## BC on the World Stage...

### REPORT CARD

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<th>Education and Skills</th>
<th>Rank</th>
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Source: The Conference Board of Canada.
First Peoples Principles of Learning

LEARNING:

- Ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors.
- Is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).
- Involves recognizing the consequences of one’s actions.
- Involves generational roles and responsibilities.
- Recognizes the role of indigenous knowledge.
- Is embedded in memory, history, and story.
- Involves patience and time.
- Requires exploration of one’s identity.
- Involves recognizing that some knowledge is sacred and only shared with permission and/or in certain situations.
The Educated Citizen

• thoughtful, able to learn and to think critically, and who can communicate information from a broad knowledge base;
• creative, flexible, self-motivated and who have a positive self image;
• capable of making independent decisions;
• skilled and who can contribute to society generally, including the world of work;
• productive, who gain satisfaction through achievement and who strive for physical well-being;
• cooperative, principled and respectful of others regardless of differences;
• aware of the rights and prepared to exercise the responsibilities of an individual within the family, the community, Canada, and the world.
We Used to think

But now we know

School is about:

Consuming

Knowing

Teaching

Answers

Keeping kids in

Producing

Understanding

Learning

Questions

Letting kids out
3 Pillars That Support The Development Of The BC Educated Citizen

1. Literacy and Numeracy Foundations
   - grade level expectations for required skills in reading; writing; and numeracy
   - expressed in the Reading, Numeracy, and SR Performance Standards

2. Understanding and Applying of Rich Content
   - prescribed learning standards for concepts and content in curriculum
   - expressed in the curriculum

3. Core Competencies
   - broad areas of development: thinking; communication; personal and social
   - expressed in competency profiles
There is a great difference between knowing a thing and understanding it.

Charles Kettering
Transforming Curriculum & Assessment

Social Studies

Core Competencies in Social Studies

- Thinking
- Communication
- Personal & Social

Big Ideas
- Social, economic, and political power shift over time.
- The nature of European expansion into North America was influenced by a variety of geographic factors.
- Economic interdependence can lead to co-operation, competition, and conflict between societies.
- Cultures change as they become integrated into a larger society.

Learning Standards

Curricular Competencies

Students will develop competencies needed to be active, informed citizens.

- Use Social Studies inquiry processes (ask questions, gather, interpret and analyze ideas, and communicate findings and decisions)
- Construct an argument defending the significance of individuals/groups, places, events, and/or developments (significance)
- Ask questions and corroborate inferences about the context and origins of different sources (evidence)
- Determine continuities, changes, patterns, and trends between different time periods, places, and phenomena (continuity and change)
- Determine multiple causes and consequences of an event, decision, or development (cause and consequence)
- Explain different perspectives on past or present people, places, issues, and events (perspective)
- Evaluate whether an event, decision, or action was fair from a particular perspective (ethical judgment)

Concepts and Content

Students will know and understand concepts and content related to Contact Between European and Aboriginal Communities:

- Early contact, trade, and conflict between Aboriginal and European societies
- The fur trade in pre-Confederation Canada and British Columbia
- Demographic changes in pre-Confederation British Columbia in both Aboriginal and non-Aboriginal communities
- Economic and political factors that influenced the colonization of British Columbia, including the BC gold rushes
- The impact of colonization on Aboriginal societies
- The history of their local community, and connections between their community and significant events, people, and developments

FLEXIBLE LEARNING ENVIRONMENTS
INSTRUCTIONAL EXAMPLES
STUDENT SUPPORTS
ABORIGINAL EDUCATION

BCEdPlan.ca
Science

Core Competencies
- Communication
- Thinking
- Personal & Social

Big Ideas
1. Humans live in constant interaction with microorganisms.
2. An element's properties are related to the arrangement and energy of its electrons and to its atomic size.
3. The interaction of electrons allows atoms of different elements to form compounds.
4. The four fundamental forces govern the interactions of matter.
5. Quantum theory is based on electromagnetic radiation behaving like both a particle and a wave.
6. Earth is composed of four interacting spheres through which matter cycles.

