rosy

Teacher's guide

génielab.

Introduction

Digital culture plays a key role in today's world. Understanding and taming it is becoming essential for educational environments. As part of the monumental task facing today's teachers, a turnkey tool where students are autonomous in their learning is more than welcome. That's why we created Rosy.

The course combines the development of digital skills such as computer thinking and programming for an intermediate level, with the exploration of concepts such as light, tardigrades, infrared, electromagnetic waves, solar sensors and satellites.

In short, a completely autonomous cross-curricular course for Cycle 2 students.

The following document is designed to give you a section-by-section overview of the kit. It includes: themes covered, knowledge related to the learning area and additional resources.

Roxanne Gagnon Houle, special education teacher,

President of GénieLab's Board of Directors.

Responsible for special education

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Installation

Individual path

- Each student has a Rosy kit and access to a computer connected to the Internet. Each kit has a unique access code, enabling students to progress at their own pace. Progress will be maintained.

Section 1

1. Educational planning
2. Challenge 1: corrected

Section 1: TARDIGRADES

Grades: 1st and 2nd secondary

Topics

- Tardigrades
- History of science and technology: the tardigrade
- The micro:bit

Training area: Science and technology

- Technological universe - electrical engineering
- Earth and space: astronomical phenomena

Digital development continuum

- Develop and mobilize technological skills
  - Thinking and computer programming, intermediate level
- Exploiting the potential of digital technology for learning
  - Intermediate skills development

