Computational Thinking Strategies

Computational Thinking is formalized problem solving where we have a set of strategies that can teach a computer to solve. There are the seven computational thinking practices that we identified: Abstraction, Algorithms, Analyzing Data, Collecting Data, Decomposition, Finding Patterns, and Modeling. When you are approached with a big problem, you can often use more than one of these computational thinking strategies to solve it!

Computational Thinking Strategies	
Abstract	Remove all unnecessary data and details to create a solution that can apply to many different types of problems. It is easier to solve a problem when unnecessary details are removed. This helps you learn to be an efficient problem solver and to reuse structures and processes where possible.
Algorithms	Create a series of steps to help you solve a problem. Algorithms are step by step instructions on how to complete tasks. This can help you learn how to think through all of the steps of a problem and communicate in a detailed way.
Analyze Data	Use data to make informed decisions and drill down into the most important parts of a problem. This can help strengthen your ability to make inferences, identify patterns, and recognize the most important parts of a problem or text.
Build Models	Visualize and simulate models to experiment, find and fix errors, and simulate real life events. This can help you test and refine solutions before proposing a final solution.
Collect Data	Figure out what data you need to collect in order to solve the problem. Collecting data helps you search for credible evidence and make informed decisions by looking at a problem in many different ways.
Decompose	Break a very large or overwhelming problem into manageable chunks. When you can break a problem into smaller parts, you can tackle one part at a time.
Find Patterns	Identify patterns to make predictions, create rules, and solve other problems. Look for relationships and trends to decipher complex information. You can make sense of large amounts of information by identifying patterns you can then apply to solve the problem.

Find more easy-to-implement resources to integrate computational thinking practices into your classroom by visiting **ignitemyfutureinschool.org**

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