

ENGAGING SCIENCE • BC K–7 SCIENCE

Vancouver Aquarium – Coastal Creatures

Coastal Creatures complements the Kindergarten to Grade 7 Science curriculum in British Columbia. Prescribed learning outcomes (PLOs) from the Processes of Science (PSS), Life Science (LS), Physical Science (PS) and Earth and Space Science (ESS) curriculum organizers are matched below with the major activities presented in this Playbook and the associated Engaging Science hands-on workshop.

To support cross-curricular teaching, links to Math and Language Arts curriculum areas are also included.

PSS = Processes of Science
LS = Life Science

SS = Slowest Plankton Wins
WM = What a Mouthful
HW = Hear Like a Killer Whale
HU = Hunt Like a Killer Whale
BW = Just How Big is That Whale?
BP = Build a Plankton Net
BB = Beach Buddies

LEARNING OUTCOMES		SS	WM	HW	HU	BW	BP	BB
Kindergarten								
PSS	Use the five senses to make observations	•	•	•	•	•	•	•
PSS	Share with others information obtained by observing	•	•	•	•	•	•	•
LS	Describe features of local plants and animals	•	•	•	•	•	•	•
LS	Compare local plants	•					•	•
LS	Compare common animals	•	•	•	•	•	•	•
Grade 1								
PSS	Communicate their observations, experiences, and thinking in a variety of ways	•	•	•	•	•	•	•
PSS	Classify objects, events, and organisms	•	•	•	•	•	•	•
LS	Classify living and non-living things	•	•	•	•	•	•	•
LS	Describe the basic needs of local plants and animals	•	•	•	•			
LS	Describe how the basic needs of plants and animals are met in their environment	•	•	•	•			
Grade 2								
PSS	Use their senses to interpret observations	•	•	•	•	•	•	•
PSS	Infer the probable outcome of an event or behaviour based on observations	•	•	•	•	•		
LS	Classify familiar animals according to similarities and differences in appearance, behaviour, and life cycles	•	•	•	•	•	•	•
LS	Describe some changes that affect animals	•	•	•	•			•
LS	Describe ways in which animals are important to other living things and the environment	•	•	•	•		•	•

ENGAGING SCIENCE • BC K–7 SCIENCE

Vancouver Aquarium – Coastal Creatures

PSS = Processes of Science
 LS = Life Science

SS = Slowest Plankton Wins
 WM = What a Mouthful
 HW = Hear Like a Killer Whale
 HU = Hunt Like a Killer Whale
 BW = Just How Big is That Whale?
 BP = Build a Plankton Net
 BB = Beach Buddies

LEARNING OUTCOMES		SS	WM	HW	HU	BW	BP	BB
Grade 3								
PSS	Ask questions that foster investigations and explorations relevant to the content	•	•	•	•		•	•
PSS	Measure objects and events	•	•			•	•	•
LS	Compare familiar plants according to similarities and differences in appearance and life cycles	•					•	•
LS	Describe ways in which plants are important to other living things and the environment	•					•	•
Grade 4								
PSS	Make predictions, supported by reasons and relevant to the content	•	•	•		•	•	
PSS	Use data from investigations to recognize patterns and relationships and reach conclusions		•			•		
LS	Compare the structures and behaviours of local animals and plants in different habitats and communities	•	•	•	•	•	•	•
LS	Analyse simple food chains	•	•					
LS	Determine how personal choices and actions have environmental consequences							•
Grade 5								
PSS	Identify variables that can be changed in an experiment	•	•					
Grade 6								
PSS	Manipulate and control a number of variables in an experiment	•	•					
LS	Demonstrate the appropriate use of tools to examine living things that cannot be seen with the naked eye	•	•				•	•
LS	Analyse how different organisms adapt to their environments	•	•	•	•		•	•
LS	Distinguish between life forms as single or multi-celled organisms and belonging to one of five kingdoms: Plantae, Animalia, Monera, Protista, Fungi	•	•	•	•	•	•	•