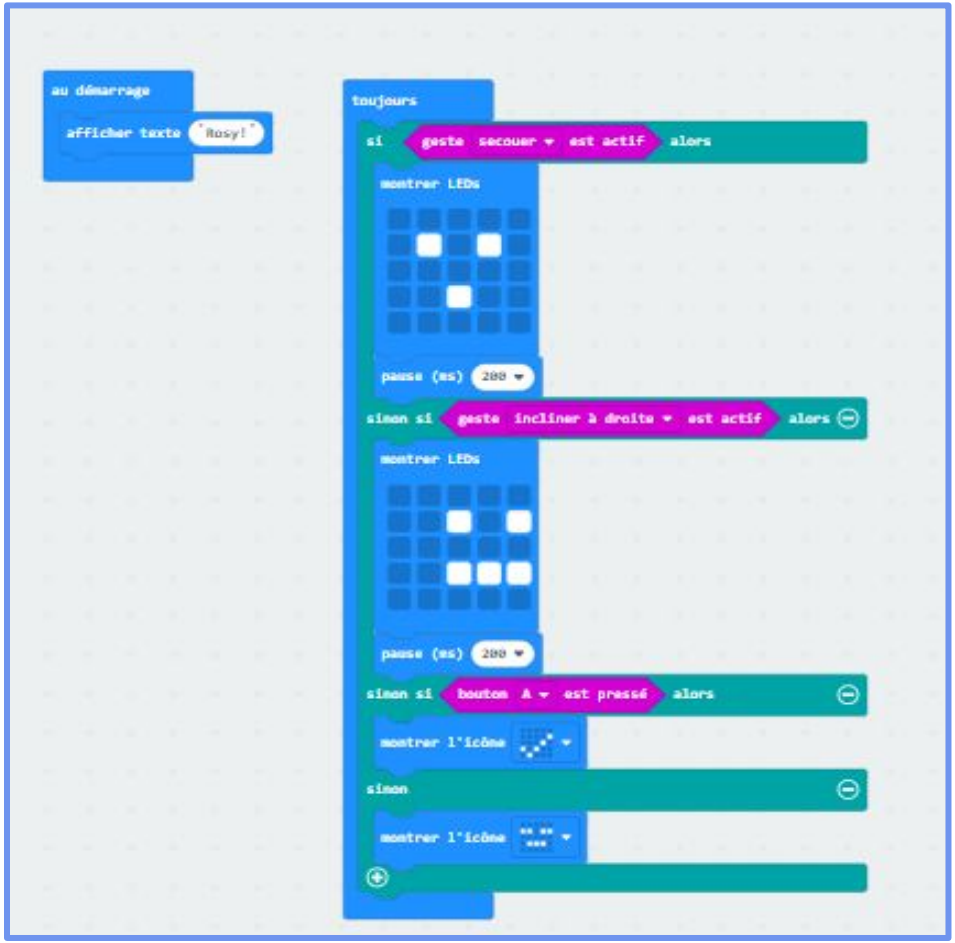
How section 1 works

1. Rosy Part 1
2. Tardigrades
3. Dormant tardigrades
4. Scientific history of tardigrades
5. Quiz 1
6. First steps with the micro:bit

Digital resources

- https://www.genielab.co
- https://makecode.microbit.org/
- https://lemagdesanimaux.ouest-france.fr/dossier-1046-tardigrade.html
- https://www.nationalgeographic.fr/sciences/cet-animal-pourrait-resister-tout-meme-lapocalypse

Challenge 1: corrected



Section 2

1. Educational planning

Section 2: THE LIGHT

School level: Secondary cycle 1 and 2

Themes

- Tardigrades
- Early astronomy
- The light
- Waves
- The electromagnetic spectrum

Training area: Science and technology

- Material universe - waves
- Technological universe - electrical engineering
- Earth and space: astronomical phenomena

Digital development continuum

- Develop and mobilize technological skills
  - Thinking and computer programming, intermediate level
- Exploiting the potential of digital technology for learning
  - Intermediate skills development

How section 1 works

1. Rosy Part 1
2. Tardigrades
3. Dormant tardigrades
4. Scientific history of tardigrades
5. Quiz 1
6. First steps with the micro:bit

Digital resources

- https://www.genielab.co
- https://makecode.microbit.org/
- L'histoire cachée des étoiles

Section 3

1. Educational planning
2. Activity 1: corrected

Section 3: THE INFRARED

School level: Secondary cycle 1 and 2

Themes

- Infrared rays
- History of science and technology:: Light

Training area: Science and technology

- Material universe - waves
- Technological universe - electrical engineering
- Earth and space: astronomical phenomena

Digital development continuum

- Develop and mobilize technological skills
  - Thinking and computer programming, intermediate level
- Exploiting the potential of digital technology for learning
  - Intermediate skills development

