Melody & Chord
Creative Learning

LEVEL II
Grades 4-5

2016 - 2017
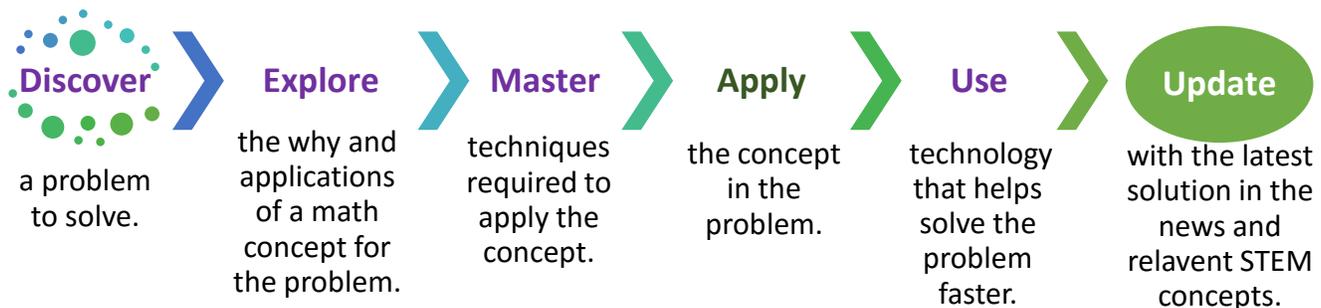
Applied Math & STEM

with an MIT engineer from academia & industry

The best tools are used to solve problems!
A bookless, project-based hands-on coaching

Can you imagine your children learning math and STEM through solving problems?
"At my birthday party, how do I fairly distribute the tasty organic cherries? How can I explain to them how and why my new kite works?"

Scientists, engineers and mathematicians ask questions and solve problems to develop math and STEM. Why not introduce the topics to our children the same way? From analyzing the situation to verifying the results, the students learn to apply Common Core math topics and peripheral STEM concepts! In each session, we:

Discover	**Explore**	**Master**	**Apply**	**Use**	**Update**
a problem to solve.	the why and applications of a math concept for the problem.	techniques required to apply the concept.	the concept in the problem.	technology that helps solve the problem faster.	with the latest solution in the news and relavent STEM concepts.

Each session consists of maximum 6 students and the curriculum is exclusively customized based on the group's needs and interests. Students will be issued a certificate of completion upon demonstrating the skills listed on the next page.

WHEN: Based on most families' convenience (September 2016 to June 2017)
The curriculum is throughout the school year, monthly fee $125. Terms and policy apply.

Level-II Applied Math & STEM Program Focus

Upon completion, the students will achieve the following. Level of depth is customized towards the students' needs and experience.

Math – Application | Problem Solving | Analytical Skills

Topics are within and beyond the grades 4-5 requirements in the California Common Core State Standards: http://www.cde.ca.gov/be/st/ss/documents/ccssmathstandardaug2013.pdf

- ☐ Understand and perform arithmetic computation using concepts of addition, subtraction, multiplication, and division using whole numbers, fractions, and decimals.
- ☐ Analyze and apply concepts to real-world problems.
- ☐ Communicate thought process and perform problem solving.

Science | Technology | Engineering

- ☐ Observe phenomena in various STEM disciplines: biology, physics, chemistry, computer science, etc.
- ☐ Understand the critical role of math in various STEM disciplines.
- ☐ Utilize tools, technology, and software used in practical scenarios.
- ☐ Develop and apply computer programming logic to solve real-world problems.
- ☐ Apply the basics of robotics (Sphero SPRK).

Soft Skill – Computational Thinking | Communications | Team Work

- ☐ Develop computational thinking.
- ☐ Explore life of an engineer or scientist.
- ☐ Collaborate with peers to complete projects and receive feedback.
- ☐ Demonstrate communication skills in a logical manner.
- ☐ Develop self-discipline and time management skills to complete assignments.