**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 Kits  LEGO NXT Robotic Kits  Lab View software application  Computer |
| **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 | Claymation  Flip Books  T[haumatrope](https://www.google.com/search?safe=strict&biw=1280&bih=673&q=thaumatrope&spell=1&sa=X&ved=0ahUKEwj3tsOtpMDJAhVLqx4KHdaAAWsQvwUIGSgA)  Stop Motion | Pivot  Green Screen  Digital Cameras  Clay/LEGO’s  Set building materials  Movie Maker  Examples 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 | Velocity  Load  Force  Base  Reinforcement  Motion  Suspension  Beam  Bascule  Cable-stayed  Truss  Arches | K-nex kits  Building Materials  Craft 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 | Audience  Transitions  Introduction  Animation  Design  Conclusion  Audio & Visual  CD-ROM  Publish  HTML | Weebly  Movie Maker  Photoshop Elements  Microsoft Power Point  Prezi  Microsoft Word  Green Screen  Microsoft Recorder  Moodle  Soundzabound  Ujam  Voki/Avatars  Headphones  Microphones  Tripod(s)  Digital/Video Cameras  Audio & 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 | Gravity  Mass  Shock  Velocity  Resistance  Propulsion  Force  Friction  Work  Speed  Catapult | Eggs  Cartons  Paper  Balloons  Household items  Craft sticks  Building 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 | Lift  Speed  Elevation  Wings  Ailerons  Gravity  Flight  Pilot  Aerodynamics  Cockpit  Rudders | Flight Simulator  Google Earth  Paper Airplanes  Balsa Wood Kits |

\*Denotes standards that are repeated from a previous week

