

Instructional Strategies – Using Computational and Mathematical Thinking

Mathematical and computational thinking involves using tools and mathematical concepts to address a scientific question.

Potential Instructional Strategies for *Using Computational and Mathematical Thinking*

1. Provide opportunities for students to perform calculations on their gathered data, such as finding the mean (average) of several trials of data.
2. Engage older students in using computer programs such as excel to analyze large data sets from scientific organization (e.g. NASA, NOAA).
3. Create activities in which students are given a scientific question and must decide how to use mathematical or computational thinking to address the question.
4. Use various tools to gather data such as graduated cylinders, thermometers, balances, etc.
5. Have older students decide whether to represent their data in different ways such as using ratios, percents, etc.
6. Engage students in investigations that require them to use mathematical operations (e.g. subtract quantities to determine the volume of an object).

For a classroom example of instruction using this science practice, visit our website at www.sciencepracticesleadership.com and click on the Grade 2 Exemplar under Case Studies.