Grades K-2 Computational Thinking Competencies

INSPIRE Definitions

CT Competencies	INSPIRE Definitions
Abstraction	Identifying and utilizing the structure of concepts/main ideas
Algorithms and Procedures	Following, identifying, using, and creating an ordered set of instructions (i.e., through selection, iteration and recursion)
Automation	Assigning appropriate set of tasks to be done repetitively by computers
Data Collection	Gathering information pertinent to solve a problem
Data Analysis	Making sense of data by identifying trends
Data Representation	Organizing and depicting data in appropriate ways to demonstrate relationships among data points via representations such as graphs, charts, words or images
Debugging/Trouble Shooting	Identifying and addressing problems that inhibit progress toward task completion
Problem Decomposition	Breaking down data, processes or problems into smaller and more manageable components to solve a problem
Parallelization	Simultaneously processing smaller tasks to more efficiently reach a goal
Simulations	Developing a model or a representation to imitate natural and artificial processes
Pattern Recognition	Observing patterns, trends and regularities in data (Google)

Our definitions of computational thinking are based on: Barendsen & Stoker (2013), Barr & Stephenson (2011), ISTE & CSTA (2011), The College Board (2012), The Australian Curriculum Technologies (2015), Google's Computational Thinking Concepts Guide, & SRI Education (2015)