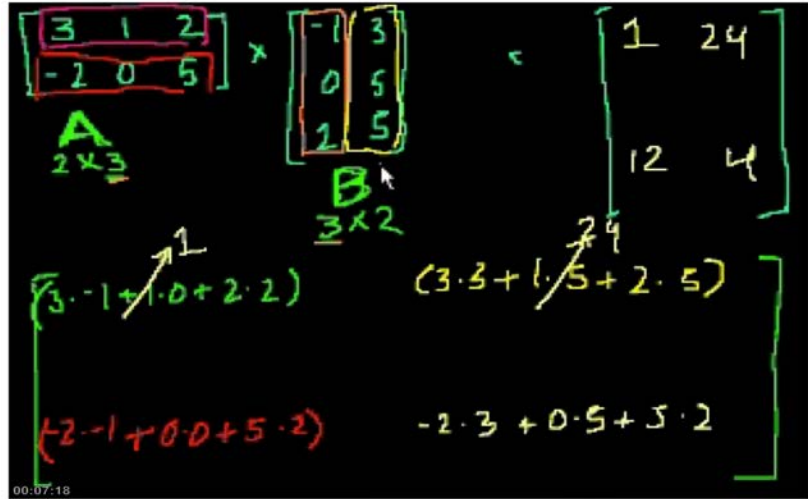
Mark learns at an incredible pace, and he is especially interested in Math and Science. He needs to work at his own pace with little or no practice. (He doesn't need it) and he needs exploratory science activities and projects that don't blow up the house. Here is a collection of a few resources I found for him.



Kahn Academy



Lecture 3 - Matrix Multiplication (Part 2).by

A blackboard with handwritten mathematical work. It shows the multiplication of two matrices, A and B. Matrix A is a 2x3 matrix with elements 3, 1, 2 in the first row and -2, 0, 5 in the second row. Matrix B is a 3x2 matrix with elements -1, 3 in the first column and 0, 5 in the second column. The result is a 2x2 matrix with elements 1, 24 in the first row and 12, 4 in the second row. The calculations for each element are shown below the matrix: (3 * -1 + 1 * 0 + 2 * 2) = 1 and (-2 * -1 + 0 * 0 + 5 * 2) = 12 for the first row; (3 * 3 + 1 * 5 + 2 * 5) = 24 and (-2 * 3 + 0 * 5 + 5 * 2) = 4 for the second row. A small timestamp '00:07:18' is visible in the bottom left corner of the blackboard image.
$$\begin{bmatrix} 3 & 1 & 2 \\ -2 & 0 & 5 \end{bmatrix} \times \begin{bmatrix} -1 & 3 \\ 0 & 5 \\ 2 & 5 \end{bmatrix} = \begin{bmatrix} 1 & 24 \\ 12 & 4 \end{bmatrix}$$

A 2×3 B 3×2

$(3 \cdot -1 + 1 \cdot 0 + 2 \cdot 2)$ $(3 \cdot 3 + 1 \cdot 5 + 2 \cdot 5)$

$(-2 \cdot -1 + 0 \cdot 0 + 5 \cdot 2)$ $-2 \cdot 3 + 0 \cdot 5 + 5 \cdot 2$

00:07:18

Kahn Academy is an valuable resource for any gifted program. It's a **free** online tutorial that will take a student clear through college level calculus as fast as they need to go. The student is completely in control of the pace, and the instructor, Mr. Kahn, is fantastic. The learning sight is funded by **Bill Gates**. <https://www.khanacademy.org/>

KITCHEN SCIENCE

Two great websites!

Cool things Kidz Lab – Kitchen Science

<http://www.coolthings.com,au.kidz.lab-kitchen-science.html>

About.com chemistry Fun experiments Using Kitchen Chemicals, Anne Marie Helmenstine, PHD.

<http://chemistry.about.com/od/foodcookingchemistry/tp/kitchenscienceexperiments.ht>



A GREAT BUT DANGEROUS BOOK!

Can be found on Amazon



A Science Lab/ Workshop at Home



WHERE TO GET SUPPLIES?

Home.Science.Tools<http://www.hometrainingtools.com>

The Omsi Science Store has everything.



Regio Science

The teacher provides the material and lets the students explore, experiment, invent and categorize.



Reggio Science: Categorizing



The Lighthouse Project

Reggio Students in Italy built and designed a working model of a lighthouse. That was later used to construct a real lighthouse for a small coastal village that needed one for small fishing boats



