

## PARENT LETTER FOR ROBO-TECH

### TECHNOLOGY AND ROBOTICS OVERVIEW

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#### STOP MOTION VIDEO:

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Students will create their own stop motion short using Sequential Reasoning capabilities and thought processes to create their video. Students will plot a story-line followed by the storyboard. As students set the stage, they check and test all equipment for glitches. In stop motion filming, every step must be taken in the correct order, one small movement at a time, just as a robot is programmed to move from point A to point B. This helps students to gain an understanding of the concepts introduced in coding! Using logic and creativity results in all around great fun!

#### CODING:

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sentence.

Imagine That! kids will learn LUA, a Coding Language using CodeCombat! Students will use this platform to learn the science behind computer programming. We choose an Avatar to win armor and gems while writing LUA code and play the game in real time. Writing Basic Syntax first, students move to higher levels using Loops, Algorithms and Conditionals battling their way to victory with each correct coding

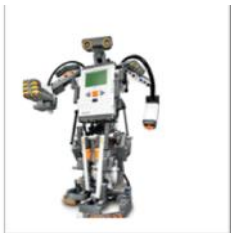
#### Gaming

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**New!** Let's create our own game using Roblox Studio! While your child has been busy playing everybody else's games on Roblox, they could have been making their own! Well, we'll fix that! Students will create and play their game as they learn all about directionals, anchors and how to make a game that others will be challenged by. Each week we will progress until all students test each other's game out. This is too much fun!!

#### Robotics

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The Express bot will be built with Lego® MINDSTORMS® NXT's! All robots built will use the express bot as a base. With additions to the build we will make a remote-controlled Forklift and then will play a game of Tag Bot. The base bot gets our students started programming with the basics. The Forklift adds touch sensors to move and control the lifting action of the bot. Our challenge will be to navigate to an object, lift it and return it to the starting point. The Tag bot adds touch sensors to the bumper and an

ultrasonic sensor to detect the other bots to tag with the motor-controlled tag arm. The challenge will be to sense and then tag other robots to put them out of commission.

## MACHINES

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With Lego<sup>®</sup> Simple and Powered Mechanisms our students will become scientists and engineers while understanding mechanical and structural principles in machines used in everyday life. Using technic bricks our students will build Big Game Fishing, Circus Magna and The Walker! Each of these activities will offer their own challenge. Circus Magna and Big Game Fishing employ magnets to produce power and movement while the Walker is motorized with levers using gears and a ratchet help it “Walk” around.

Watch the love for technology spark in your child as we make learning FUN!