



Grade

4 - 7

Aquarium Digital Discovery!

This lesson encourages students to connect with diverse species and habitats by using digital photographs and observation skills while exploring the Vancouver Aquarium. Specifically, students will locate and photograph select scenarios at the Aquarium to identify animal characteristics and interactions, including: adaptations, behaviours, survival skills, and predator / prey relationships. Students will also be encouraged to consider how human activities impact select ecosystems.

Students Will Be Able To:

- [1] identify select animal characteristics and describe these characteristics in writing
- [2] make inferences about animal interactions and relationships
- [3] examine environmental and human impacts facing select ecosystems

LEARNING ENVIRONMENT

- ★ Small groups with adult chaperone (eg. 5:1)
- ★ Avoid using camera flash in dark galleries
- ★ Strap cameras to avoid dropping into habitats

MATERIALS

- ★ Digital camera
- ★ Pencil or pen
- ★ Activity sheet (included here)
- ★ Clipboard or Journal

Steps

This activity works best as a review of scientific concepts explored in class prior to a Vancouver Aquarium visit. Students should be familiar with the concepts of simple food chains, different types of animal adaptation, and how environmental and human impacts influence ecosystems.

- 1) Exploring the Vancouver Aquarium (30 – 45 min).** For students of this age we strongly recommend allowing time for free exploration. The Aquarium is a highly stimulating environment and if students are not given this time to roam and discover then they may be distracted and over-excited throughout the more structured part of this lesson. This also provides a chance for students to tune-in to the

theme of the lesson, so you may wish to instruct them to start looking for certain animal characteristics they will encounter through the activity. Ensure students remain in their small groups, accompanied by chaperones at all times.

- 2) Class Re-group (10 min).** In a pre-arranged meeting spot (see the section 'Helpful Information' for tips about meeting spots), discuss students' reactions to the galleries. What did they see? What galleries did they explore? What is their favourite thing so far? Create student groups of 3 or 4. Distribute activity sheets and provide students with instructions around assignment completion and meeting times. Explain that students will explore the galleries in groups to help each other complete the assignment. **TIP:** To avoid too many students trying to look at one gallery at the same time, have different groups start at different galleries within the Aquarium. Provide students with clipboards so they have a hard surface on which to write.
- 3) Animal Observation and Photo Gathering (45 - 60 min).** In small groups, have students explore the Aquarium galleries searching for the specific photo scenarios listed below. Students should use their digital cameras to capture the photos for each scene as well as provide three descriptive words to accompany each photo.
- 4) Class sharing and reflection on-site (10 min).** Gather as a class in your pre-arranged meeting location for a whole-class discussion. This is an important time for students to share their ideas with their peers. Suggested guiding questions include:
 - a. Describe some of the organisms you photographed? Why did you choose them?
 - b. Did you have a hard time completing any of the questions?
 - c. Did you photograph anything else? If so, what? Why?
- 5) Class Photo (5 min).** Meet as a class and take a group photo before leaving the Aquarium. Plan to incorporate this photo into a slide show with select photos from each student as a way of showcasing and remembering the Aquarium experience.
- 6) Enjoy the rest of your visit!**

Helpful Information

Using Cameras at the Aquarium: Please ensure cameras are used carefully around animal habitats. Use camera straps to avoid dropping devices into the water/habitats. When photographing in dark galleries, avoid use of the camera flash to avoid reflection and ensure good quality results. Consider taking photos on an angle (as opposed to directly facing glass habitats) even in well lit galleries.

Aquarium Meeting Spot: The Vancouver Aquarium can be a busy place so locating a pre-arranged meeting space for your class is essential to reinforce learning during your visit. Some spots to consider include the Underwater Dolphin and Arctic Galleries, the Exploration Gallery, and outdoors, weather permitting.

Working with Chaperones: Education staff at the Aquarium believe strongly in the effectiveness of small group learning, particularly with younger students in our often bustling galleries. Suggestions for adult chaperones include parent helpers, student teachers, and responsible high school students. Pre-briefing your adult chaperones and organizing student groupings before you arrive at the Aquarium is ideal and will ensure all parties are best supported. Name tags are highly recommended for your students and chaperones to assist with group management.

Teacher Background Information: On the same page as you found this lesson [\(link\)](#), under the heading 'Lesson Enrichment' you will find a link to the Aquarium AquaFacts and a detailed '*Vancouver Aquarium Resource Guide*' which contain relevant background information pertaining to marine species. The Vancouver Aquarium recommends pre-teaching relevant content as means of making your class visit a more meaningful learning experience.

Extension Activities

- Back at school, create a class slideshow with the photos. As a class, create captions for each photo using the descriptive words listed by students.
- Have students select their favourite photograph to present to the rest of the class. Have students explain what is happening in the photo, details around the specific species or habitat, why the photo is their favourite, etc.
- Have students select one photograph and create a mini article about the scene as if for a nature and/or environmental magazine. Alternatively, have students create videos using photographic material.
- Using the same activity structure, capture photos/captions present in an outdoor ecosystem in your school neighbourhood.
- Using the endangered/threatened species students photographed, research as a class why these animals are at risk. Associate animals at risk with human impacts on ecosystems and troubleshoot more sustainable practices. Use the same rationale to look at the animals that people like to eat.

CURRICULUM CONNECTIONS / BRITISH COLUMBIA, CA

Overall

Science

All living things and their environment are interdependent (Big Ideas)

Multicellular organisms have organ systems that enable them to survive and interact within their environment (Big Ideas)

The ways organisms in ecosystems sense and respond to their environment (Content)

Survival needs and interactions between organisms and the environment (Content)

Make observations about living and non-living things in the local environment (Curricular Competencies)

Identify questions to answer or problems to solve through scientific inquiry (Curricular Competencies)

Grade Breakdown

Grade 4

Science - All living things and their environment are interdependent (Big Ideas)

Science - The ways organisms in ecosystems sense and respond to their environment (Content)

Science - Make observations about living and non-living things in the local environment (Curricular Competencies)

SELF DIRECTED VISIT / AQUARIUM DIGITAL DISCOVERY
Grade 5

Science - Multicellular organisms have organ systems that enable them to survive and interact within their environment (Big Ideas)

Science - The nature of sustainable practices around BC's living and non-living resources (Content)

Science - Identify questions to answer or problems to solve through scientific inquiry (Curricular Competencies)

Grade 6

Science - Demonstrate a sustained curiosity about a scientific topic or problem of personal interest (Curricular Competencies)

Science - Identify questions to answer or problems to solve through scientific inquiry (Curricular Competencies)

Science - Experience and interpret the local environment (Curricular Competencies)

Grade 7

Science - Survival needs and interactions between organisms and the environment (Content)

Science - Identify a question to answer or a problem to solve through scientific inquiry (Curricular Competencies)

Science - Experience and interpret the local environment (Curricular Competencies)

These Prescribed Learning Outcomes (PLOs) are related to sustainability & the environment as per the BC Ministry of Education Framework, Environmental Learning and Experience Curriculum Map: Complexity, Aesthetics, Responsibility and Ethics.

Vancouver Aquarium Digital Discovery!

Explore all of the galleries at the Vancouver Aquarium. Look at the items listed below. For each item, find the animal or exhibit at the Aquarium that you think best fits the description. Take a photograph of that animal or exhibit. After you take the photo list three descriptive words that describe your photo.

a) an animal that uses a hard shell for protection:

b) an animal grooming (cleaning) itself:

c) an animal that blends in with its environment (camouflaged):

d) a mammal that breathes through a blow hole:

e) an animal that does not have a backbone (an invertebrate):

f) an animal that people like to eat:

g) an endangered or threatened species:

h) two or more organisms interacting:

i) an animal that a sea otter likes to eat:

j) an animal that likes to eat sea urchins:
