

# BUILDING ALGORITHMIC LITERACY



February 6, 2023  
Syosset Central School District  
Board of Education Presentation



# OUR EVOLUTION AND WHAT WE LEARNED

COMPUTER SCIENCE 1.0	COMPUTER SCIENCE 2.0
<ul style="list-style-type: none"><li>➤ Coding in isolation</li><li>➤ Cookbook – using kits and blocks of code</li><li>➤ Teacher-directed problem solving</li></ul>	<ul style="list-style-type: none"><li>➤ Algorithmic literacy</li><li>➤ Coding used for exploration – students developed their own programs, robots and drones.</li><li>➤ Students direct problem-solving</li></ul>

***STUDENTS DEFINE THE PROBLEM RATHER THAN THE PROBLEM DEFINING WHAT STUDENTS DO***

# SYOSSET'S TECHNOLOGY WHY STATEMENT

"We believe that through education we can **ignite curiosity** that fuels motivation, innovation, collaboration, and **problem-solving** skills using technology as a pivotal tool to maximize student contributions in an ever changing world."

# WHAT IS ALGORITHMIC LITERACY?

- algorithms
- abstraction
- decomposition
- analyzing data
- creating models
- creating simulations

*STUDENTS DEFINE THE PROBLEM RATHER THAN THE PROBLEM DEFINING WHAT STUDENTS DO*





# THE **POWER THREE** OF THE NY STATE COMPUTER SCIENCE STANDARDS

Impacts of  
Computing

Cybersecurity

Computational  
Thinking

Digital Literacy

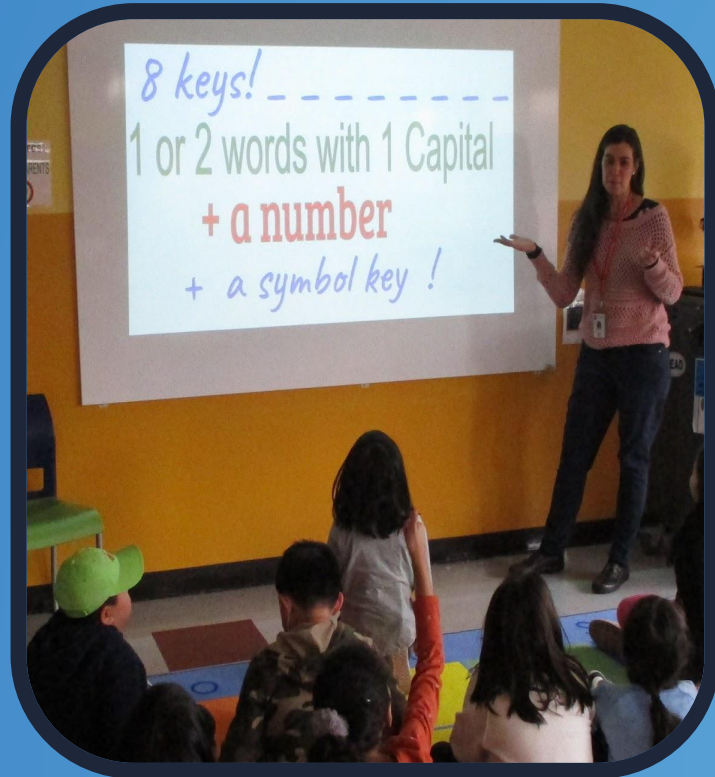
Networks & System  
Design



# ELEMENTARY: IGNITING CURIOSITY THROUGH PLAY & AGENCY

Constructing:

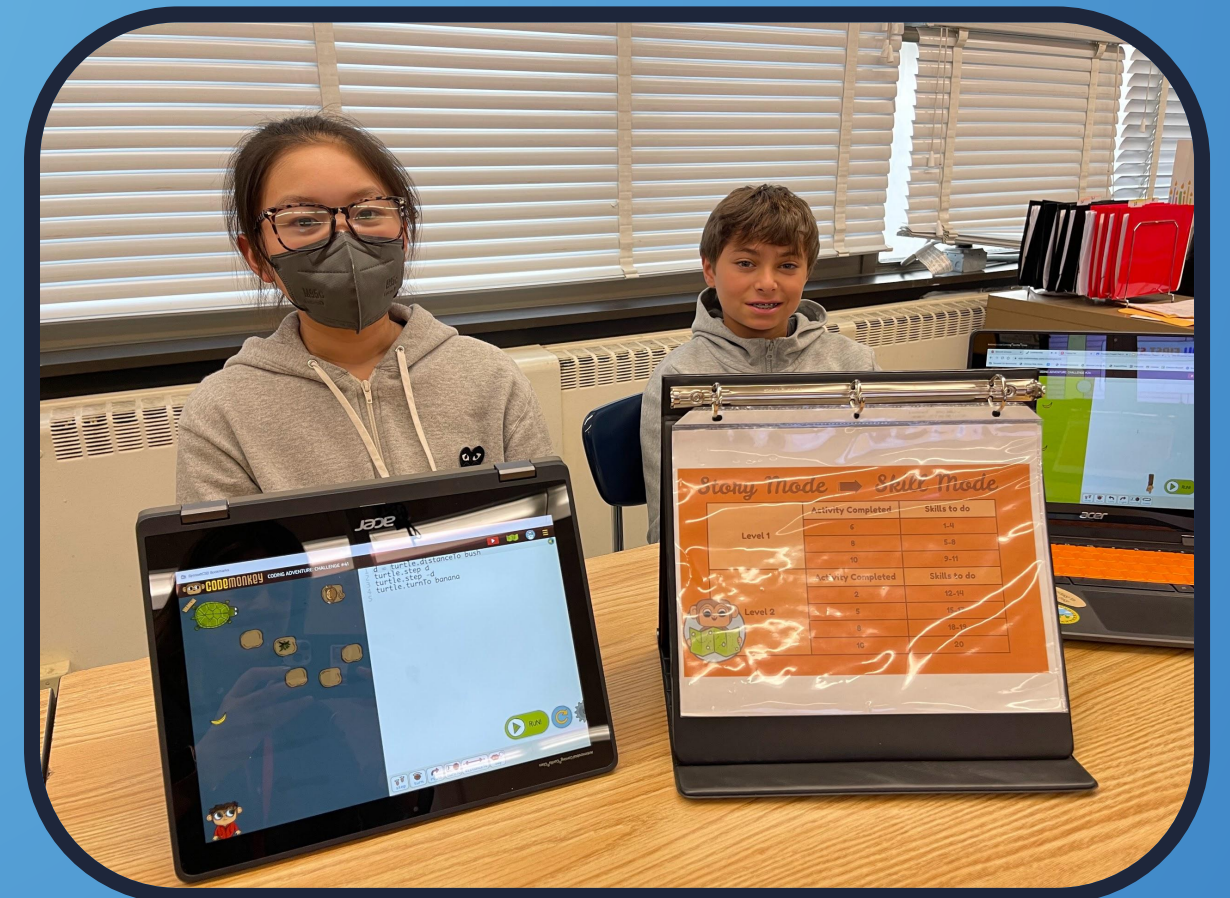
- Algorithms
- Code
- Robots
- Positive Relationships Online
- Positive Digital Footprint