How section 1 works

1. Rosy Part 3
2. Observing the invisible
3. The infrared challenge
4. A little history
5. Quiz 3
6. Activity 1

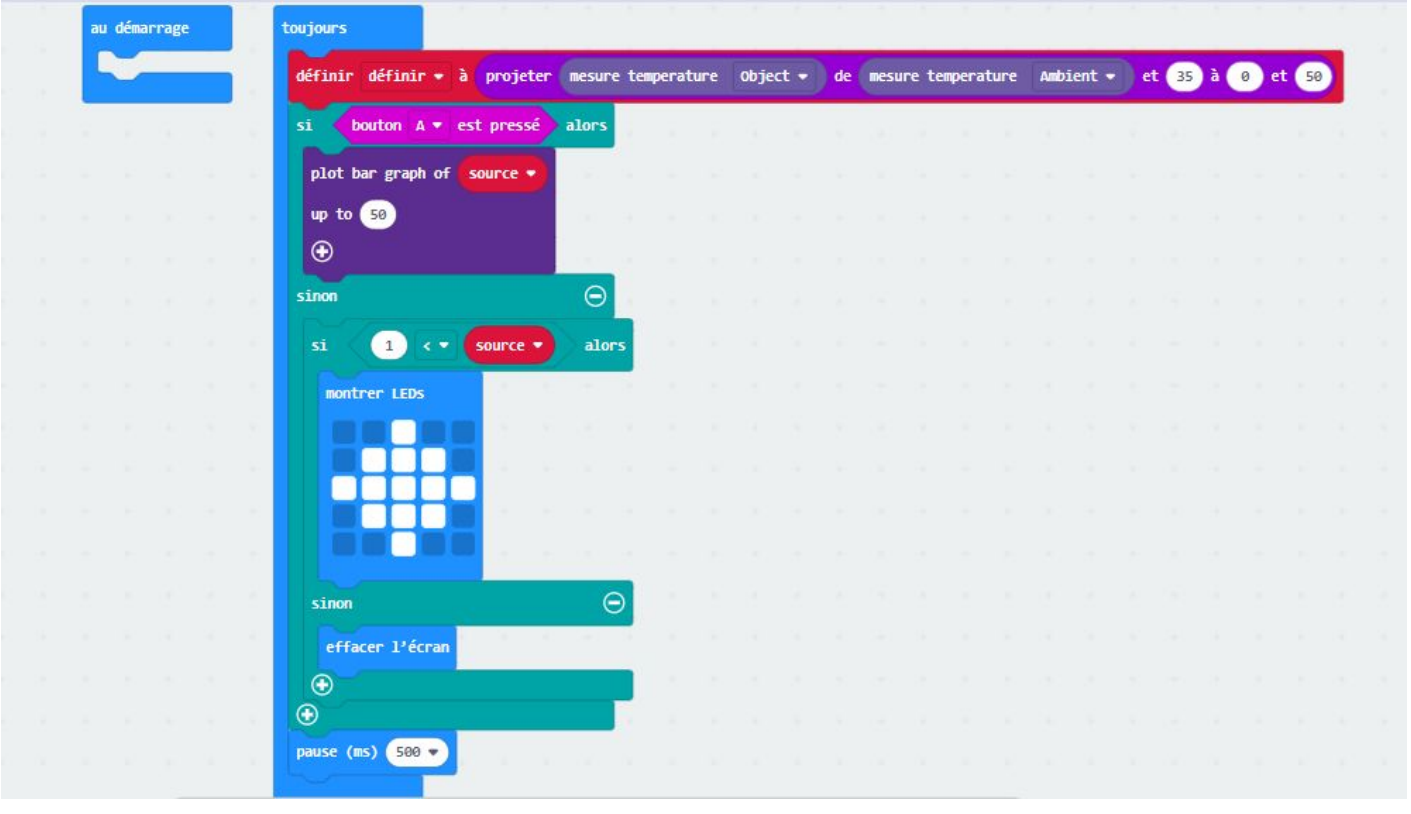
Digital resources

- https://www.genielab.co
- https://makecode.microbit.org/

Activity 1: Answer key

Creation of an infrared sensor using a micro:bit.

Tip: It would be interesting to test different materials between the heat source and the collector.



Section 4

1. Educational planning

Section 4: EXOPLANES

School level: Secondary cycle 1 and 2

Themes

- Exoplanets
- Habitable zones in space

Training area: Science and technology

- Technological universe - electrical engineering
- Earth and space: astronomical phenomena

Digital development continuum

- Develop and mobilize technological skills
  - Thinking and computer programming, intermediate level
- Exploiting the potential of digital technology for learning
  - Intermediate skills development

How section 4 works

1. Rosy 34th part
2. exoplanets
3. How do I find an exoplanet?
4. Quiz 4

Digital resources

- https://www.genielab.co
- https://makecode.microbit.org/

Literary resources

- Il y a de la vie sur les exoplanètes
- L'humain dans l'espace : entre réel et fiction
- Extraterrestres

Section 5

1. Educational planning
2. Activity 2: corrected

Section 5: SOLAR PANELS

School level: Secondary cycle 1 and 2

Themes

- solar panels

Training area: Science and technology

- Technological universe - electrical engineering
- Earth and space: astronomical phenomena

Digital development continuum

- Develop and mobilize technological skills
  - Thinking and computer programming, intermediate level
- Exploiting the potential of digital technology for learning
  - Intermediate skills development

