THE LANGLEY SCHOOL

Technology & Innovation
At a Glance

Our Philosophy: Given a constantly evolving technological landscape, our goal is to prepare students to be agile, flexible, and versatile technologists and innovators. To achieve this, we focus on the process and skills that are required to be successful in design, engineering, coding, robotics, computer science, and computational thinking. This work is done in connection to units of study, so that students are empowered to use technology within a learning context and demonstrate their understanding of content.

Our Curriculum & Skill Development: Starting in junior kindergarten, students are exposed to age-appropriate digital tools. Teachers facilitate a student-centered, inquiry-based process that inspires creativity, discovery, problem-solving, and risk-taking. To support this, students have access to materials and consumables to maximize idea creation and prototype building. And, to ensure they are facile across platforms, they are exposed to multiple devices and programs.

Importantly, to ensure responsible digital citizens, Langley has developed a unique digital leadership program that is directly aligned with the school's core values and provides a common language and expectations for students, parents, and teachers. Students learn what it means to be a digital citizen starting in junior kindergarten and build upon safe digital behaviors as they expand their digital footprint (e.g., copyrights, evaluating the credibility of sources) by sixth grade.

Leveraging the standards from the International Society for Technology in Education (ISTE), we continually evaluate, pilot, and implement innovative technology tools that amplify and accelerate teaching and learning. Our goal is to help students develop essential technology skills, knowledge, confidence, and thought processes that will fuel their future academic and career success.

Sampling of Platforms & Tools

Learning Programs & Devices:
- Amplified Science (Science)
- Discovery Education Techbook (Social Studies)
- Dreambox (Math)
- G Suite for Education
- Lexia Core5 (Language Arts)
- Multiple Devices: iPads, Macbook Airs, Microsoft Surfaces, and Google Chromebooks
- Noodle Tools (Research)
- Seesaw
- ThinkCentral (Math)
- TypingClub

Coding & Engineering:
- Arduino Boards and Electronic Components
- Beebot
- Google CS FIRST
- iWonder Dashbot
- LEGO Mindstorms EV3 Robotics
- LEGO Wedo 2.0 Robots
- MakerBot Replicator+ (3D printers)
- OSMO Coding
- Scratch
- Scratch Jr.

Sample Classes & Projects

20time Project (Middle School Elective)
Modeled after Google's 20% time concept where engineers invest 20% of their work time on self-led explorations to solve real problems, students in this Middle School elective use the power of technology and innovation to identify problems, ask meaningful questions, pitch project proposals, develop solutions, present ideas, and iterate solutions.

Design & Engineering Class (Middle School)
Students build problem-solving, teamwork, communication, and creative-thinking skills as they solve a variety of engineering design challenges, including designing for a "client." While learning key computer science concepts, students use the JavaScript language to create fun drawings and animations, build and program LEGO EV3 robots, and create a professional website.

STEAM Week Project (Grade 4)
Fourth-graders take part in an immersive STEAM project as they create and program their own interactive storybook. Students write a story and then create their interactive book out of cardboard boxes and use electronic components such as LED lights, mini speakers, a circuit board, and jumper wires to program the cover of the book to output light and sound. As they problem-solve and work together, students not only learn about computer programming, but also develop valuable life skills such as persistence, flexible thinking, and collaboration.

STEAM Curriculum (Kindergarten – Grade 2)
Langley students in kindergarten, first, and second grades visit the STEAM Lab regularly throughout the year where they become scientists and engineers, working together to make discoveries and solve real-life problems. Science is all about asking questions and engineering is about solving problems, and the STEAM program goes hand-in-hand with Langley's inquiry-based approach to learning. Technology is fully embedded into the STEAM curriculum and is used as a tool to enhance student understanding, communication, and collaboration. Digital journals capture students' thoughts and ideas through their learning and allow families to see photos and videos of the students' projects. Students demonstrate their understanding and creativity through a choice of engaging multimedia projects such as green screen projects, stop-motion animation, photo collages, and slideshows. Coding is introduced in kindergarten as a way for students to create animations and models using visual Blockly coding language. Students create content-based games and stories in Scratch Jr., build interactive models of animals with LEGO Wedo 2.0 robots, and code the Dash and BeeBot robots to interact with the world and solve problems.

Sampling of Apps

- Adobe Spark
- Book Creator
- Canva
- Clever
- Dreambox
- Explain Everything
- Flipgrid
- Google Classroom
- Google Docs
- Google Drive
- Google Sites
- Green Screen
- iMovie
- Kidblog
- Kodable
- Learning Without Tears Apps and Products
- Lexia Core 5
- MyLexia
- Noodle Tools
- Padlet
- Popplet Lite
- Puppet Pals HD Director's Cut
- RAZ Kids
- Scratch
- Scratch Jr.
- Seesaw
- Tinkercad
- TypingClub
- WeVideo
- YouTube