



BRILLIANT LABS CYBER SECURITY

INTRODUCTION KIT

Activity 4 : Social engineering, don't fall into the trap

Activity 4 Goal

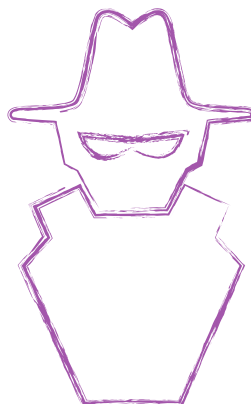
Understand what social engineering is, the pitfalls and how to protect yourself. Take the time to read the two proposed articles and have the kids search the web as needed to determine the meaning of the new words. The activities are always done in 2 parts; one part programming a micro:bit and one part learning about cyber security.

Targeted soft skill in cybersecurity

Resourcefulness, observation and critical thinking

Please note

All of our activities can be done during class time and can be inserted into the teaching of your different programs of study. For example, reading the article could be seen as an activity in an English class and using the micro:bit as a cross-curricular activity in technology.





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Useful words to help you succeed with the activity

We suggest that you do a short research with your students on the web or by directly accessing the [Canadian Centre for Cyber Security glossary](#).

- Junk e-mail
- Diversion
- Personal information
- Protection software
- Connected object
- Approach phase
- Social engineering
- Alerting





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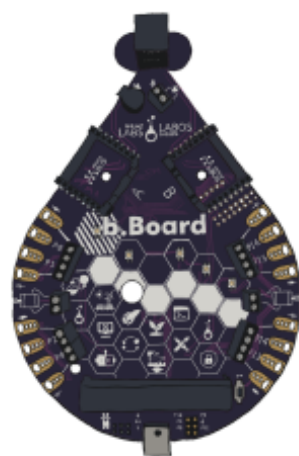
Before the Activity Begins

Make sure you have the necessary materials and tools on hand before the students arrive. Decide on the best way to distribute the materials. Don't hesitate to ask your students to help out. Why not appoint one or two students to be responsible for preparing the materials before the activity is presented? We suggest teams of 4 or 5 students for this activity.

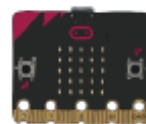
Materials required from the kit

The kit contains several types of materials that will be used throughout our activities. It is not necessary to have everything available for the students. This is at your discretion. Some teachers may prefer to make only the required materials available to students and others may consider full access to the kit by students. For Activity 4, you will need the following materials:

- 1 micro:bit per team;
- 1 b.Board per team;
- 1 USB cable per team;
- 1 computer with internet access per team.



b.Board



micro:bit
(V1 or V2)





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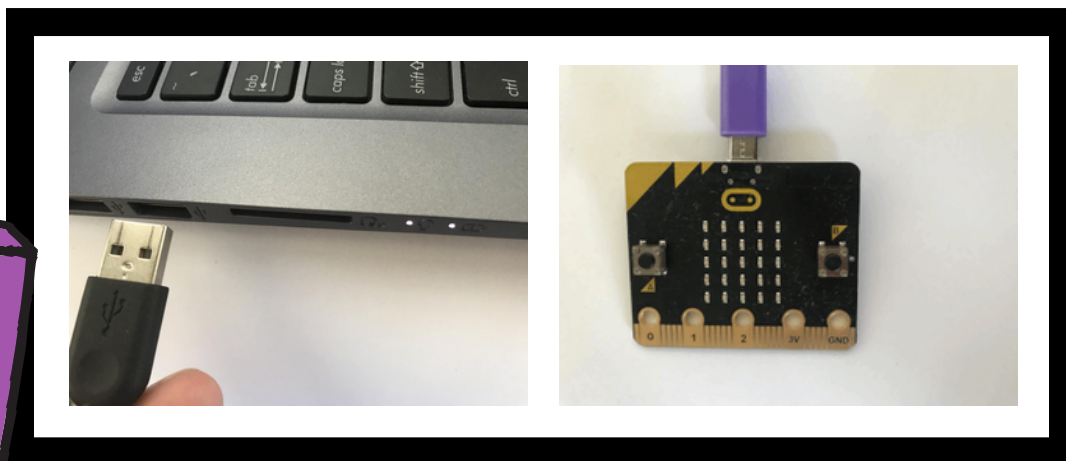
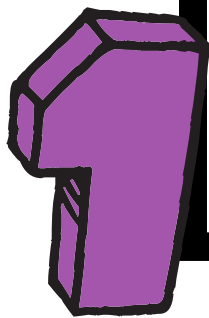
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Part 1 - Activity with the micro:bit: The Temperature Sensor

This activity will allow students to program and operate a temperature sensor using a micro:bit.

