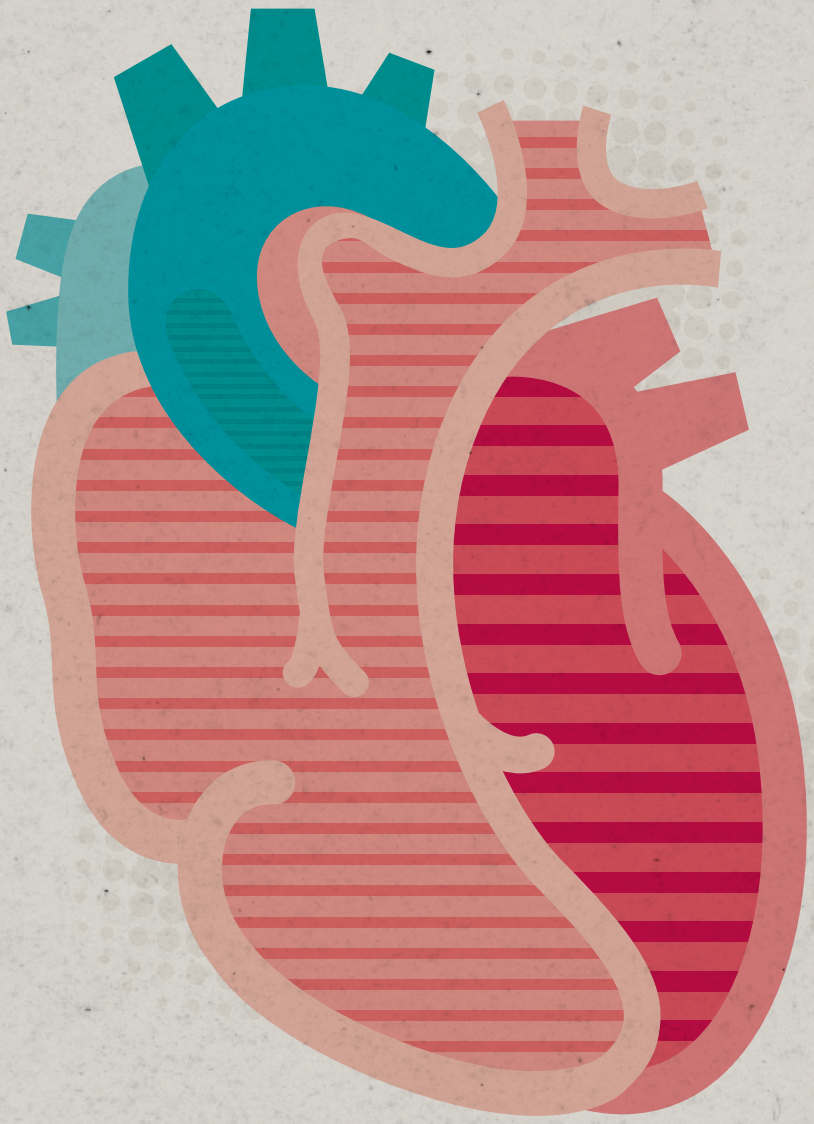
Secrets of

THE HEART



TEACHER'S GUIDE

CYCLE TWO ELEMENTARY

MONTRÉAL SCIENCE CENTRE

VOLVO

Société immobilière du Canada
Canada Lands Company

Canada

Secrets of

THE HEART

Through a variety of interactive activities, discover the secrets of the heart, this amazing organ essential to our survival. Explore its anatomy (shape, size, weight), its location, its role, its action and its strength... See real hearts and handle instruments used by cardiologists: the stethoscope and the pacemaker.

