

ENGAGING SCIENCE • BC K–7 SCIENCE

Vancouver Aquarium – Not-So-Scary Science

Not-so Scary Science 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
PS = Physical Science

HK = Finding That Hidden Key
TT = How Tall is That Tree
PS = Plot Study
CC = Critter Corner
FW = Food Web

LEARNING OUTCOMES		HK	TT	PS	CC	FW
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 how animals are important in the lives of Aboriginal peoples in BC					
LS	Describe ways in which animals are important to other living things and the environment			●	●	●

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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		•			•
LS	Describe how plants are harvested and used throughout the seasons					
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	Demonstrate awareness of the Aboriginal concept of respect for the environment					
LS	Determine how personal choices and actions have environmental consequences			•		•
Grade 5						
PSS	Identify variables that can be changed in an experiment				•	
PSS	Evaluate the fairness of a given experiment				•	
PSS	Describe the steps in designing an experiment				•	
LS	Describe the basic structure and functions of the human respiratory, digestive, circulatory, skeletal, muscular, and nervous systems					
LS	Explain how the different body systems are interconnected					
Grade 6						
PSS	Manipulate and control a number of variables in an experiment				•	
PSS	Apply solutions to a technical problem					
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	•		•	•	•

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Grade 7						
PSS	Test a hypothesis by planning and conducting an experiment that controls for two or more variables				•	
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 – Not-So-Scary Science

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

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LEARNING OUTCOMES		HK	TT	PS	CC	FW
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		•			
SS	Explore, identify and classify 3D objects in the environment according to their properties	•	•	•	•	•
SS	Identify and describe specific two-dimensional shapes such as circles, squares, triangles or rectangles		•			
SSt	Identify and fit pieces of puzzles or shapes that go together (part to whole relationships)	•				
SP	Collect first-hand information by counting objects, conducting surveys, measuring and performing simple experiments	•	•	•	•	•
SP	Sort objects to one attribute chosen by themselves or the teacher	•				
SP	Construct a pictograph using one-to-one correspondence	•		•		•
Grades 2–3						
NO	Demonstrate and describe the processes of addition and subtraction of whole numbers up to 1000 with and without regrouping, using manipulatives, diagrams and symbols		•			
NO	Verify their solutions to problems by using inverse operations, estimation and calculators		•			
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	•	•	•	•	•

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Grade 4						
NO	Demonstrate and describe the processes of addition and subtraction of numbers up to 10 000, using manipulatives, diagrams and symbols		•			
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	Select an appropriate sample or population and organize the collection of data	•	•	•	•	•
SP	Construct a bar graph and a pictograph using many to one correspondence and justify the choice of intervals and correspondence used	•				•
Grade 5						
SSm	Recognize and explain the meaning of length, width, height, depth, thickness, perimeter and circumference		•			
SSm	Evaluate which units of measure would be most appropriate when selecting different measuring tools		•			
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	•	•	•		
SP	Read and interpret graphs that are provided		•			
Grade 7						
NO	Explain and demonstrate the use of proportion in solving problems	•	•			
SS	Perform calculations with angle measures		•			
SP	Display data by hand or by computer in a variety of ways, including circle graphs	•	•	•		•
SP	Read and interpret graphs that are provided	•	•	•		•

ENGAGING SCIENCE • BC K–7 LANGUAGE ARTS

Vancouver Aquarium – Not-So-Scary Science

CR = Comprehend and Respond (Comprehension)

CRs = Comprehend and Respond (Strategies and Skills)

CIlc = Communicate Ideas and Information (Composing and Creating)

CIli = Communicate Ideas and Information (Improving Communications)

CIlp = Communicate Ideas and Information (Presenting and Valuing)

SSw = Self and Society (Working Together)

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LEARNING OUTCOMES		HK	TT	PS	CC	FW
Grades K–1						
CR	Demonstrate abilities to follow simple oral instructions	•		•	•	•
CR	Identify familiar words and images in charts, lists, signs, informational texts, and storybooks	•		•	•	•
CR	Create simple charts, webs, or illustrations as a way of organizing information	•		•	•	•
CIlc	Identify connections between ideas and information and their own experiences	•			•	•
CIli	Sort information, including ideas, details, and events obtained from a variety of sources	•		•	•	•
CIlp	Demonstrate a willingness to participate in a variety of sharing activities that include the use of pictures, charts, storytelling, songs, lists, menus, and storybooks	•		•	•	•
Grades 2–3						
CRs	Use an expanding range of strategies - including pictorial, graphic, structural, and phonics clues - to derive meaning			•	•	•
CRs	Ask and respond to questions before, during and after reading, viewing or listening			•	•	•
CC	Use various strategies for generating questions	•	•	•	•	•
CC	Sort, organize, and represent specific information	•	•	•	•	•
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	•	•	•	•	•
CIlp	Create a variety of personal communications, including charts, journals, lists, illustrations and stories	•	•	•	•	•
Grade 4						
CR	Organize information or ideas they have read, heard, or viewed in the form of simple charts, webs, or illustrations	•	•	•	•	•
CR	Identify the main information given in illustrations, maps, or charts	•	•	•	•	•
CIlc	Manage and organize information by grouping and sorting it into charts, webs, subtopics, or logical sequences	•	•	•	•	•
SSw	Assume a variety of assigned roles when communicating in groups	•	•	•	•	

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Grade 5						
CR	Use a variety of written and graphic forms, including charts, webs, and maps, to organize details and information	•	•	•	•	•
CR	Locate and interpret details to answer specific questions or to complete tasks	•	•	•	•	•
CR	Describe information contained in simple and direct illustrations, maps, charts, or other graphic representations	•	•	•	•	•
SSw	Assume a variety of roles when interacting in groups	•	•	•	•	
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	Locate and interpret details to answer specific questions or complete tasks	•	•	•	•	•
C	Describe information provided in simple and direct illustrations, maps, charts, or other graphic representations	•	•	•	•	•
SSw	Demonstrate a willingness to assume a variety of roles in group interactions	•	•	•	•	
Grade 7						
CR	Use information they have read, heard, or viewed in a variety of written or graphic forms, including written notes and charts	•	•	•	•	•
CR	Locate and interpret details in print and non-print media to gather information and build understanding	•	•	•	•	•
CR	Interpret details in simple and direct illustrations, maps, charts, and other graphic representations	•	•	•	•	•
SSw	Share responsibility for the effective functioning of groups	•	•	•	•	