

STEAM Activities in the Great Neck Public Schools

Revised 1/4/17

Grade Level	Curriculum Area	Activity Description	Hardware Equipment	Software Programs	iPad Apps	Web Sites
Elementary	Coding	Scratch Jr., various programming and design activities.	iMac Computers, iPads		Scratch Jr, Lightbot, Hopscotch	code.org
	Robotics		Code-a-pillar			
	Robotics		Beebots		Beebot	
	Robotics		Kibo			
	Robotics		Coji			
	Robotics	Students build a robot and investigate simple machines. They design an adaptation for the robot to carry a heavier load. Students use the WeDo app on the ipad to program their robots to complete tasks.	WEDo Lego STEM Kits & Lego	NXT Software, WeDo Software	WeDo Programming App	
	Robotics	Students build NXT robots and create a program to navigate a path.	WEDo Lego STEM Kits & Lego	NXT Software, WeDo Software	WeDo Programming App	
	Robotics	Students build EV3 robots and program the robot to complete the FLL robotics challenge.	WEDo Lego STEM Kits & Lego	NXT Software, WeDo Software	WeDo Programming App	
			Osmo			
Grades 2 & 3		Students explore line reading robots and use codes to complete a mission. Students program using Ozoblockly.	Ozobots			
			Cubelets			
Grade 4	Robotics and Coding	Students use the Wonder Workshops apps for Dash & Dot to create new behaviors for the robots	Dash & Dot		Go, Wonder, Path, Blockly, Xylo	
Grade 4	Computer-Aided Design (CAD)	Students design earbud holders	Mac Computers	Tinkercad		tinkercad.com, projectignite.autodesk.com
			iPads		Morphi	
Grade 1	3D Printing	Students design pictures using shapes in pixie, labeling the shapes with their characteristics. The picture is 3D printed.	MakerBot Mini & MakerBot Replicator	Makerbot Print & Thingiverse		
Grade 2	3D Printing	Students study dinosaur characteristics and how they use them to survive. They draw their own dinosaur, it is 3D printed. They label the parts of the dinosaur and how they use those parts to survive.	MakerBot Mini & MakerBot Replicator	Makerbot Print & Thingiverse		

Grade 3	3D Printing	Students design and 3D print buildings with arrays as windows to solve multi step multiplication problems, 3D create an insect	MakerBot Mini & MakerBot Replicator	Makerbot Print & Thingiverse		
Grade 4	3D Printing	Design and print 3D earbud holders, 3D colonial tool	MakerBot Mini & MakerBot Replicator	Makerbot Print & Thingiverse		
Grade 5	3D Printing	Research, design and print 3D logos for robotics teams, playground design	MakerBot Mini & MakerBot Replicator	Makerbot Print & Thingiverse		tinkercad.com
Grade 4	Architecture	Caine's Arcade. Students design arcade games made of cardboard, colonial home design	iPads			destinationimagination.org
Grade 5	Architecture	Students design and build a bridge to support as many toy cars as it can using only index cards and tape, playground design	iPads			
Grade K	Engineering	Students design and build structures to protect (paper) turkeys from being eaten for Thanksgiving.	iPads			
Grade 1	Engineering	Following a unit on animal adaptations, students need to help an animal in need by fixing one of their "broken" adaptations.	iPads			
Grade 2	Engineering	Students design, construct, and test boats after learning about the Mayflower and the Pilgrims.	iPads			
Grade 3	Engineering	students design and construct windmills after learning about wind energy in Denmark	iPads			
Grade 4	Engineering	Students work in expert groups to research extreme weather. Students then design and build instruments for measuring, monitoring, or assisting with their weather. After learning about electricity, students will design a light-up card using a battery, lightbulb and tape that lights when it is opened.	iPads			