

Curriculum and Coding ADST K-3

Little Coder Cards

Introduces kids to code through trial and error gamification.



Code & Go Mouse

Introduction to coding and engineering through a series of STEM related puzzles.



Botley

Programmable, screen free robot, line following, obstacle avoidance, coding cards, design challenges.



Sphero

Programmable Robotic Ball, Requires iPad, use varies from math literacy, writing, drawing painting, block coding and more.



Scratch JR-

iPad App, programming blocks that control animations while supporting applied numeracy and literacy.



Curricular Links

Ideating- Identify needs and opportunities for designing through exploration

Making- Use trial and error to make changes, solve problems, or incorporate new ideas from self or others. Choose tools and materials, make a product

Sharing- Demonstrate, tell the story of designing and making, explain how the product contributes to the individual, family, community or environment. Use personal preferences to evaluate their design solutions.

Other- Develop Skills and add new ones through play and collaborative work, use available tools and technologies to extend their capabilities.

Curriculum and Coding

ADST 4–5

Ozobot, line following, works with “OZOBLOCKLY”.

Jimu- Assembly required, block code to dance, or perform construction task, programmable with block coding.

mBot/Airblock- Assembly required, line following robot or drone. Works with Scratch, Blockly, Python

Sphero/BB9- Robotic Ball, programmable with drawing, block coding, Java Script, objective c.

Scratch- Create browser based interactive stories, games and animations. (Teacher Account Required for classroom use, computer only). B

DJI Tello Drone- Programmable drone designed to be controlled by scratch.

Microbit- A circuit board for coding in Java Script blocks or Python. Board has compass, Accelerometer, lightnsensor, LED lights and more (computer only).



Curricular Links (Content to be used from all other subject areas)

Understand Context- Gather information about/from potential users

Defining- Choose a design opportunity, identify key features or requirements, main objectives and constraints.

Ideating-Generate ideas potential ideas or add to others, screen against objective/constraints, choose and idea.

Prototyping- outline a plan, including tools/materials, create, make changes to tools/materials or procedure. Recored Iterations.

Testing- Test the product, gather feedback, make changes and repeat until satisfied

Making- Construct the final product

Sharing-Share final product, demonstrate, determine if it meet needs/objective

Other-Safety Awareness when using physical/Digital tools, identify and acquire skills needed to complete task

Curriculum and Coding

ADST 6-7

Vex Construction Kits-Kits that promote design thinking with gears, mechanisms and levers and motors.

Vex IQ- A multi-part robotics kit that combines design thinking and programming

Scratch- Create browser based interactive stories, games and animations. (Teacher Account Required for classroom use, computer only). B

Sphero/BB9- Robotic Ball, programmable with drawing, block coding, Java Script, objective c., Swift

Ozobot EVO, line following, works with "OZOBLOCKLY", Built in speaker, proximity sensors, computational challenges on paper and screen. Requires iPad or computer for higher order tasks.

Lego Mindstorm- A multi-part robotics kit that combines design thinking and programming



ADST CONTENT

Students in grades 6/7 will experience a minimum of 3 modules consisting of: Computational Thinking, Computers and Communication Devices, Digital Literacy, Drafting, Entrepreneurship and Marketing, Food Studies, Media Arts, Metalwork, power Technology, Robotics, Textiles, Woodwork

Curricular Links

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Curriculum and Coding ADST 8-9

Vex EDR- Metal robot build kit with brain. Advanced tasks, Programmable with easy C,



Arduino UNO- micro controller board, program with C++, AVR C, Arduino software, Or Java.

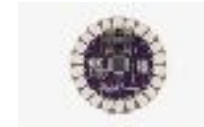


Raspberry Pie- Program your project using Python, HTML 5, C++, Java Script and more

Kahn Academy- Free online resource to assist with coding.



Lilly-Pad- Wearable/programable electronic micro-controller, for textiles.



ADST CONTENT

Students in grades 8/9 are required to experience one year course in ADST. The course can consist of: Computational Thinking, Computers and Communication Devices, Digital Literacy, Drafting, Entrepreneurship and Marketing, Food Studies, Media Arts, Metalwork, power Technology, Robotics, Textiles, Woodwork