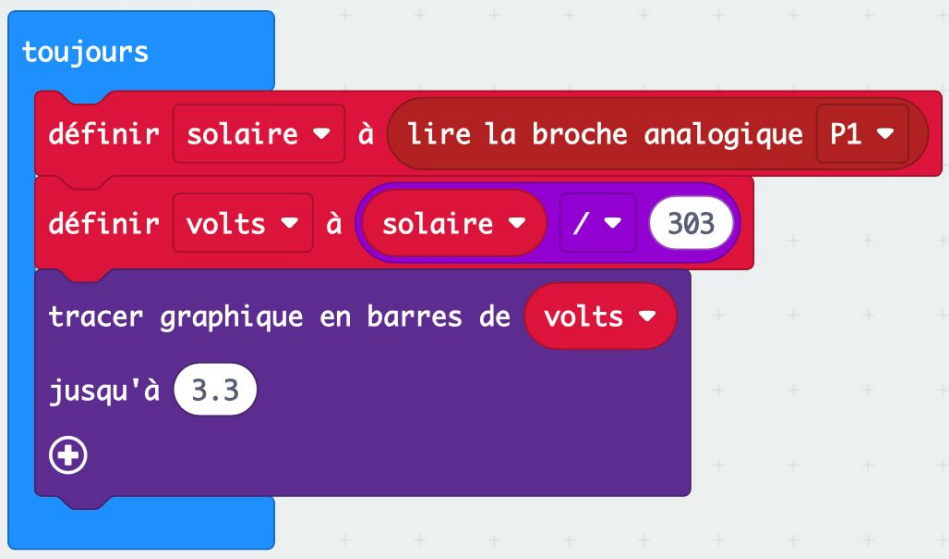
Sequence of events in section 5

1. Rosy part 4
2. Solar panels part 1
3. Solar panels part 2
4. Quiz 5
5. Activity 2

Digital resources

- https://www.genielab.co
- https://makecode.microbit.org/

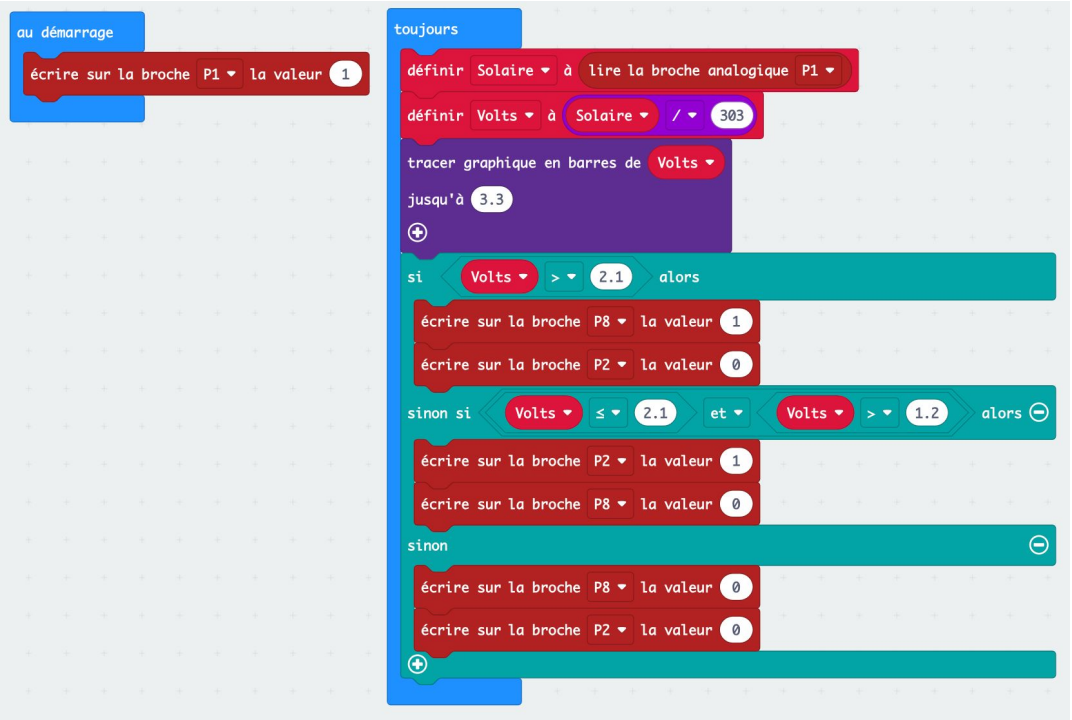
Activity 2A: solution



Display the electrical voltage emitted by the solar panel.

Activity 2B: solution

Directs electricity to different systems according to the energy available.



Section 6

1. Educational planning

Section 6: SATELLITES

School level: Secondary cycle 1 and 2

Themes

- les satellites

Domaine de formation: Science et technologie

- Univers technologique - ingénierie électrique
- Terre et espace: phénomènes astronomiques

Digital development continuum

- Develop and mobilize technological skills
  - Thinking and computer programming, intermediate level
- Exploiting the potential of digital technology for learning
  - Intermediate skills development

