8th Grade Computer Programming & Robotics
Reporting Cluster: Computer Programming

Cluster/Topic/Concepts	Bodies of Evidence (BOE's)	Vocabulary	Level 4 Idea:	Skills
Cluster: Computer Programming **Topic:** Computer Programming **Concepts Covered:** • Computer Programming • Robotics • Computational Thinking • Systems Analysis & Design **Topic ID/Campus Coding:** BUS8-CP-1	• Common Formative Assessment (CFA) Options Include: • Lego EV3 Robotics • www.Code.org • www.CodeAcademy.com • Teacher developed projects	Robotics Computational Thinking Command If statement If/Else Statement Switch Loop Run Interface STEM System Structure Input Output: Result Design Troubleshoot Variable Data Collection	Learning Target: How would you determine the best possible solution between two or more design solutions? Evidence/Activity: Students evaluate two or more design solutions with their generated criteria and support with evidence.	**Computer Programming Skills** Student will be able to: • Demonstrate knowledge of programming and the process of moving from analysis, design, documentation, coding, testing, evaluating, and summarizing findings • Develop a strong vocabulary of robotics and programming logic • Plan, design, evaluate and document programs that implement effective design principles • Collaborate with a team to use programming to solve problems using computational thinking

Scales		Content Standards
4	• Students demonstrate in-depth inferences and applications that go beyond the goal. • Deepen understanding by increasing the taxonomy level of the standard	**ITSE (NETS) 5: Computational Thinker:** Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. **National Business Education Associations. Standard XI. Programming and Application Development:** Design, develop, test, and implement programs.
3	Students will be able **to**: • Construct and analyze programs • Experiment using computational thinking and computer programming to develop and test solutions • Assess the accuracy of two or more design solutions and identify the best solution.	

8th Grade Computer Programming & Robotics
Reporting Cluster: Computer Programming

2	Students will recognize or recall specific vocabulary such as: • Robotics, Computational Thinking, Command, If statement, If/Else Statement, Switch, Loop, Run, Interface, STEM, System Structure, Input, Output: Result, Design, Troubleshoot, Variable, Data Collection Plan and manage activities to develop a solution or complete a project. • Organize all levels of the programming process from equipment, file management, documentation, analysis, and findings • Collect data and documentation throughout the programming process Students will develop a strong understanding of the program logic and design using computational thinking	**Next Generation Science Standards (NGSS-MS-ETS1-2)** Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem