**Lake Orion Community Schools**

**Curriculum Map**

**2016-2017**



Subject:­­­­ Applied Technology

Grade:7th Grade

Grading period:­­ 40 weeks

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| **Standards** | **Learning Targets/Big Idea** | **Estimated Time** | **Vocabulary** | **Resources/Assessment** |
| **1.Creativity and Innovation-**Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. b. Create original works as a means of personal or group expression**4. Critical thinking, problem solving, and decision making -**Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.  a. Identify and define authentic problems and  significant questions for investigation  **6. Technology operations and concepts –**Students demonstrate a sound understanding of technology concepts, systems, and operations.c. Troubleshoot systems and applications | LEGO Robotics Construct and program a LEGO Robot | 6-10 Weeks | Computer Programming Language* The “Brick”
* Sensors
* Palettes
* Module
 | EVO LEGO Robotic KitsLEGO NXT Robotic KitsLab View software applicationComputer  |
| **1.Creativity and Innovation-**Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.b. Create original works as a means of personal or group expression.**2. Communication and Collaboration-**Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.d. Contribute to project teams to produce original works or solve problems.**6. Technology operations and concepts –**Students demonstrate a sound understanding of technology concepts, systems, and operations.d. Transfer current knowledge to learning of new technologies | Animation | 6-10 Weeks | ClaymationFlip BooksT[haumatrope](https://www.google.com/search?safe=strict&biw=1280&bih=673&q=thaumatrope&spell=1&sa=X&ved=0ahUKEwj3tsOtpMDJAhVLqx4KHdaAAWsQvwUIGSgA)Stop Motion | PivotGreen ScreenDigital CamerasClay/LEGO’sSet building materialsMovie MakerExamples of Stop Motion |
| **1.Creativity and Innovation-**Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.c. Use models and simulations to explore complex systems and issues.**3. Research and information fluency-**Students apply digital tools to gather, evaluate, and use information. a.Plan strategies to guide inquiry**4. Critical thinking, problem solving, and decision making -**Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.  b. Plan and manage activities to develop a solution or complete a project.   | Structures(ie – Roller Coasters, Towers, Bridges) | 4-5 Weeks | VelocityLoadForceBaseReinforcementMotionSuspensionBeamBasculeCable-stayedTrussArches | K-nex kitsBuilding MaterialsCraft Sticks |
| **2. Communication and collaboration** Students use digital media and environments to  communicate and work collaboratively, including  at a distance, to support individual learning and contribute to the learning of others.  **3. Research and information fluency-**Students apply digital tools to gather, evaluate, and use information. c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.**6. Technology operations and concepts –**Students demonstrate a sound understanding of technology concepts, systems, and operations.b. Select and use applications effectively and productively. | Multimedia Integration | 12-15 Weeks | AudienceTransitionsIntroductionAnimationDesignConclusionAudio & VisualCD-ROMPublishHTML | WeeblyMovie MakerPhotoshop ElementsMicrosoft Power PointPreziMicrosoft WordGreen ScreenMicrosoft RecorderMoodleSoundzaboundUjamVoki/AvatarsHeadphonesMicrophonesTripod(s)Digital/Video CamerasAudio & Video Blocks |
| **3. Research and information fluency-**Students apply digital tools to gather, evaluate, and use information. b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media. **4. Critical thinking, problem solving, and decision making -**Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.  c. Collect and analyze data to identify solutions and/or make informed decisions.d. Use multiple processes and diverse perspectives to explore alternative solutions. | The Problem Solving Process (ie – Egg Drop, Balloon Car, and Catapult)  | 4-6 Weeks | GravityMassShockVelocityResistancePropulsionForceFrictionWorkSpeedCatapult | EggsCartonsPaperBalloonsHousehold itemsCraft sticksBuilding materials |
| **3. Research and information fluency-**Students apply digital tools to gather, evaluate, and use information. d. Process data and report results. | Aviation | 3-4 Weeks | LiftSpeedElevationWingsAileronsGravityFlightPilotAerodynamicsCockpitRudders | Flight SimulatorGoogle EarthPaper AirplanesBalsa Wood Kits  |

\*Denotes standards that are repeated from a previous week