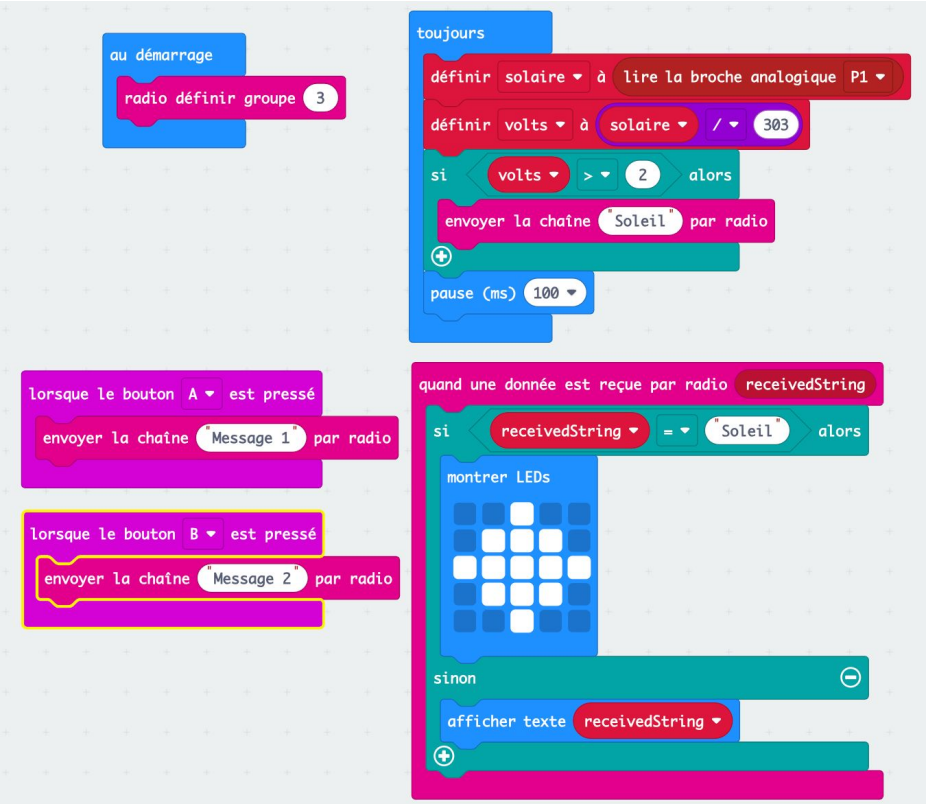
Sequence of events in section 5

1. Rosy part 5
2. Satellites part 1
3. Satellites part 2
4. Quiz 6
5. Rosy part 6
6. Activity 3
7. Rosy part 7

Digital resources

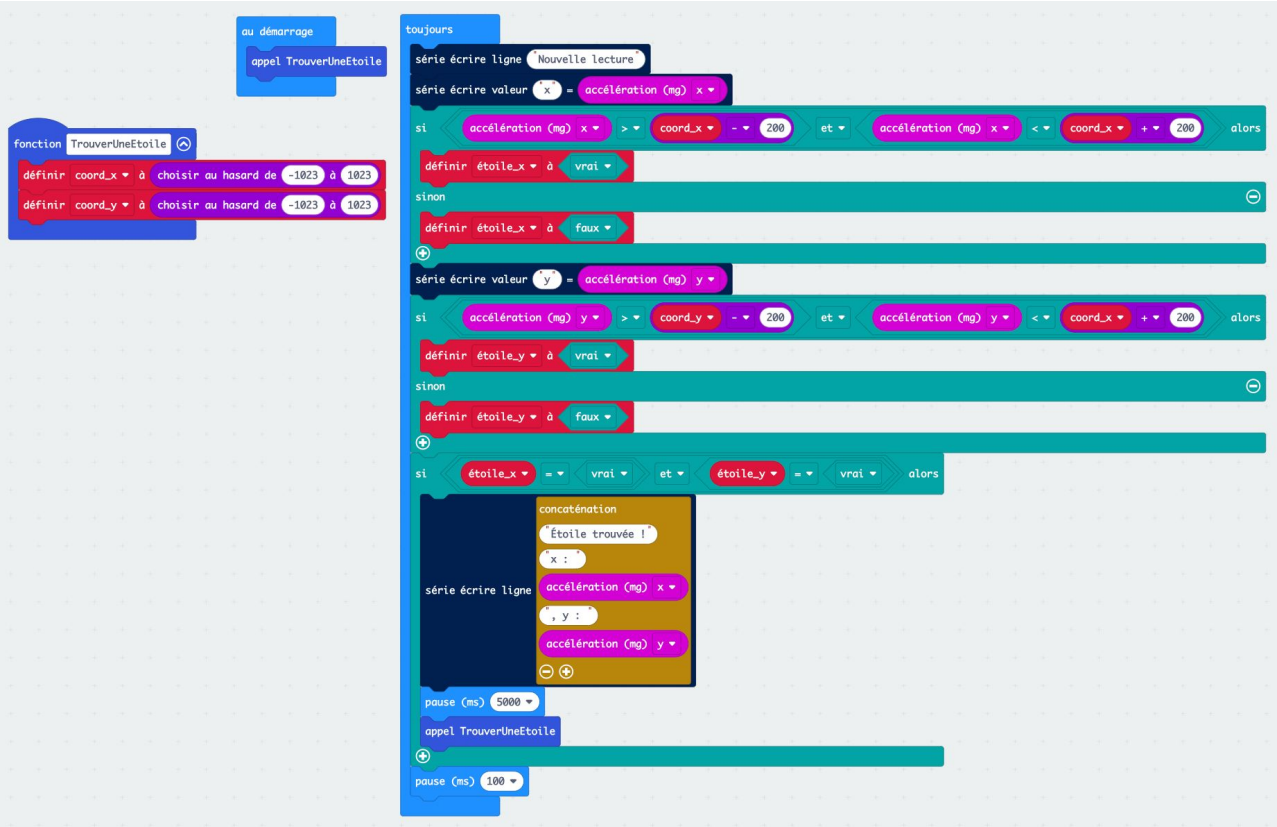
- https://www.genielab.co
- https://makecode.microbit.org/

Group activity 3: code completed



Sends messages by radio and turns the micro:bit into a weather station.

Activity 3 solo: code completed



Agility game where you have to find the right angle to tilt the micro:bit to simulate the inclination of a satellite's antenna or solar panels.

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End

You have completed the activity.

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DRIVING DIGITAL CREATION