Callysto is managed by Cybera and The Pacific Institute for the Mathematical Sciences (PIMS), and funded by Innovation, Science and Economic Development Canada through the CanCode program.

cybera.ca | @cybera
pims.math.ca | @pims_math

bit.ly/CallystoNCTCA
Contact Info

Twitter: @callysto_canada

Email: contact@callysto.ca

Website: www.callysto.ca

David.Hay@eips.ca

@misterhay
Alberta Education Competencies

- Critical Thinking
- Problem Solving
- Managing Information
- Creativity and Innovation
- Communication
- Collaboration
- Cultural and Global Citizenship
- Personal Growth and Well-Being
The Computational Thinkers

**Concepts**
- **Logic**: Predicting & analysing
- **Evaluation**: Making judgements
- **Algorithms**: Making steps & rules
- **Patterns**: Spotting & using similarities
- **Decomposition**: Breaking down into parts
- **Abstraction**:Removing unnecessary detail

**Approaches**
- **Tinkering**: Changing things to see what happens
- **Creating**: Designing & making
- **Debugging**: Finding & fixing errors
- **Persevering**: Keeping going
- **Collaborating**: Working together

Courtesy of Barefoot Computing [https://barefootcas.org.uk](https://barefootcas.org.uk)
What is Callysto?
The Callysto Project

➔ Making open educational infrastructure and learning resources for computational thinking available and accessible.

➔ Hosting teacher training workshops across Saskatchewan, Alberta & B.C.

➔ Working with teachers to use Callysto in the classroom

➔ Program Assessment Study (participating school boards)
Classroom Examples

- Introduced to Grade 5 & 6 classes - Math, Science, and Social Studies
  - Graphing, turtles, statistics (e.g. random.randint), open data, basic math (integers vs. decimal, ordering numbers)

- Looking forward to
  - Open Educational Resources
  - Collaboration
  - Increasing computational literacy
  - Computational Thinking in regular subjects (not as a separate option - CS&x)
More Examples

```python
n = input('How many numbers will we sort? ')  
numberList = []  
for x in range(0, int(n)):  
    newNumber = input('Give me a number: ')  
    numberList.append(newNumber)  
numberList.sort()  
print(numberList)
```

```
from mobilechelonian import Turtle

t = Turtle()

t.speed(10)

t.pencolor('red')

t.backward(75)

t.left(120)

t.forward(75)

t.penup()

t.home()

t.forward(100)

t.pendown()

t.pencolor('green')

t.backward(75)

t.left(45)

t.forward(75)
```

How many numbers will we sort? 5
Give me a number: 7
Give me a number: 2
Give me a number: 3.5
Give me a number: 1.2
Give me a number: 5
['1.2', '2', '3.5', '5', '7']
Learning Modules: https://callysto.ca/

Imagine if grades 5-12 students had access to a university level learning program capable of performing big data processing, highly graphic and interactive visualizations, all levels of coding, digital math equations, remote collaboration, and a multitude of other innovative functions and tools — all from their web browser. It is a real opportunity for simple, accessible learning, and it is free — we call it Callysto.
Callysto Benefits

- All-in-one: modern multi-modal learning and coding modules
  - live programming code (e.g. Python)
  - connections to open (and big) data
  - multimedia sources
  - Classroom ready pre-made modules

- Access through modern web browser (no installation)
  - Runs on Chromebooks and even iPads
  - Hosted in Alberta
    - Cybera’s Rapid Access cloud service
Google is doing it too...

https://colab.research.google.com
More Learning Modules:
Rich Math Problems

bit.ly/callysto-richard-hoshino
More Learning Modules:
Coast Salish Basket Motifs

Background Information

bit.ly/callysto-salish-baskets
THANK YOU

Callysto

Callysto is managed by Cybera and The Pacific Institute for the Mathematical Sciences (PIMS), and funded by Innovation, Science and Economic Development Canada through the CanCode program.

cybera.ca | @cybera

pims.math.ca | @pimsmath

Canada