

BC Science Curriculum 2016

K-3 Life Sciences (Biology)

Kindergarten	Grade 1	Grade 2	Grade 3
<p>Big Idea: Plants and animals have observable features.</p> <ul style="list-style-type: none"> • <i>How do the different features of plants and animals help them meet their basic needs?</i> • <i>What basic needs do plants and animals have in common?</i> • <i>What are your basic needs?</i> 	<p>Big Idea: Living things have features and behaviours that help them survive in their environment.</p> <ul style="list-style-type: none"> • <i>How do local plants and animals depend on their environment?</i> • <i>How do plants and animals use their features to respond to stimuli in their environments?</i> • <i>How do plants and animals adapt when their basic needs are not being met?</i> 	<p>Big Idea: Living things have life cycles adapted to their environment.</p> <ul style="list-style-type: none"> • <i>Why are life cycles important?</i> • <i>How are the life cycles of local plants and animals similar and different?</i> • <i>How do offspring compare to their parents?</i> 	<p>Big Idea: Living things are diverse, can be grouped, and interact in their ecosystems.</p> <ul style="list-style-type: none"> • <i>What is biodiversity?</i> • <i>Why is biodiversity important in an ecosystem?</i> • <i>Interconnectedness means that all things are related to and interact with each other in the environment. How does local First Peoples knowledge of living things demonstrate interconnectedness?</i>
<p>Curricular Content:</p> <ul style="list-style-type: none"> • basic needs of plants and animals <i>include habitat — food, water, shelter, and space</i> • adaptations of local plants and animals <i>may include structural features or behaviours that allow organisms to survive</i> • local First Peoples uses of plants and animals <i>First Peoples practice and knowledge of plant and animal use (e.g., local berries or food, plants and animals, conservation</i> 	<p>Curricular Content:</p> <ul style="list-style-type: none"> • classification of living and non-living things <i>Is it living or non-living? Is it a plant, animal or something else?</i> differences between conventional scientific and indigenous ways of classifying • names of local plants and animals <i>e.g., common, indigenous and scientific</i> • structural features of living things in the local environment 	<p>Curricular Content:</p> <ul style="list-style-type: none"> • metamorphic and non-metamorphic life cycles of different organisms <i>metamorphic life cycles: body structure changes (e.g., caterpillar to butterfly, mealworm transformation, tadpoles to frog)</i> <i>non-metamorphic life cycles: organism keeps same body structure through life but size changes (e.g., humans)</i> • similarities and differences between offspring and parent <i>a kitten looks like cat and a puppy looks like dog but they do change as they grow; salmon change a great deal as they grow</i> 	<p>Curricular Content:</p> <ul style="list-style-type: none"> • biodiversity: <ul style="list-style-type: none"> – biodiversity: the variety of different types of living things in an ecosystem – characteristics of local plants, animals and fungi • the knowledge of local First Peoples: the interconnection between living and non-living things in the local environment; our shared responsibility to care for the local environment (i.e., stewardship); information shared from the local First

<p><i>of resources)</i></p> <p>Features:</p> <ul style="list-style-type: none"> • plants: features may include roots, stems, leaves, flowers, seeds • animals: features may include shape, size, feet, teeth, body covering, eyes, ears 	<p><i>How do stems, roots, leaves, skeleton or no skeleton or exoskeleton, lots of legs, few legs, eyes, etc. help us understand organisms?</i></p> <ul style="list-style-type: none"> • behavioural adaptations of animals in the local environment <i>dormancy, hibernation, nesting, migration, catching food, camouflage (stick bugs), mimicry (fly that looks like bee), territorialism (squirrels fighting), etc</i> 	<p><i>and need fresh and salt water environments to survive</i></p> <ul style="list-style-type: none"> • First Peoples use of their knowledge of life cycles <i>stewardship: sustainably gathering plants and hunting/fishing in response to seasons and animal migration patterns (e.g., clam gardens, seasonal rounds, etc.); sustainable fish hatchery programs run by local First Peoples</i> 	<p>Peoples community and Elders</p> <ul style="list-style-type: none"> • ecosystems: <ul style="list-style-type: none"> – population: all the members of the same type of living thing (species) in an area – communities: different populations in an area living together
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Note: Elaborations are italicized. Elaborations are not part of the learning standards and are intended to guide instruction and are not required content.

K-3 Science Curricular Competencies:

Questioning and predicting

- Demonstrate curiosity and a sense of wonder about the world
- Observe objects and events in familiar contexts
- Ask questions about familiar objects and events (that can then be investigated)
- Make simple predictions about familiar objects and events

Planning and conducting

- Make and record observations
- Safely manipulate materials to test ideas and predictions
- Make and record simple measurements using informal or non-standard methods

Processing and analyzing data and information

- Experience and interpret the local environment
- Recognize First Peoples stories (including oral and written narratives), songs, and art, as ways to share knowledge
- Sort and classify data and information using drawings, pictographs and provided tables
- Compare observations with predictions through discussion
- Identify simple patterns and connections

Evaluating

- Compare observations with those of others

- Consider some environmental consequences of their actions

Applying and innovating

- Take part in caring for self, family, classroom and school through personal approaches
- Transfer and apply learning to new situations
- Generate and introduce new or refined ideas when problem solving

Communicating

- Communicate observations and ideas using oral or written language, drawing, or role-play
- Express and reflect on personal experiences of **place**

compiled by jnovakowski/sept2016