2026-2027 1st Grade STEAM Scope and Sequence

Unit (Title)	Duration	Essential Questions	Key Learning Outcomes	Standards
Unit 1: *Coding/Programming Basics*	***14-21 Days***	- What is programming? - How is code used as a language? - How do we give directions using steps? - What do coding blocks do? - What is debugging and why is it important? -How do loops make computer programs more efficient?	- Explain programming as giving instructions - Describe code as a communication system - Sequence steps to create a program - Use coding blocks (start, motion, appearance, sound) - Identify and debug errors in simple programs	**CSTA 2026** **Algorithms & Design** - E1-ALG-01 - E1-ALG-03 **Programming** - E1-PRO-04 - E1-PRO-06 - E1-PRO-07 **Systems & Security** - E1-SAS-12 **PA STEELS (Engineering & Technology)** -3.5.K-2.B -3.5.K-2.C -3.5.K-2.F -3.5.K-2.K -3.5.K-2.N -3.5.K-2.W -3.5.K-2.X -3.5.K-2.AA -3.5.K-2.DD **CEW Standards** -13.4.K-2.A -13.1.K-2.C -13.2.K-2.A -13.2.K-2.B

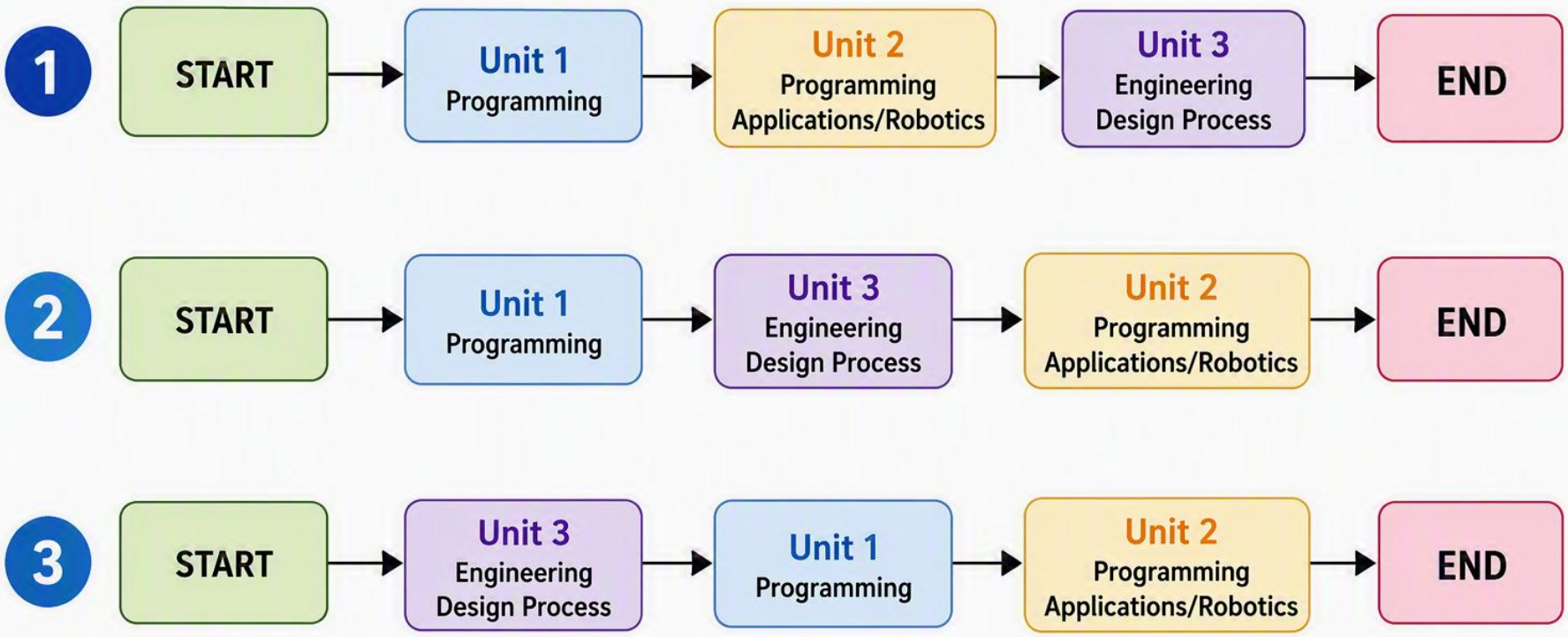
Unit 2: *Programing/Coding Application*	***15-24 Days***	-How can programming control machines and models? -How do engineers solve problems with robotics? -How can we improve our designs and programs? -How does feedback help improve solutions? -How can programming help create solutions for users?	- Use coding blocks to build programs - Sequence instructions for stories or games - Create simple interactive programs - Explain how different solutions can achieve the same outcome - Collaborate to improve programs	**CSTA 2026** **Algorithms & Design** - E1-ALG-01 **Programming** - E1-PRO-04 - E1-PRO-05 - E1-PRO-06 - E1-PRO-07 **Computing & Society** - E1-CAS-16 **PA STEELS (Engineering & Technology)** -3.5.K-2.B -3.5.K-2.C -3.5.K-2.F -3.5.K-2.K -3.5.K-2.N -3.5.K-2.W -3.5.K-2.X -3.5.K-2.AA -3.5.K-2.DD **CEW Standards** -13.4.K-2.A -13.1.K-2.C -13.2.K-2.A -13.2.K-2.B

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Unit 3: *Engineering Design Process*	***15-20 Days***	- How do questions and observations help us identify problems? - Why do we create multiple solutions? - How do plans (blueprints) help us design? - How can we improve our designs? - Why is it important to share solutions? -How do we choose the best shapes for a design?	- Use observations and questions to define problems - Generate multiple possible solutions - Create simple design plans (blueprints) - Select tools and materials for a purpose - Build and test prototypes - Improve designs through feedback - Share solutions with others	**PA STEELS (Engineering & Technology)** -3.5.K-2.B -3.5.K-2.C -3.5.K-2.F -3.5.K-2.K -3.5.K-2.N -3.5.K-2.W -3.5.K-2.X -3.5.K-2.AA -3.5.K-2.DD **CEW Standards** -13.4.K-2.A -13.1.K-2.C -13.2.K-2.A -13.2.K-2.B -13.2.K-2.C
Primary Learning Resources: **Code.org, Course B** **Scratch Jr.** **Discovery Education** **LEGO SPIKE Essential** **LEGO STEAM Park** **STEAM Design Challenge Catalog** **The Most Magnificent Thing by Ashley Spires**				

VALID TEACHING ORDER PATHS

(Unit 2 can never come before Unit 1)



In every path, Unit 1 (Programming) always comes before Unit 2 (Programming Applications/Robotics).