

# Biosphere

Environment Museum

2011-2012

## EDUCATIONAL PROGRAM

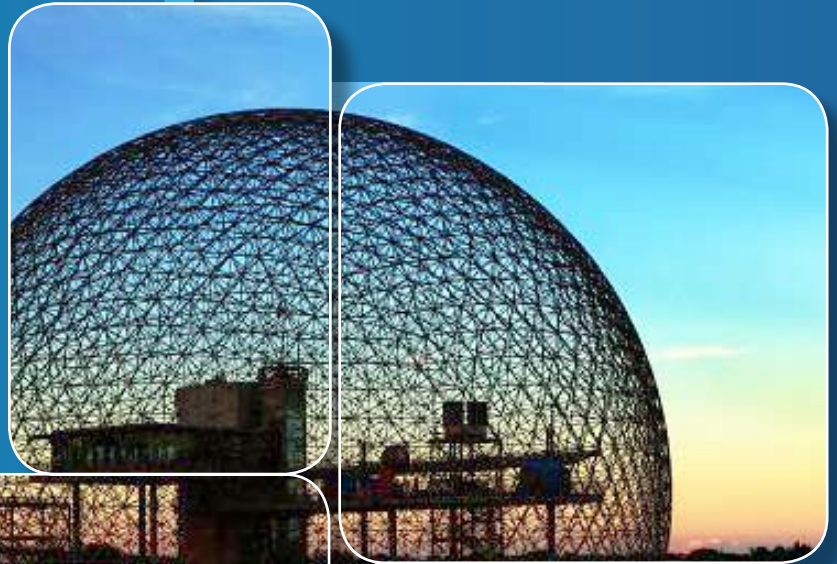


Activities for school groups  
and teachers



## ABOUT THE BIOSPHERE

Architectural symbol of Expo 67, the Biosphere is a unique structure, located in Montréal in Parc Jean-Drapeau. As the only environment museum in North America, the Biosphere's mandate is to raise awareness as well as to encourage citizens to take action and get involved in environmental issues. In addition to its general public programming and special events, the Biosphere has developed in the last 16 years educational and awareness-raising products for a diverse clientele across Canada and is a recognized clearinghouse for environmental information.



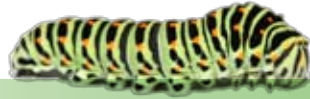
## THE BIOSPHERE, ENVIRONMENT MUSEUM ...

is pleased to present its Educational Program for the 2011–2012 school year. The program offers a range of activities adapted to the needs and interests of elementary and high school students and teachers. It is available to schools and community groups in all provinces and territories.

Through play, experimentation and creation, students develop their teamwork, cooperation and problem-solving skills and learn to apply them to environmental protection.

These activities can be carried out at the Biosphere, at your school or in the field.





## At the Biosphere!

Housed in Richard Buckminster Fuller's magnificent geodesic dome, the Biosphere offers you a variety of activities tailored to your groups' various ages and interests. Explore one or many themes, whether meteorology, air quality, biodiversity, climate change or responsible consumption!

The Biosphere also suggests you spend a day in this wonderful location by combining two activities to learn more about the environment!

Take a look at pages 6 to 9 for more information!

## The Biosphere at Your School!

The Biosphere offers, all across Canada, five free thematic presentations by videoconference or on site at your school.

Take a look at pages 10 and 11 for more information!

## In the Classroom!

Students can also participate in concrete observation and ecoaction projects in their classroom. They collect data from their natural habitat or observe their own life habits with a view to making changes to them. For certain activities, BioKits, activity guides, materials or field guides are offered to teachers.

Take a look at pages 12 and 13 for more information!



## Choose the activities for your age group ...

Activities	Pages	Ages	Choose the activities for your age group ...													
			Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.		
<b>The Eel Squad</b>	6	Ages 4 to 6														
<b>Water Explorers</b>	6	Ages 6 to 7														
<b>BioKits</b>	7	Ages 6 to 12														
<b>The Secret of Gilgamesh</b>	7	Ages 8 to 9														
<b>The Circle of Life</b>	7	Ages 8 to 9														
<b>On the Water Trail</b>	8	Ages 10 to 11														
<b>Nature Works!</b>	8	Ages 10 to 11														
<b>We Are Not Alone</b>	9	Ages 14 to 18														
<b>The Biosphere ... à la carte!</b>	9	Ages 6 to 18														
<b>A Change in the Air</b>	11	12 years & older														
<b>A Breath of Clean Air</b>	11	12 years & older														
<b>One World, One Planet!</b>	11	12 years & older														
<b>Drop by Drop</b>	11	12 years & older														
<b>Variety Is the Spice of Life!</b>	11	12 years & older														
<b>BioKits</b>	12	Ages 6 to 12														
<b>Project Agent X</b>	12	Ages 8 to 13														
<b>Adopt a River</b>	13	Ages 10 to 18														
<b>We Are Not Alone</b>	13	Ages 14 to 18														

At the Biosphere!