WELCOME

to the Montréal Science Centre

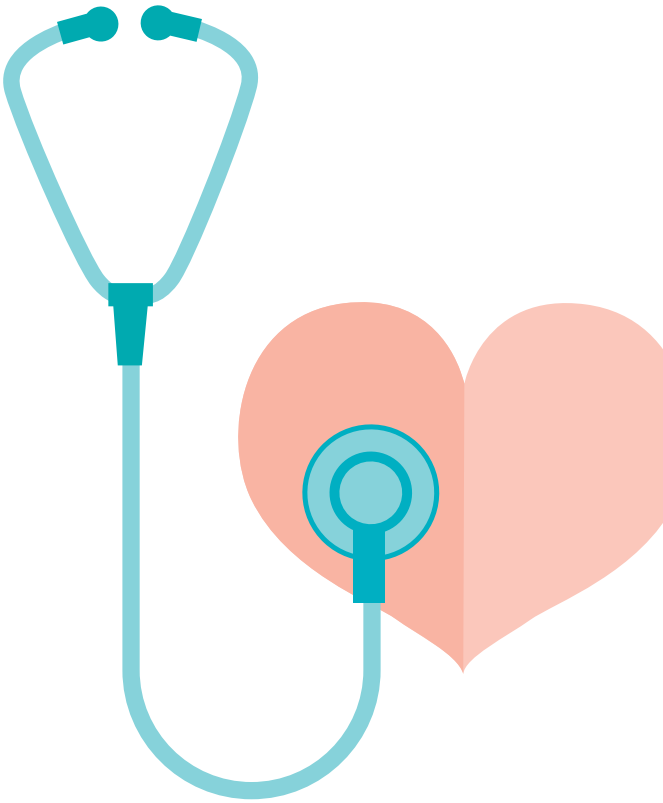
The educators at the Montréal Science Centre invite you to discover the **Secrets of the Heart**. This **90-minute** activity follows the Quebec Education Program and provides an experience where the joy of learning leads to the acquisition of new skills.

DID YOU KNOW?

That our school programs…

- adhere to the MELS progression of learning;
- offer a variety of experiences that are different from classroom activities;
- are run by an educator who takes charge of the group;
- comprise student-centered, interactive activities that make learning fun.

A THREE-STEP TEACHING APPROACH



1 Initial perceptions

We suggest this preliminary activity to prepare your students to discover the **Secrets of the Heart**. This activity can be done either in class before the visit or on arrival at the Science Centre. Students are asked to draw a heart as they imagine it inside their bodies, to add colour, and to write their impressions of the subject. At this stage, no idea is rejected. This activity lets the students use words and images to express their own initial perceptions of this organ that is essential to life. It also awakens their curiosity and interest.

2 Discovering the secrets of the heart

The workshop resembles a science lab with equipment spread out on worktables. The students, in groups or teams, locate the heart and blood vessels in the human body, listen to their own hearts with a stethoscope, race against the heart, play an interactive video on heartbeats, observe and handle a pacemaker for children, examine the parts of a pig heart or a model of an adult human heart, and compare the sizes of newborn and adult hearts.

3 Revisiting the students' initial perceptions

After all these discoveries, it's time to close the loop and engage students in a brief discussion about the drawings they made in class or on-site. How do their initial perceptions compare with what they now know? Do they still agree with the ideas they had before the workshop? It's a fair bet that they will have new ideas about the heart now that they have learned its secrets.

Scientific validation: Dr. Brigitte Ducharme, MD, Montreal Heart Institute

LINKS TO THE PROGRESSION OF LEARNING

LIVING THINGS

	Elementary Cycle Two 3rd	4th
MATTER		
ORGANIZATION OF LIVING THINGS		
Describes the functions of certain parts of the anatomy (e.g. heart)	●	●
Associates the parts and systems of the anatomy of animals with their general functions	→	★
APPROPRIATE LANGUAGE		
TERMINOLOGY RELATED TO AN UNDERSTANDING OF LIVING THINGS		
Appropriately uses terminology related to an understanding of living things	→	→
Distinguishes between the meaning of a term used in a scientific or technological context and its meaning in everyday language	→	→

→ Student constructs knowledge with teacher guidance

★ Student applies knowledge by the end of the school year

● Student reinvests knowledge