COMPUTATIONAL THINKING

Our definition of computational thinking involves three key dimensions: (1) knowing certain computational **concepts**, (2) being able to employ those concepts using computational **practices**, and (3) developing new computational **perspectives**, an awareness of self, others, and world.

COMPUTATIONAL CONCEPTS

Concept	Description
sequence	identifying a series of steps for a task
loops	running the same sequence multiple times
parallelism	making things happen at the same time
events	one thing causing another thing to happen
conditionals	making decisions based on conditions
operators	support for mathematical and logical expressions
data	storing, retrieving, and updating values

COMPUTATIONAL PRACTICES

Practice	Description
experimenting and iterating	developing a little bit, then trying it out, then developing more
testing and debugging	making sure things work – and finding and solving problems when they arise
reusing and remixing	making something by building on existing projects or ideas
abstracting and modularizing	exploring connections between the whole and the parts

COMPUTATIONAL PERSPECTIVES

Perspective	Description
expressing	realizing that computation is a medium of creation “I can create.”
connecting	recognizing the power of creating with and for others “I can do different things when I have access to others.”
questioning	feeling empowered to ask questions about the world “I can (use computation to) ask questions to make sense of (computational things in) the world.”