The Biosphere at Your School!

In the Classroom!

# AT THE BIOSPHERE!



## THE EEL SQUAD

(Ages 4 to 6)

Theme: Discovery of the aquatic ecosystem

An eel (puppet) from The Eel Squad guides youngsters along the waterways from their house to the river. The eel reveals the wonders and friends of water, but also explains that the waste that is being discharged into the water is damaging its habitat. Together, youngsters and the eel look for ways to clean up its home.

Duration: 90 minutes



## WATER EXPLORERS

(Ages 6 to 7)

Theme: Nature discovery

The activity is led by a modern-day fur trapper who teaches the children to respect nature while they take on three challenges. By completing these challenges, they gain knowledge of water and aquatic ecosystems. Throughout their visit, children collect amulets to add to their explorer necklace.

Duration: 90 minutes





### **BIOKITS**

(Ages 6 to 12)

Theme: **Biodiversity**

These self-guided excursions, which include a guided introduction, will allow you to observe and uncover some of Île Sainte-Hélène's biodiversity! These fun-filled activities will incite participants to explore nature through their senses. Remember to bring hats, sunscreen as well as appropriate clothing and footwear for this outing!

Duration: 90 to 150 minutes



### **THE SECRET OF GILGAMESH**

(Ages 8 to 9)

Theme: **Meteorology**

King Gilgamesh seems to control the weather. One day, his friend Enkidou persuades him to reveal his secret to the people of Uruk. In the course of the activity, students learn about the usefulness of various weather instruments, the water cycle, several extreme weather phenomena as well as various ways to reduce greenhouse gas emissions.

Duration: 90 minutes



### **THE CIRCLE OF LIFE**

(Ages 8 to 9)

Theme: **Biodiversity**

In this activity, students will explore the beauty of biodiversity as well as the many relationships that exist between all living things and their habitat. By exploring Canadian biodiversity, they will discover its richness, its complexity and understand the factors that influence life in a wetland. The discoveries made throughout this activity allow for a better understanding of the importance of preserving the diversity of life.

Duration: 90 minutes



## AT THE BIOSPHERE!

continued ...



### ON THE WATER TRAIL

(Ages 10 to 11)

Theme: Water use

Interpretative guides encourage students to learn about the economic and social importance of the St. Lawrence River. Following the Water Trail at the Biosphere, students see how humans have altered the river over the years, and they are introduced to the environment-related issues of navigation, responsible consumption and access to drinking water.

Duration: 90 minutes



### NATURE WORKS!

(Ages 10 to 11)

Theme: Nature

Throughout the activity, students will discover the relationships that exist between different animal and plant species and human beings. In a laboratory setting, they will learn more about biomimicry by observing how science imitates nature. Students will also reflect on the impacts of human activity as well as the various actions they can undertake to preserve nature.

Duration: 90 minutes







## WE ARE NOT ALONE

(Ages 14 to 18)

Theme: **Biodiversity and sustainable development**

Through a dynamic role-playing game, students discover how biodiversity can link people who may otherwise appear to be very different from each other. Whether they play the role of an Asian fisher or a European tourist, players have to come together to find common ground when faced with issues pertaining to biodiversity. Lively discussions are sure to arise, but will solutions also be found?

Duration: 90 minutes



## THE BIOSPHERE ... À LA CARTE!

(Ages 6 to 18)

Theme: **Optional**

The Biosphere offers you a guided tour tailored to your groups' various ages and interests. A particular subject interests you? The *À la carte* option is for you! Choose a film, a conference, a clip and/or an activity from our menu!

Duration: 90 minutes



## "SOUTENIR L'ÉCOLE MONTRÉLAISE" (Support Montréal's Schools) PROGRAM

This program of the Ministère de l'Éducation, du Loisir et du Sport du Québec (Quebec Department of Education, Recreation and Sport) is intended for Montréal schools considered to be disadvantaged by giving them better access to cultural institutions.

Find out whether you are eligible by visiting: [www.meq.gouv.qc.ca/ecolemontrealaise](http://www.meq.gouv.qc.ca/ecolemontrealaise).



# THE BIOSPHERE AT YOUR SCHOOL!

The Biosphere offers, all across Canada, five free thematic presentations by videoconference or on site at your school.



## **Videoconferences and Conferences at School**

Offered to high school students from coast to coast, these activities link the worlds of science and technology. In an informal setting, an expert facilitator explores an environmental theme of your choice.

*\*\*Please note that the conferences at school are also available on site at the Biosphere to all schools in the Montréal metropolitan area.\*\**

**Duration?** 60 minutes

**When?** From Monday to Friday

**For whom?** 12 years and older



## **Technical requirements for conferences at school:**

- . Groups of 90 or more.
- . Required equipment: A PC computer with Windows PowerPoint 2003 (or more recent) as well as a projector and microphone.

