Amazing Invertebrates of BC

Purpose:
This lesson encourages students to explore the diversity of marine invertebrates on the BC Coast. Students should become more familiar with our local invertebrates, their form and function, and their importance to the ecosystem.

Curriculum Match:
For Curriculum Match visit:
http://www.vanaqua.org/education/LearningOutcomesandIRPConnections.pdf

- Direct experience is the basis of human learning
- Students should be provided opportunities to develop an aesthetic appreciation of the environment

(Taken from Appendix C: Cross – Curricular Outcomes)

** Adapt to best suit your grade level.

Materials:
- work sheet (level specific)
- pencil
- drawing materials
- clipboard or binder (hard surface to write on)

Background Preparation:
The students should have some knowledge of what an invertebrate is, and what types of invertebrates are found on our BC Coast.

Procedure at the Aquarium:
Move around the Aquarium in small groups or as individuals. Look at the tanks and exhibits carefully and try to identify all the invertebrates you can see. Using the worksheet, look for specific invertebrates and fill in the worksheet to the best of your ability. If you need help or have questions, don't be afraid to ask Aquarium staff – they love to talk!!!
The worksheets attached are changed slightly to allow for variations in grade level. Please feel free to adapt the worksheet to best fit your class.

Pre-Activities or Extensions:
Most of these activities can be adapted to any grade level.

1. Check out the following website for lesson activities for social studies, science and art.
http://www.graysreef.nos.noaa.gov/tw/activities/actinvert.html

2. This website has downloadable pages, and information on both terrestrial and marine invertebrates.
http://www.enchantedlearning.com/subjects/invertebrates/index.shtml

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3. Complete a Venn diagram:
Have your students brainstorm about the similarities and differences between two marine invertebrates. Let the students choose the animals; i.e. A barnacle and a crab, and do the exercise as a class. The teacher could have a transparency of a Venn diagram on an overhead, and can fill it in as the students brainstorm.
Make photocopies of a Venn diagram and distribute to your students. Have your students choose two new animals as a class, and then complete the worksheet individually. Discuss the similarities and differences that the students came up with on their own. Was there anything everyone thought of? Was there anything unique that came up?

4. Make up a worksheet with a variety of animals on it; a mixture of invertebrates and vertebrates. Distribute copies to your students and have them circle the animals they think are invertebrates. Once done, discuss which are invertebrates and which are not and why.

5. After your visit to the Aquarium, have students write a letter to a friend or relative telling them about their favorite animal they saw during their visit. They should tell them about their favorite animals structure and function, general shape and what role it plays in the ecosystem. Post the letters, or send them home to share with family.

6. Have students create charts with characteristics of invertebrates. Do this as a class, or in small groups with pictures and try to sort the marine invertebrates into the different phyla based on their physical characteristics. You could also do this with a dichotomous key. Discuss how the features are used as a basis for sorting the animals.

7. Consider how humans affect marine invertebrate communities and discuss the need to protect marine environments. For older students - investigate how the impact of human activity on these marine invertebrate communities is related to economic factors.

Assessment:
Use an observation sheet to assess students as they work; showing evidence that they:

- Follow directions
- Can identify specific invertebrates
- Understanding of what makes an invertebrate and invertebrate
- Ability to sort invertebrates into groups based on physical characteristics*

* Grade dependant

Amazing Invertebrates of B.C. (Intermediate)
Name:_____

Location	Common Name	Amazing Fact	Picture
Barkley Sound	Red Turban Snail **Scientific Name:** _____		
	Giant Green Anemone **Scientific Name:** _____	Is this an animal?	

Location	Common Name	Amazing Fact	Picture
Bella Bella	Bat Star **Scientific Name:** _____	Why is it named after bats?	
	Widehand Hermit Crab **Scientific Name:** _____		

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Location	Common Name	Amazing Fact	Picture
Long Beach	_____ (You choose) **Scientific Name:** _____		

Location	Common Name	Amazing Fact	Picture
Quadra Island	California Sea Cucumber **Scientific Name:** _____	Where is its mouth?	
	Giant Rock Scallop **Scientific Name:** _____		
	Giant Plumose Anemone **Scientific Name:** _____		

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Location	Common Name	Amazing Fact	Picture
Whytecliff Park	Red Sea Urchin **Scientific Name:** _____		
	Vermillion Star **Scientific Name:** _____	How does it eat?	
	Puget Sound King Crab **Scientific Name:** _____		

Location	Common Name	Amazing Fact	Picture
Jervis Inlet	Red Sea Fan **Scientific Name:** _____		
	Armoured Sea Cucumber **Scientific Name:** _____		

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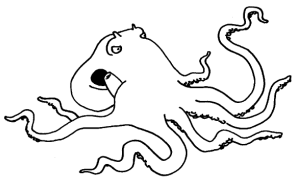
Location	Common Name	Amazing Fact	Picture
Port Hardy	Orange Cup Coral **Scientific Name:** _____		
	Giant Pacific Octopus **Scientific Name:** _____	Where is its mouth? How do you think it moves?	 Draw a close-up of one of its suckers.

Location	Common Name	Amazing Fact	Picture
Sechelt Inlet	Orange Sea Pen **Scientific Name:** _____		

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Amazing Invertebrates of B.C. (Secondary)
Name:_____

Location	**Common Name**	**Phylum / Characteristics**	**Picture / Description**
Barkley Sound	Red Turban Snail **Scientific Name:** _____		
	Giant Green Anemone **Scientific Name:** _____		

Location	**Common Name**	**Phylum / Characteristics**	**Picture / Description**
Bella Bella	Bat Star **Scientific Name:** _____		
	Hermit Crab **Scientific Name:** _____		

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Location	**Common Name**	**Phylum / Characteristics**	**Picture / Description**
Long Beach	_____ (You choose) **Scientific Name:** _____		

Location	**Common Name**	**Phylum / Characteristics**	**Picture / Description**
Quadra Island	California Sea Cucumber **Scientific Name:** _____		
	Giant Rock Scallop **Scientific Name:** _____		
	Giant Plumose Anemone **Scientific Name:** _____		

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Location	Common Name	Phylum / Characteristics	Picture / Description
Whytecliff Park	Red Sea Urchin **Scientific Name:** _____		
	Vermillion Star **Scientific Name:** _____		
	Puget Sound King Crab **Scientific Name:** _____		

Location	Common Name	Amazing Fact	Picture
Sechelt Inlet	Orange Sea Pen **Scientific Name:** _____		

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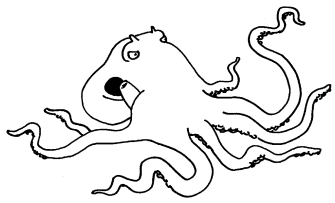
Location	Common Name	Phylum / Characteristics	Picture / Description
Jervis Inlet	Red Sea Fan **Scientific Name:** _____		
	Armoured Sea Cucumber **Scientific Name:** _____		

Location	Common Name	Phylum / Characteristics	Picture / Description
Port Hardy	Orange Cup Coral **Scientific Name:** _____		
	Giant Pacific Octopus **Scientific Name:** _____		

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