**PLOS Science Processes**

**Kindergarten**

use the ﬁve senses to make observations

share with others information obtained by observing

**Grade 1**

communicate their observations, experiences, and thinking in a variety of ways (e.g., verbally, pictorially, graphically)

classify objects, events, and organisms

**Grade 2**

use their senses to interpret observations

infer the probable outcome of an event or behaviour based on observations

**Grade 3**

ask questions that foster investigations and explorations relevant to the content

measure objects and events

**Grade 4**

make predictions, supported by reasons and relevant to the content

use data from investigations to recognize patterns and relationships and reach conclusions

**Grade 5**

identify variables that can be changed in an experiment

evaluate the fairness of a given experiment

describe the steps in designing an experiment

**Grade 6**

manipulate and control a number of variables in an experiment

apply solutions to a technical problem (e.g., malfunctioning electrical circuit)

**Grade 7**

test a hypothesis by planning and conducting an experiment that controls for two or more variables

create models that help to explain scientiﬁc concepts and hypotheses

**Grades 8, 9 & 10**

use models to explain how systems operate (Grade 8 only)

demonstrate safe procedures

perform experiments using the scientific method

represent and interpret information in graphic form

demonstrate scientific literacy

demonstrate ethical, responsible, cooperative behaviour

describe the relationship between scientific principles and technology

demonstrate competence in the use of technologies specific to investigative procedures and research

**Biology 11**

demonstrate safe and correct technique for a variety of laboratory procedures

design an experiment using the scientific method

interpret data from a variety of text and visual sources

**PLOS Life Science**

**Kindergarten**

describe features of local plants and animals (e.g., colour, shape, size, texture)

compare local plants

compare common animals

**Grade 1**

classify living and non-living things

describe the basic needs of local plants and animals (e.g., food, water, light)

describe how the basic needs of plants and animals are met in their environment

**Grade 2**

classify familiar animals according to similarities and differences in appearance, behaviour, and life cycles

describe some changes that affect animals (e.g., hibernation, migration, decline in population)

describe how animals are important in the lives Aboriginal peoples in BC

describe ways in which animals are important to other living things and the environment

**Grade 3**

compare familiar plants according to similarities and differences in appearance and life cycles

describe ways in which plants are important to other living things and the environment

describe how plants are harvested and used throughout the seasons

**Grade 4**

compare the structures and behaviours of local animals and plants in different habitats and communities

analyse simple food chains

demonstrate awareness of the Aboriginal concept of respect for the environment

determine how personal choices and actions have environmental consequences

**Grade 5**

describe the basic structure and functions of the human respiratory, digestive, circulatory, skeletal,

muscular, and nervous systems

explain how the different body systems are interconnected

**Grade 6**

demonstrate the appropriate use of tools to examine living things that cannot be seen with the naked eye

analyse how different organisms adapt to their environments

distinguish between life forms as single or multi-celled organisms and belonging to one of five kingdoms:

Plantae, Animalia, Monera, Protista, Fungi

**Grade 7**

analyse the roles of organisms as part of interconnected food webs, populations, communities, and

ecosystems

assess survival needs and interactions between organisms and the environment

assess the requirements for sustaining healthy local ecosystems

evaluate human impacts on local ecosystems

**Grade 8**

demonstrate knowledge of the characteristics of living things

relate the main features and properties of cells to their functions

explain the relationship between cells, tissues, organs, and organ systems

explain the functioning of the immune system, and the roles of the primary, secondary, and tertiary defence systems

identify various factors that affect productivity and species distribution in aquatic environments (e.g., temperature, nutrients in the water, turbidity, currents, sunlight, salinity, pollutants, water depth, resource extraction, dams)

**Grade 9**

explain the process of cell division

 relate the processes of cell division and emerging reproductive technologies to embryonic development

compare sexual and asexual reproduction in terms of advantages and disadvantages

**Grade 10**

explain the interaction of abiotic and biotic factors within an ecosystem

assess the potential of bioaccumulation

explain various ways in which natural populations are altered or kept in equilibrium

**Biology 11**

analyse the functional inter-relationships of organisms within an ecosystem