## **Technical requirements for videoconferences:**

- . Groups of 10 or more.
- . It is possible to connect several schools across Canada at the same time to encourage discussion among young people from various cities, provinces or territories.
- . Required equipment: Videoconference equipment (Tandberg or Polycom) and high-speed Internet. Skype, NetMeeting or MSN IM are not accepted.





**A CHANGE IN THE AIR** fosters discussion about the very latest scientific information on climate change, its impacts on the environment and what we can do about it. **Theme: Climate change**



**ONE WORLD, ONE PLANET!** sheds light on our consumption and its impacts, examining the life cycle of products and our ecological footprint. With an expert facilitator, students develop a critical mindset with respect to consumption and learn to reduce its effects on our planetary ecosystem. **Theme: Responsible consumption**



**VARIETY IS THE SPICE OF LIFE!** helps students understand the importance of biodiversity and the pressures we exert on the natural environment. With an expert facilitator, students discuss biodiversity and how to preserve it. **Theme: Biodiversity**



**A BREATH OF CLEAN AIR** will help young people understand smog and acid rain phenomena. With an expert facilitator, participants will discuss human activities and meteorological factors that cause these phenomena and formulate concrete actions they can take to limit them. **Theme: Air quality and pollution**



**DROP BY DROP** helps students understand how water moves and transforms itself, how it becomes less abundant and the importance of protecting it. Students discuss with an expert facilitator the impacts of human activities on water and the actions they can take to limit those impacts. **Theme: Water**



### Information and Reservations

Montréal region:

514-496-8282 or [reservation.biosphere@ec.gc.ca](mailto:reservation.biosphere@ec.gc.ca)

Outside Montréal region:

1-866-487-8282 (toll-free) or [edl-edc.biosphere@ec.gc.ca](mailto:edl-edc.biosphere@ec.gc.ca)

# IN THE CLASSROOM!



Students take part in concrete observation and ecoaction projects. For certain activities, BioKits, an activity guide, material or support are offered to teachers.



**BIOKITS**  
(Ages 6 to 12)  
Theme: Biodiversity

Choose from a family of BioKits and explore biodiversity in urban areas, the Canadian wilderness, as well as the Trans Canada Trail. Their purpose is to engage youth in learning about the value of local natural areas and biodiversity, and to empower them to help protect these areas.

To download the PDF versions or to learn more, visit:  
[www.ec.gc.ca/biotrousses-biokits](http://www.ec.gc.ca/biotrousses-biokits)

Duration: 90 to 150 minutes



**PROJECT AGENT X**  
(Ages 8 to 13)  
Theme: Responsible consumption

Students are given various environmental missions to find and apply solutions to reduce their greenhouse gas emissions. They thus become special agents whose role is to help their peers reduce their energy consumption. Project Agent X uses a dynamic approach and equipment on loan from the Biosphere. The equipment is free if the teachers agree to share the results of their project with the Biosphere.

- . Training and scientific support provided
- . Duration: Minimum 15 hours
- . Offered to Quebec schools only





## ADOPT A RIVER

(Ages 10 to 18)

Theme: Water

This project is coordinated by the Groupe d'éducation et d'écovigilance de l'eau (G3E) with the support of the Biosphere. Using basic scientific equipment, students learn about the characteristics of their river by studying its physicochemical and bacteriological properties. They also learn to collect and identify macro-invertebrates that are biological indicators of water quality. These activities help students understand their environment and identify actions they can take to improve it. Training and scientific support provided.

- . This is a field project
- . Duration: 25 hours
- . Information and reservations: [adopte@cvrbc.qc.ca](mailto:adopte@cvrbc.qc.ca)
- . Website: [www.pjse.ca](http://www.pjse.ca)



## WE ARE NOT ALONE

(Ages 14 to 18)

Theme: Biodiversity and sustainable development

Through a dynamic role-playing game, students discover how biodiversity can link people who may otherwise appear to be very different from each other. Whether they play the role of an Asian fisher or a European tourist, players have to come together to find common ground when faced with issues pertaining to biodiversity. Lively discussions are sure to arise, but will solutions also be found?

- . Duration: 75 minutes
- . Offered to Montréal-region schools only



## CONTACT US



[www.ec.gc.ca/biosphere](http://www.ec.gc.ca/biosphere)

 [facebook.com/biospheremtl](https://www.facebook.com/biospheremtl)

 [@biospheremtl](https://twitter.com/biospheremtl)

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514-496-8282

1-866-487-8282 (toll-free)

### By email:

[reservations.biosphere@ec.gc.ca](mailto:reservations.biosphere@ec.gc.ca)

## Services

- Free parking for up to three buses
- Lunch room (by reservation only)
- Picnic area (seasonal)
- Wheelchair access

