

Quebec - Achievements and Competencies

Learning Outcomes

Cycle 2 (Gr. 3-4)	Cycle 3 (Gr. 5-6)
Interactions between living things and environment	Transformations of living things
	Interactions between living things and environment

The Quebec Achievements and Competencies are based on the Progression of Learning Outcomes derived from the Quebec Education Plan set by the Ministère de l'Éducation, du Loisir et du Sport.

Specific Expectations

CYCLE 2 (Gr. 3-4)

LIVING THINGS

D. Systems and interactions

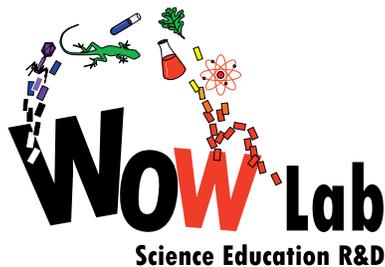
1. Interaction between living organisms and their environment
 - a. Describes the physical characteristics that demonstrate how animals adapt to their environment
 - b. Describes the behaviours of familiar animals that enable them to adapt to their environment
 - f. Explains how animals and plants adapt to increase their chances of survival (e.g. mimicry, camouflage)

In *Selection in Action*, students will build lego cars to mimic live organisms. The cars are then put through various obstacles to see which can survive, and further on, which offspring of the surviving cars can survive. Through this activity, students will learn about concepts such as natural selection, survival, and adaptation. Students can describe the physical characteristics that allowed the species, or cars in this case, to survive the environments, or obstacles. Students can predict which traits the cars need to possess in order to survive each obstacle.

F. Appropriate Language

1. Terminology related to an understanding of living things

Students are required to use the appropriate terminology throughout the activity (e.g. natural selection, evolution, organism, traits, survival, adaptation, species, population).



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CYCLE 3 (Gr. 5-6)

LIVING THINGS

A. Matter

3. Transformations of living things

g. Describes the main stages of the evolution of life forms

As students engage in this activity, they will start to understand the adaptations that species must undergo to survive various environments. This can lead into a discussion about evolution. Teachers can tell students about the different stages of evolution.

D. Systems and interactions

1. Interaction between living organisms and their environment

a. Describes the physical characteristics that demonstrate how animals adapt to their environment

b. Describes the behaviours of familiar animals that enable them to adapt to their environment

f. Explains how animals and plants adapt to increase their chances of survival (e.g. mimicry, camouflage)

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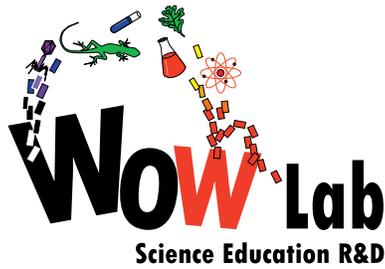
1. Terminology related to an understanding of living things

Students are required to use the appropriate terminology throughout the activity (e.g. natural selection, evolution, organism, traits, survival, adaptation, species, population, genes, inheritance).

Strategies

EXPLORATION STRATEGIES

- Studying a problem or a phenomenon from different points of view (e.g. social, environmental, historical, economic perspectives)
- Recalling similar problems that have already been solved
- Becoming aware of his or her previous representations
- Formulating questions
- Putting forward hypotheses (e.g. individually, as a team, as a class)
- Exploring various ways of solving the problem
- Anticipating the results of his or her approach
- Imagining solutions to a problem in light of his or her explanations



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- Taking into account the constraints involved in solving a problem or making an object (e.g. specifications, available resources, time allotted)
- Examining his or her mistakes in order to identify their source
- Using different types of reasoning (e.g. induction, deduction, inference, comparison, classification)

STRATEGIES FOR RECORDING, USING AND INTERPRETING INFORMATION

- Using a variety of observational techniques and tools
- Using technical design to illustrate a solution (e.g. diagrams, sketches, technical drawings)

COMMUNICATION STRATEGIES

- Using different means of communication to propose explanations or solutions (e.g. oral presentation, written presentation, procedure)
- Exchanging information
- Comparing different possible explanations for or solutions to a problem in order to assess them (e.g. full-group discussion)