ENGAGING SCIENCE • BC K-7 SCIENCE

Vancouver Aquarium – Coastal Creatures

PSS = Processes of Science
 LS = Life Science

SS = Slowest Plankton Wins
 WM = What a Mouthful
 HW = Hear Like a Killer Whale
 HU = Hunt Like a Killer Whale
 BW = Just How Big is That Whale?
 BP = Build a Plankton Net
 BB = Beach Buddies

LEARNING OUTCOMES		SS	WM	HW	HU	BW	BP	BB
Grade 7								
PSS	Create models that help to explain scientific concepts and hypotheses	•	•	•		•	•	
LS	Analyse the roles of organisms as part of interconnected food webs, populations, communities, and ecosystems	•	•	•				•
LS	Assess survival needs and interactions between organisms and the environment	•	•	•	•			
LS	Assess the requirements for sustaining healthy local ecosystems							•
LS	Evaluate human impacts on local ecosystems							•

ENGAGING SCIENCE • BC K–7 MATH

Vancouver Aquarium – Coastal Creatures

NC = Number Concepts
 NO = Number Operations
 SP = Statistics and Probability (Data Analysis)
 SPc = Statistics and Probability (Chance and Uncertainty)
 SS = Shape and Space (3D Objects and 2D Shapes)
 SSt = Shape and Space (Transformations)
 SSm = Shape and Space (Measurement)

SS = Slowest Plankton Wins
 WM = What a Mouthful
 HW = Hear Like a Killer Whale
 HU = Hunt Like a Killer Whale
 BW = Just How Big is That Whale?
 BP = Build a Plankton Net
 BB = Beach Buddies

LEARNING OUTCOMES		SS	WM	HW	HU	BW	BP	BB
Grades K–1								
NC	Explore, represent and describe numbers up to 50 in a variety of ways	•	•			•		
SSm	Classify, describe and arrange objects using comparative language to compare length, size, area, weight and volume	•	•			•		
SSm	Select an appropriate non-standard unit to estimate, measure, record, compare, order objects and containers		•					
SP	Collect first-hand information by counting objects, conducting surveys, measuring and performing simple experiments	•	•	•	•	•		
Grades 2–3								
SSm	Estimate, measure, record, compare and order objects and containers using non-standard and standard units	•	•			•		
SSm	Make connections among manipulatives, diagrams, spoken terms and written symbols	•	•					
SS	Compare, contrast, sort and classify two-dimensional shapes and three-dimensional objects using two or more attributes	•	•					
SP	Use a variety of methods to collect and record data, including measuring devices, printed resources and tallies	•	•			•		
SP	Sort and organize data by one or more attributes and by using graphic organizers such as lists and charts		•					
SSm	Estimate, measure, record, compare and order objects and containers using non-standard and standard units	•	•			•		
SSm	Make connections among manipulatives, diagrams, spoken terms and written symbols	•	•					
Grade 4								
SSm	Estimate, measure, record, compare and order objects by length, height, perimeter and circumference using standard units (mm, cm, m, km)					•		
SSt	Place an object on a grid using columns and rows		•					
SP	Construct a bar graph and a pictograph using many to one correspondence and justify the choice of intervals and correspondence used		•					
SSm	Estimate, measure, record, compare and order objects by length, height, perimeter and circumference using standard units (mm, cm, m, km)					•		
SSt	Place an object on a grid using columns and rows		•					

ENGAGING SCIENCE • BC K–7 MATH

Vancouver Aquarium – Coastal Creatures

NC = Number Concepts

NO = Number Operations

SP = Statistics and Probability (Data Analysis)

SPc = Statistics and Probability (Chance and Uncertainty)

SS = Shape and Space (3D Objects and 2D Shapes)

SSt = Shape and Space (Transformations)

SSm = Shape and Space (Measurement)

SS = Slowest Plankton Wins

WM = What a Mouthful

HW = Hear Like a Killer Whale

HU = Hunt Like a Killer Whale

BW = Just How Big is That Whale?

