



Computational thinking teaches students to apply strategies that computers use to solve real-world problems.

The seven computational thinking strategies equip students with valuable problem-solving skills such as analyzing data in order to make inferences and breaking a problem down into manageable pieces. These engaging and fun standards-aligned resources give you the tools to integrate computational thinking into your classroom.

Computational thinking strategies:

Collect Data

<https://www.globe.gov/globe-data>

The Global Learning and Observations to Benefit the Environment (GLOBE) Program is a worldwide effort to collect, visualize, and share data between educational institutions and public participants. The resource page above contains links to data entry, visualizing data, and retrieving data. At the Data Entry page (<https://www.globe.gov/globe-data/data-entry>), participants can enter environmental data using forms, email, or a downloadable app. The Visualize Data link (<https://www.globe.gov/globe-data/visualize-and-retrieve-data>) takes participants to an interactive data map of the world to create charts that data participants have collected. The Retrieve Data link (<https://www.globe.gov/globe-data/retrieve-data>) allows participants to pick locations, timeframes, and types of data collected, and then download the data in a spreadsheet.

Lead your students through a project in their geographic area to collect and submit environmental data over time. Students will be able to see the data they reported at www.globe.gov and collect additional data. Have students practice their reading and writing skills by creating and uploading a student research report based on their data at <https://www.globe.gov/do-globe-for-students/student-research-reports>. Use math to find the differences between data points from different locations. Students can include their calculations in their reports.

Connect to: The number system; expressions and equations; weather and climate; integration of knowledge and ideas; science, technology, and society

Analyze data

[Health Canada](#)

Health Canada hosts the 'Consider the consequences of Vaping' Project, which contains data about health and risk factors related to vaping to help local areas plan health interventions. Students can view data and learn more about the science of vaping and the pros and cons of this new phenomenon. Students can find data in their area and analyze the factors that contribute to local health problems.

Decompose

[Canadian Security Intelligence Service](#)

The Canadian Security Intelligence Service (CSIS) relies on individuals who can break down and solve problems efficiently. A variety of CSIS mathematicians, engineers, analysts, and managers work on solving a variety of cases to keep us safe.

Find Patterns

[Canada's Food Guide](#)

Health Canada publishes dietary guidelines to help Canadians maintain a healthy lifestyle and make good choices. This includes information about foods and nutrition, as well as diet plans.

Engage students in a discussion about their food choices after reading the Key Elements of Healthy Eating Patterns at <https://food-guide.canada.ca/en> and then have a class discussion in which students collaborate to create a set of rules to improve or maintain their own habits.

Abstract

[IDeA](#)

The Innovation Designs for Accessibility competition is hosted by Universities Canada. The **Innovative Designs for Accessibility (IDeA) student competition** challenges university students across Canada to use their creativity to develop innovative, cost-effective, and practical solutions to accessibility barriers for people with disabilities. The objectives of the program are:

- to contribute to the creation of a culture of accessibility in Canada
- to motivate students to think about accessibility issues and to include accessibility in their creation of social and technological innovations now and in the future
- to develop cost-effective, practical, and innovative concepts, programs, initiatives or designs that address everyday accessibility issues

Engage your students in universal design and thinking through this unique opportunity.

Build models

[Solar Eclipses—CSA](#)

The Canadian Space Agency has your guide to solar eclipses. With guidelines on how to view eclipses safely. Learn more about how eclipses occur and build models of the process or the equipment needed to view an eclipse safely with your family and class.

Develop algorithms

[Global Navigation Satellite Systems](#)

"Global navigation satellite systems (GNSS) such as the United States' Global Positioning System (GPS), Russia's GLONASS, the European Union's Galileo and China's COMPASS (also known as Beidou), provide important positioning, navigation and timing information to military, civilian, and commercial users around the world."

The website provides information about GPS and how various governments use it. It includes a history of GPS, how it works and how it's used.

Students will be able to research and report on a variety of topics linked to Global Navigation satellite Systems.