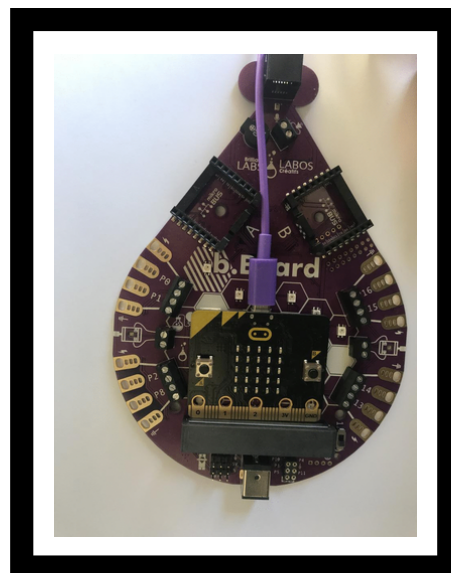
Preparation and instructions for connecting the micro:bit and the b.Board to your laptop



Connect the USB wire to the computer (not an iPad) and the other end of the wire into the micro:bit.



Insert the micro:bit into the B.board firmly and ensure all the pins are well placed inside the b.Board connector. Please note the micro:bit screen needs to face forward.





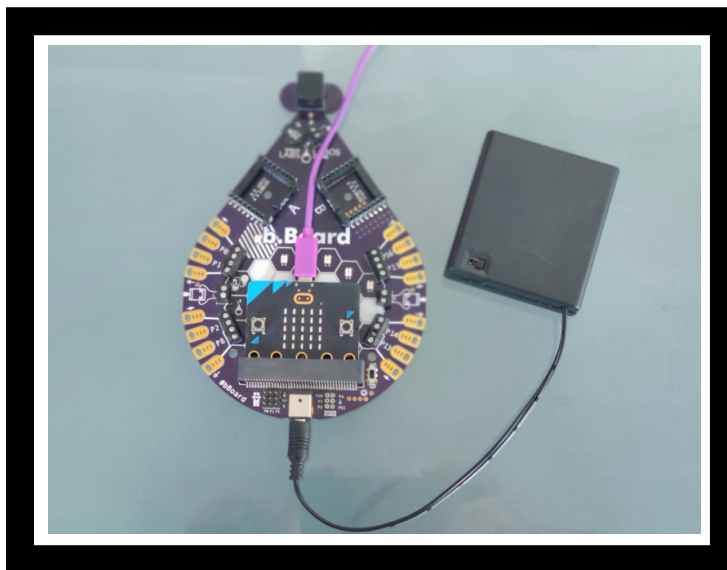
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Preparation and instructions for connecting the micro:bit and the b.Board to your laptop

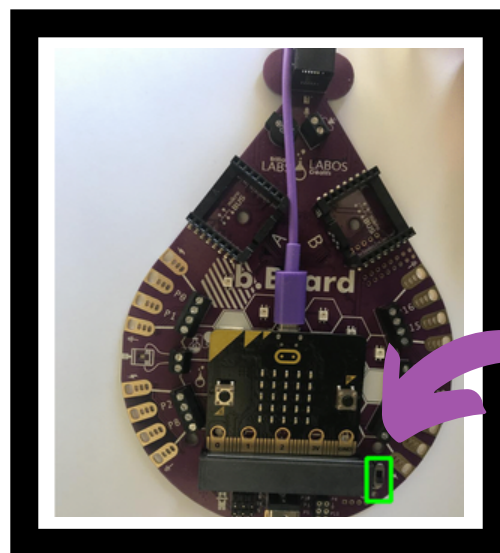
3



Connect the battery pack and if your pack has an on/off switch please ensure to turn on the battery pack. (Please note there are various wall chargers and battery pack that function with the b.Board so yours may look different than the picture above.

4

With everything connected it is now time to turn on the b.Board using the on/off switch next to the micro:bit connector.