# MIDDLE SCHOOL: EXPANDING OPPORTUNITIES AND GROWTH

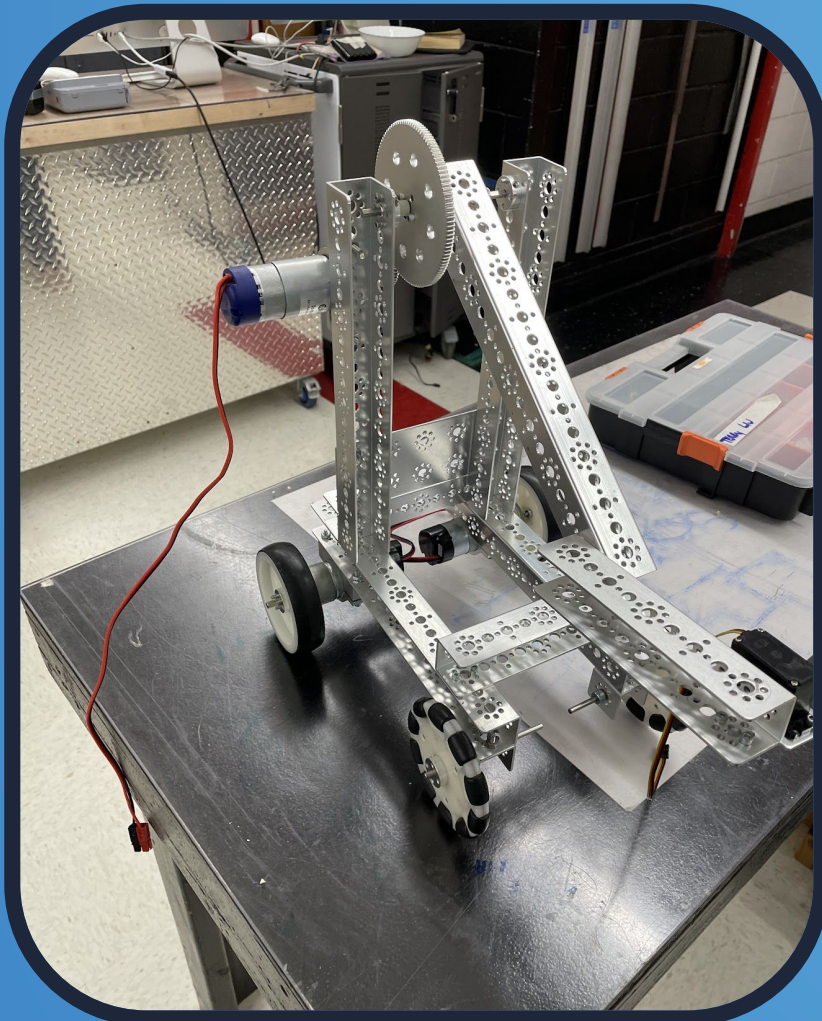
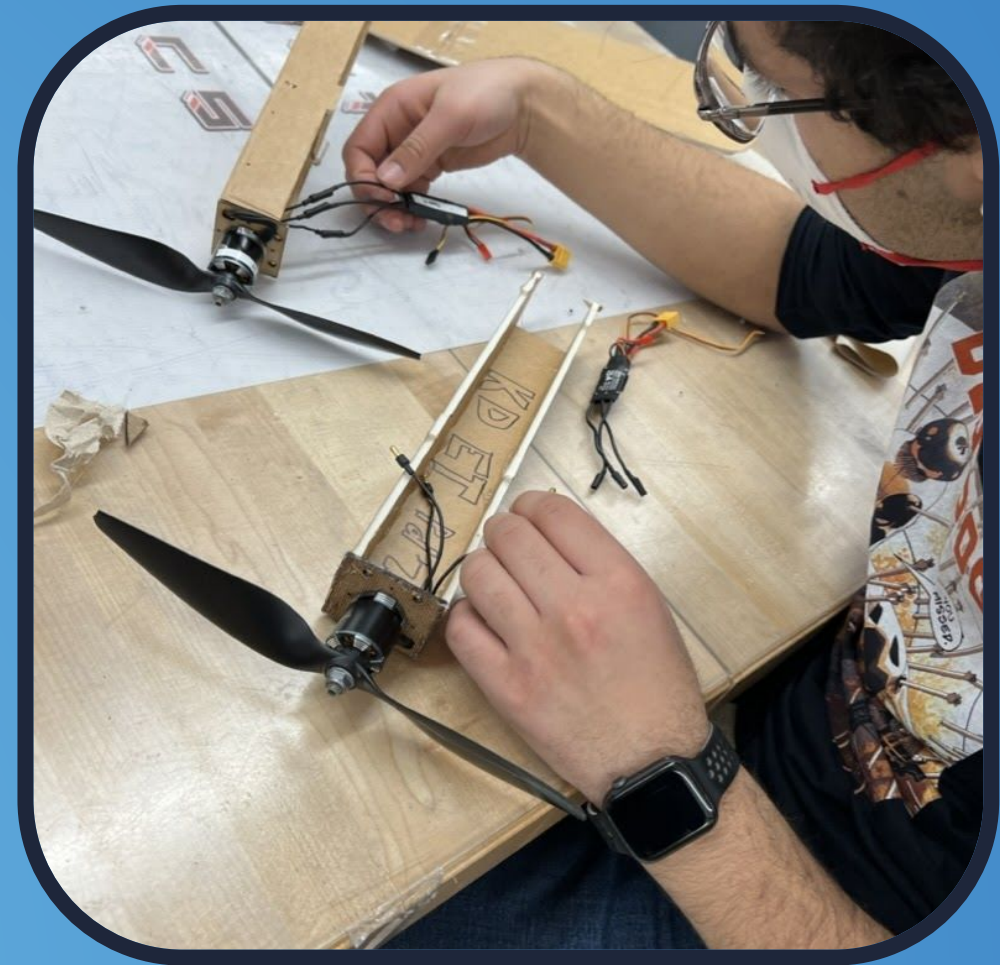
Increasing Digital Literacy and Fluency  
Designing and Building Robots  
Problem-Solving with Coding  
Investigating Online Security Concerns





# HIGH SCHOOL: AGENCY IN ALGORITHMIC THINKING

Students blend the abstract and concrete creating tasks to be solved and designing tailored solutions.





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## Vision for the CS & DF Standards

Every student will know how to live productively and safely in a technology-dominated world. This includes understanding the essential features of digital technologies, why and how they work, and how to communicate and create using those technologies.

*NYSED, December 2020*

