



# ENGINEERING CLUB

## Learn by Doing

**FUTURE**  
IS  
**BRIGHT!**



WHAT WE DO FOR OUR KIDS  
IT WILL SHAPE THEIR FUTURE!

### TIME&PLACE:

MONDAYS/WEDNESDAYS  
5 - 7 PM  
SATURDAYS/SUNDAYS  
3 - 5 PM  
THE INNOVATION LAB  
@HAWTHORNE

### AGE GROUP:

FROM 5 TO 13

### CONTACT INFORMATION:



5179140408

EXPERIENCES ARE A CRITICAL PART OF OUR CURRICULUM, WHICH SHOWS STUDENTS HOW THEORY COMBINES WITH APPLICATION AND PREPARES THEM TO USE THEIR KNOWLEDGE TO SOLVE THE WORLD'S CHALLENGES.



### PEOPLE&BACKGROUND:

#### SARA HOJJAT

- Physics  
University of Tehran 2008  
Undergraduate

- Product Design  
Designing Science Educational Toys  
Kobe Design University, Japan 2012  
Master degree

- Product Design  
Increasing children's motivation in learning science with designing science workshops  
Kobe Design University, Japan 2016  
Ph.D.

- Teaching in Osaka Elementary Schools 2013-2015

- Stay home with my newborn and helping my older son with his study  
"That was where great ideas and creations grew!" 2018

- Collaboration with the Department of Education, University of California Berkeley on writing a conference paper about learning through playing 2019

- Teaching Japanese 2020 - now

- Lecturer at MSU Denver, Department of Industrial Design, teaching Technology and Design 2021

- Engineering Club, After School at Hawthorne 2022

- Engineering Club, Summer Camp, Tehran, Iran 2022

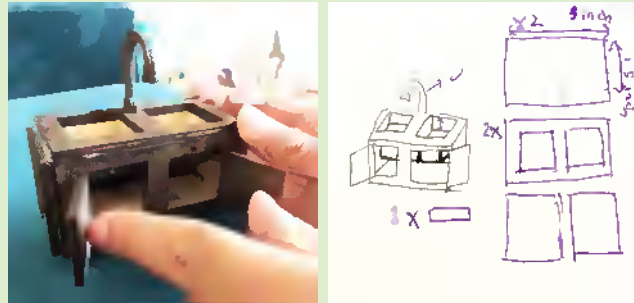
#### ALIREZA ESLAMI

8th Grade in Laguna Middle School

He's the inspiration and a big artist and doer!

He's making awesome stuffs like the Tree-house-lamp that 20 of them has been made afterwards, 10 in US and 10 in Iran by younger kids. He was one of the teachers in Engineering Club summer camp, 2022.

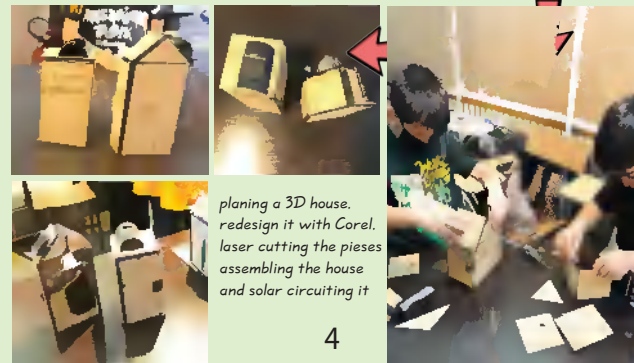
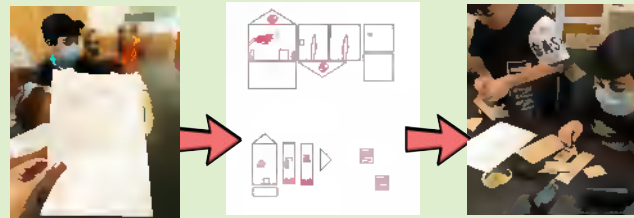




A kitchen sink, planning, laser cutting, and sticking all the pieces

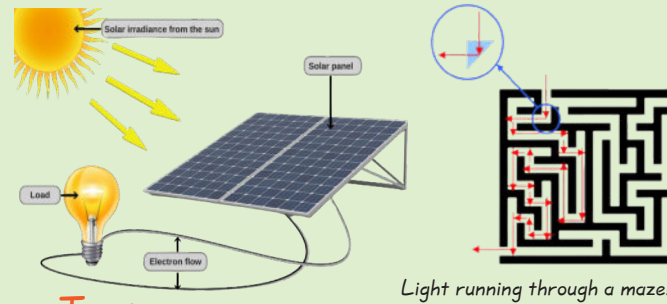


Tree-house-lamp, 3D imagination, engineering methods, happy result



planing a 3D house, redesign it with Corel, laser cutting the pieses assembling the house and solar circuiting it

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### Topics:

1. Circuits:
  - a) Simple circuits with lamp and fan  
The function of these circuits as a moving bug or windmill
  - b) Circuits with solar panels  
The function of it in reality by making a tiny house lighting up with solar power.



### 2. Mirrors and reflection

### 3. Engineering Methods for building 3D stuffs from reality

### 4. Combining 3D making with the circuits

### 5. Creative lamps and clocks

### 6. Chemical Reactions like Epoxy Resin and applying it to make Jewelries



Creative lamps and clocks

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Mirrors and reflection  
Let's win a maze game with reflection rules!

## Targets/Purposes:



1. Children's language of learning is "PLAYING"! Therefore, when we provide a space for them to learn in an environment with play and joy, what they learn because it is accompanied by pleasure, the effect will be deeper and more stable.
2. Creativity is a category that whoever cultivates it in himself will have his hands full in the future. The winner is the one who has creativity, has ideas. Therefore, there should be a space for children to build, destroy, and rebuild. Have an idea, move forward on their ideas, and turn it into a product and enjoy their product. Take another look at it and make it better.



In this class, children becomes HANDS-ON, and step by step increase their knowledge and ability to create works that have never existed before. They put their ideas into it and create something that they will be proud of and want to show to everyone.

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