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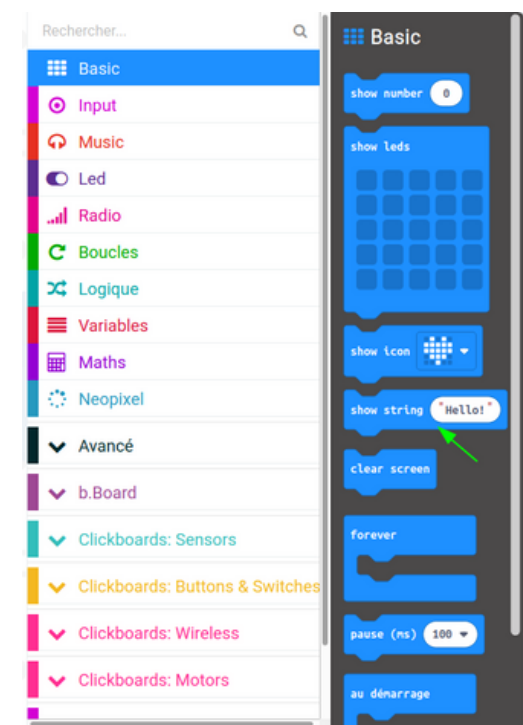


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Let's start Activity 4



Go to <https://code.brilliantlabs.ca> and start a new project by giving a name to your activity (ie: Activity 4).



In the Basic section, place the block show string in the block forever





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Search...

- Basic
- Input**
- more
- Music
- Led
- Radio
- Loops
- Logic
- Variables
- Math
- Neopixel
- Advanced
- b.Board
- Clickboards: Sensors

Input

- on button A pressed
- on shake
- on pin P0 pressed
- button A is pressed
- pin P0 is pressed
- acceleration (mg) x
- light level
- compass heading (°)
- temperature (°C)

3 In the input section, put the block Temperature in the block show string.

forever

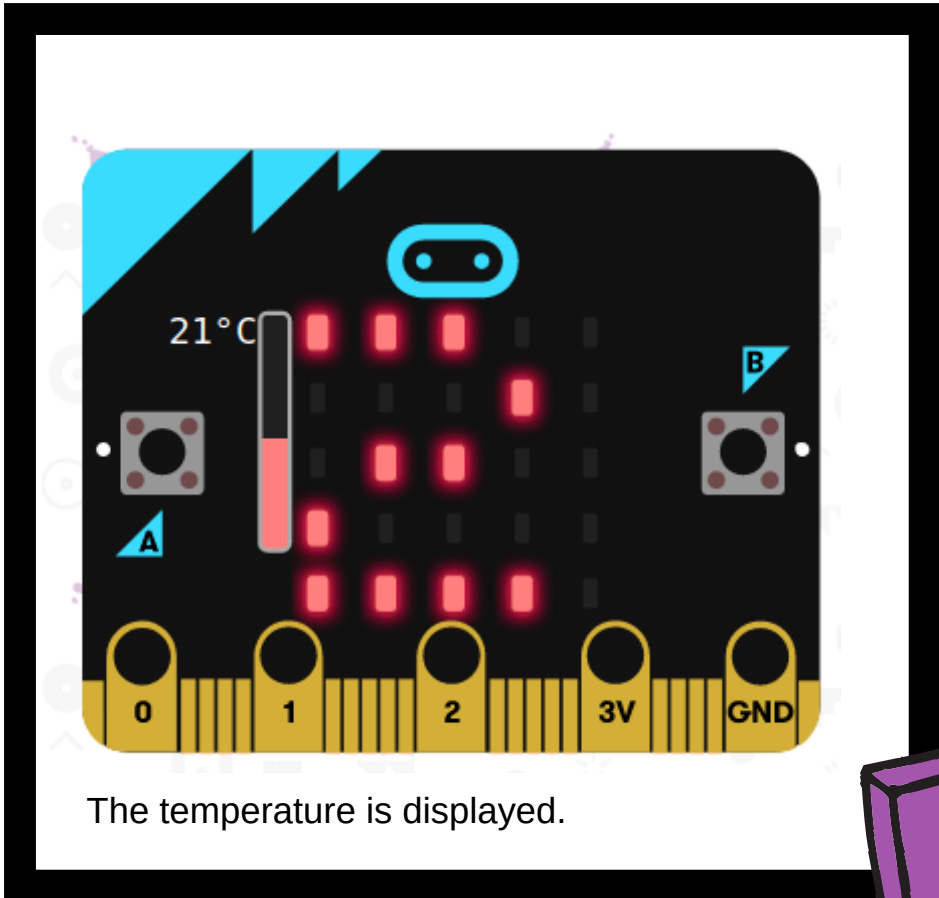
show string temperature (°C)

4



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The temperature is displayed.





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Explanation

The temperature block allows you to display the temperature of the microprocessor of your micro:bit. You can even cover the micro:bit with your hands to see a temperature increase.

How to download your code to the micro:bit?

- Please make sure that your micro:bit is connected to your laptop. Please refer to page 4 if necessary.
- Click on Download and save the .hex file to the micro:bit.
- The temperature is displayed on the micro:bit.

