**COMPUTERS**

Students today live in a digitized, computerized, programmable world. To make sense of it, they need to understand computer science. Middle School Computer Science classes introduce computer programming and offer students an opportunity to learn and use new technologies. With an emphasis on communicating their ideas clearly through a variety of media, the four-year sequence allows students to develop logical reasoning, algorithmic thinking, design and structured problem solving, and digital literacy.

**705. Computer 5**

This one-trimester course reinforces concepts learned in grade 4, moving from basic to more complex programming topics including conditional statements, using variables, simple loops, writing simple programs, and creating a simple game using the SCRATCH programming environment.

**706. Computer 6**

This one-trimester course reinforces the computer programming concepts learned in grade 5, plus introduces students to binary programming, use of the command line and file management, and an investigation of the hardware used in contemporary computing devices.

**707. Computer 7**

This one-trimester course continues the study of problem-solving and programming through a design-based approach. Using the Scratch programming environment, seventh grade students engage in creative computing to support their development as computational thinkers. This course offers students the opportunity to draw on computational concepts, practices, and perspectives through a wide variety of activities designed to explore examples in each of these areas. Students will ultimately apply what they have learned to the world of physical computing by programming an external microprocessor that will run an external object of their own design.

**708. Computer 8**

Building on the concepts learned in seventh grade, the one-trimester Computer 8 course incorporates new programming environments and enhances students’ skills in the areas of problem-solving, computational thinking, and programming. Concepts learned through this project-based course include scripting and object-based programming. Students will apply what they have learned and program an external microprocessor that will incorporate a number of input and output sources.