



Orchard Park Computer Science January 2020 newsletter

What is **Coding**? Coding is to Computer Science as a hammer is to an architect. Computer Science, CS, is more than just coding. It is a comprehensive, liberal-arts approach providing students of all ages a lens for the technological age in which we live to interpret their world.

Do any of us really know what happens when we touch on our “phone” and expect things to happen? Probably not, but the ideas and notions of the data being flashed around the globe are astonishingly massive. Computer Science topics expose students to these ideas and it begins with learning soft skills, learning to think critically, logically, and creatively, and learning to communicate with other people.

Our elementary level projects using [Blue-Bot \(K-2\)](#) and [Lego WeDo \(3-5\)](#) systems provide CS foundational opportunities which are excellent on their own but also allow for transference to Middle and High School classes.

The middle school level projects using [Lego Mindstorms \(6\)](#) and [Hummingbird \(8\)](#) systems will build on exploratory opportunities and encourage progressive curricular growth from the all-inclusive middle school courses into high school elective classes in all academic, technological, artistic, and extracurricular areas.

Computer Science educators nationally are harnessing the energy and resources put forth to effectively teach problem solving, creativity, collaboration, communication, reflection, debugging skills, and extension. This approach is relevant, fits into our Growth Mindset, and builds groundwork in not only CS education but all learning areas and programs for the foreseeable future.

The CS learning approach: understand, design (individually, in pairs, with the group), plan and implement, test and debug, extension and abstraction is a process that is attainable by all students in grades K-12. The sophistication of the tools to meet these goals while allowing for curricular scaffolding provides all students opportunities regardless of grade, personal ability, or the tools used. These soft skills transfer to all areas of learning and activity.

The Orchard Park Central School students will learn and gain life skills while experiencing lessons still being developed for our Elementary and Middle School computer and technology classes. Reach out to me or one of our colleagues in those areas for ideas and any opportunities you may think would benefit our students.