Suggestions for going further with your micro:bit

- Try to find and see the source code of your program on the website.
- Try changing the code blocks to add or change the way the program works.
- Can you add code to make it sound if the temperature goes above 21 degrees? (You will need to connect your micro:bit to the b.Board)
- Can you change the code to make the temperature show if the micro:bit is turned to the right and make the temperature disappear if the micro:bit is turned to the left?

[HEX file to download](#)

End of Part 1



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Part 2- Learning about Cyber Security: Social Engineering, Knowing How to Protect Yourself

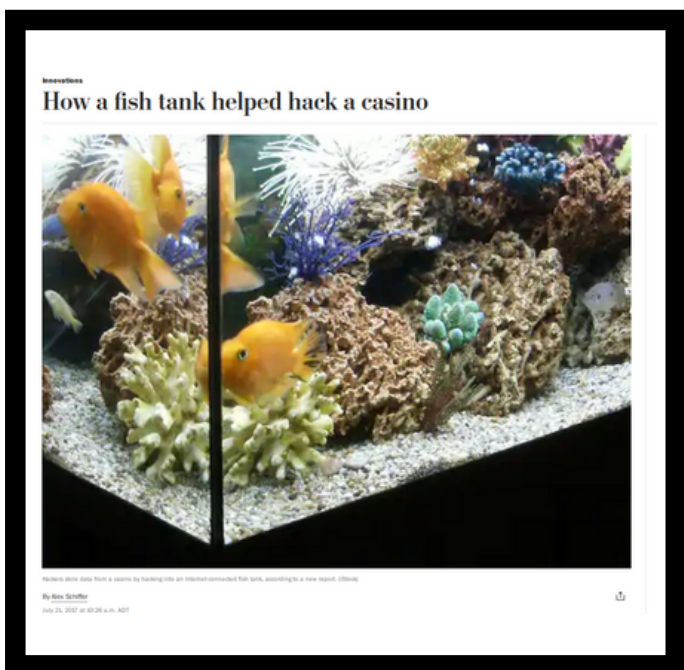
Let students read the two articles below and take time to have a large group discussion. You may wish to project the article on a large screen or let students read the article from their computers.

Link to article 1

<https://www.washingtonpost.com/news/innovations/wp/2017/07/21/how-a-fish-tank-helped-hack-a-casino/>

Link to article 2

<https://www.getcybersafe.gc.ca/en/resources/social-engineering-how-cyber-scams-trick-us>





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Questions to ask and possible discussion with students after reading these two articles

- What do you remember from reading these two articles?
- Why is it important to understand what social engineering is in cybersecurity?
- What are the dangers of using connected objects?
- What advice would you give to people who want to buy and use connected objects?
- What would you do if you thought someone was using social engineering against you?

Suggestions for possible additional activities to do in class

- Write a letter to an adult explaining social engineering.
- Make a flyer about the importance of understanding social engineering or using connected objects.
- Make a poster about tips to use and to raise awareness about social engineering or the risks of using connected objects.
- Make a video to raise awareness about social engineering or the risks of using connected objects.
- Do a survey on the use of connected objects used in the home.
- Do a vox pop on the definition of social engineering in your school.
- Do a podcast to raise awareness about social engineering or the risks of using connected objects.



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Suggested links to learn more and to go further with this activity

Please note that the links below are from a third party and Brilliant Labs is not responsible for their content or suggested links published by them. We strongly suggest that you take the time to review each of these links before using them and ensure that they are consistent with your values and what you normally use in your classroom with your students.

- **Online Quiz, Media Smarts** : [How cyber-savvy are you?](#)
- **YouTube Video (commercial : graveco.com)** ; [What is Social Engineering ?](#)
- **YouTube Video (CBC Marketplace)** ; [How hackers take over your accounts using social engineering](#)
- **YouTube Video, (CNN Business)** ; [Watch this hacker break into a company](#)
- **Website of Canada's Center for Digital and Media Literacy (MediaSmarts)** ; [Cybersecurity Recommended Teachers Resources Website](#)
- **Website, Brilliant Labs** ; [Cyber Security Resource Database](#)
- [Cybersecurity Glossary](#), Government of Canada

A moment to think about the activity (We suggest the following questions or create others as needed)

You can also create other questions if you deem it necessary.

- What did we learn from this activity?
- Why is this important?
- Will you change the way you manage our use of computers?
- What advice would you give to someone to protect themselves?
- Other questions from the teacher...

End of Activity 4