

Quebec - Achievements and Competencies

Learning Outcomes

Cycle 1 (Gr. 1-2)	Cycle 2 (Gr. 3-4)
Transformations of living things	Organization of living things
	Properties of matter on Earth

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 1 (Gr. 1-2)

LIVING THINGS

A. Matter

3. Transformations of living things
 - a. Names the basic needs for plant growth (e.g. water, air, light, mineral salts)

Flowers, like all plants, require water in order to grow. In this activity, students investigate how food colouring changes the colour of the flower petals when the stems of the flowers are placed into coloured water.

F. Appropriate Language

1. Terminology related to an understanding of living things

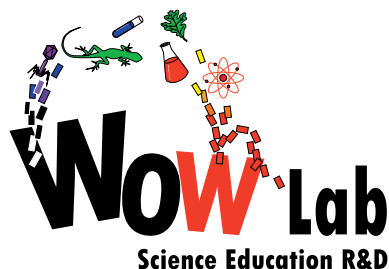
Students are required to use the appropriate terminology throughout the activity (e.g. flowers, stem, petals, roots, dye).

CYCLE 2 (Gr. 3-4)

LIVING THINGS

A. Matter

2. Organization of living things
 - e. Describes the anatomy of plants (roots, stems, leaves, flowers, fruits, seeds)
 - f. Associates the parts of a plant with their general functions (roots, stems, leaves, flowers, fruits, seeds)



a WOW Lab

BLUEPRINT

Rainbow Flowers - Quebec - Achievements and Competencies

Students will be able to describe different components of the flower and their functions by answering the following questions during the activity: How does a flower obtain water? Why aren't the flowers dyed by dipping the petals directly into the food colouring and water? Why does it look like the flowers have veins that have been dyed by the food colouring? What is the role of the stem?

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. flowers, stem, petals, roots, leaves, corolla, dye, transpiration, phloem, xylem).

EARTH AND SPACE

A. Matter

1. Properties and characteristics of matter on Earth

b. Describes the various ways in which the quality of water, soil or air affects living things

Students investigate how the coloured water changes the colour of the petals. They can extend their thinking by using what they have learned and observed from this activity to engage in discussions about the effects that poor quality water (e.g. chemically-polluted water) would have on the plants.

Strategies

EXPLORATION STRATEGIES

- Recalling similar problems that have already been solved
- Formulating questions
- Putting forward hypotheses (e.g. individually, as a team, as a class)
- Anticipating the results of his or her approach

STRATEGIES FOR RECORDING, USING AND INTERPRETING INFORMATION

- Using a variety of observational techniques and tools
- Using different tools for recording information (e.g. diagrams, graphs, procedures, notebooks, logbook)

COMMUNICATION STRATEGIES

- Using tools to display information in tables and graphs or to draw a diagram
- Comparing different possible explanations for or solutions to a problem in order to assess them (e.g. full-group discussion)