BP = Build a Plankton Net

BB = Beach Buddies

LEARNING OUTCOMES		SS	WM	HW	HU	BW	BP	BB
Grade 5								
SSm	Recognize and explain the meaning of length, width, height, depth, thickness, perimeter and circumference	•				•		
SP	Identify a question to generate appropriate data and predict results	•	•			•		
SP	Use a variety of methods to collect and record data	•	•	•	•	•		
Grade 6								
SP	Display data by hand or by computer in a variety of ways including histograms, double bar graphs and stem and leaf plots		•			•		
Grade 7								
NO	Explain and demonstrate the use of proportion in solving problems	•	•					
SP	Display data by hand or by computer in a variety of ways, including circle graphs		•			•		

ENGAGING SCIENCE • BC K–7 LANGUAGE ARTS

Vancouver Aquarium – Coastal Creatures

CR = Comprehend and Respond (Comprehension)

CIlc = Communicate Ideas and Information (Composing and Creating)

CIlp = Communicate Ideas and Information (Presenting and Valuing)

SSw = Self and Society (Working Together)

SS = Slowest Plankton Wins

WM = What a Mouthful

HW = Hear Like a Killer Whale

HU = Hunt Like a Killer Whale

BW = Just How Big is That Whale?

BP = Build a Plankton Net

BB = Beach Buddies

LEARNING OUTCOMES		SS	WM	HW	HU	BW	BP	BB
Grades K–1								
CR	Demonstrate abilities to follow simple oral instructions	•	•	•	•	•	•	•
CIlc	Demonstrate a willingness to present relevant ideas in discussions	•	•	•	•	•		
CIlc	Identify connections between ideas and information and their own experiences	•	•	•	•	•		
SSw	Interact with others	•	•	•	•	•	•	•
CR	Demonstrate abilities to follow simple oral instructions	•	•	•	•	•	•	•
Grades 2–3								
CR	Identify specific details in communications in response to tasks or questions	•	•	•	•	•	•	•
CIlc	Contribute relevant ideas to discussions	•	•	•		•		
CIlp	Demonstrate a willingness to participate in a variety of shared activities that include reading and listening to stories and poems, dramatic play, and presenting their own work	•	•	•	•	•	•	•
SSw	Seek opinions and consider the responses of others	•	•	•	•	•	•	•
CR	Identify specific details in communications in response to tasks or questions	•	•	•	•	•	•	•
Grade 4								
CR	Organize information or ideas they have read, heard, or viewed in the form of simple charts, webs, or illustrations	•	•			•		
CIlp	Create and present a variety of personal communications, including written and oral poems, stories, explanations, informal oral reports and dramas, personal letters, and illustrated charts or posters	•	•	•	•	•		•
Grade 5								
CR	Use a variety of written and graphic forms, including charts, webs, and maps, to organize details and information		•			•		
CR	Describe information contained in simple and direct illustrations, maps, charts, or other graphic representations	•	•	•	•	•	•	•
CIlp	Create a variety of personal and informational communications, including written and oral stories, poems, or lyrics; explanations and descriptions; informal oral reports and dramatics; and brief factual reports	•	•	•	•	•	•	•

ENGAGING SCIENCE • BC K–7 LANGUAGE ARTS

Vancouver Aquarium – Coastal Creatures

CR = Comprehend and Respond (Comprehension)

CIlc = Communicate Ideas and Information (Composing and Creating)

CIlp = Communicate Ideas and Information (Presenting and Valuing)

SSw = Self and Society (Working Together)

SS = Slowest Plankton Wins

WM = What a Mouthful

HW = Hear Like a Killer Whale

HU = Hunt Like a Killer Whale

BW = Just How Big is That Whale?

BP = Build a Plankton Net

BB = Beach Buddies

LEARNING OUTCOMES		SS	WM	HW	HU	BW	BP	BB
Grade 6								
CR	Use information they have read, heard, or viewed to develop questions and activities that will extend their understanding	•	•	•	•	•	•	•
CR	Organize details and information they have read, heard, or viewed using a variety of written and graphic forms, including charts, webs, and maps	•	•	•		•		
CR	Describe information provided in simple and direct illustrations, maps, charts, or other graphic representations	•	•	•		•		
Grade 7								
CR	Interpret details in simple and direct illustrations, maps, charts, and other graphic representations	•	•	•		•	•	
CIlp	Create a variety of personal and informational communications, including fiction and non-fiction; written summaries, instructions and reports; oral and visual presentations; oral and written opinions; poems; or lyrics	•	•	•		•	•	