Learning Standards
Curricular Competencies
- Students will be able to inquire by questioning and predicting
  - Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest

Concepts and Content
- Students will know and understand the following concepts and content:
  - the impact of microorganisms in their body
  - viruses and bacteria
Learning Standards

Curricular Competencies

Students will be able to inquire by

Questioning and predicting
- Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest
- Make observations aimed at identifying their own questions, including increasingly abstract ones, about the natural world
- Formulate multiple hypotheses and predict multiple outcomes

Planning and conducting
- Collaboratively and individually plan, select, and use appropriate investigation methods, including field work and lab experiments, to collect reliable data
- Assess risks and address ethical issues associated with their proposed methods
- Select and use appropriate equipment, including digital technologies, to systematically and accurately collect and record data

Processing and analyzing data and information
- Seek and analyze patterns, trends, and connections in data, including describing relationships between variables and identifying inconsistencies
- Use knowledge of scientific concepts to draw conclusions that are consistent with evidence

Evaluating
- Evaluate their methods and experimental conditions, including identifying sources of error or uncertainty, confounding variables, and possible alternative explanations and conclusions
- Describe specific ways to improve their investigation methods and the quality of the data
- Evaluate the validity of and limitations of a model or analogy in relation to the phenomenon modelled
- Demonstrate an awareness of assumptions, question information given, and identify bias in their own work and secondary sources
- Exercise a healthy, informed skepticism and use scientific knowledge and findings to form their own investigations to evaluate claims in secondary sources
- Consider social, ethical, and environmental implications of the findings from their own and others’ investigations
- Critically analyze the validity of information in secondary sources and evaluate the approaches used to solve problems

Communicating
- Formulate physical or mental theoretical models to describe a phenomenon
- Communicate scientific ideas, information, and perhaps a suggested course of action, for a specific purpose and audience constructing evidence-based arguments and using appropriate scientific language, conventions, and representations

Concepts and Content

Students will know and understand the following concepts and content
- the impact of micro-organisms in their body
  - viruses and bacteria
  - microbiomes
  - basic functions of the immune system
  - vaccination
  - antibiotics
- element properties as organized in the periodic table
- the fundamental forces
  - gravitation
  - electromagnetism
  - weak nuclear force
  - strong nuclear force
- the electromagnetic spectrum
  - types of radiation
  - wave-particle duality of photons
  - energy transmission (quanta)
- the carbon cycle
- forms of carbon
- the nitrogen cycle
- hazardous chemicals
- the interactions between the lithosphere, atmosphere, biosphere, and hydrosphere
Curriculum & Competencies
Assessment & Reporting

Jennifer McCrea
A/ASSISTANT DEPUTY MINISTER
Learning Division
Guiding Principles

- Personalizing learning – tapping into student interests to help them learn
- Core competencies balanced with a solid foundation of skills (reading, writing and math)
- Applying what students have learned to real-life situations
- Gaining the skills to enter post-secondary and the workforce
- Strengthening the ability to compete in a global economy
K-9 Curriculum: Ready for use

Arts
English Language Arts
Français Langue Première
Français Langue Seconde Immersion
Math
Physical and Health Education
Science
Social Studies

First drafts
Applied Design, Skills, & Technology
Career Education
Core French
Curriculum

**K-9:**
- Sept. 2015: Curriculum available for use
- Sept. 2016: Full implementation

**10-12:**
- Sept. 2015: First drafts available (core and options)
- Jan. 2016: Curriculum teams back in for revisions
- Sept. 2016: Curriculum available for use
- Sept. 2017: Full implementation
Curriculum – Core Competencies

- All core competencies are posted now
- Created on a continuum (not by grade level)
Provincial Assessment – K-9 (New FSA)

Oct. 2015
Build new provincial assessment

Sept. 2015
Description and sample available

Proposed system-wide field test

Jan. – Aug. 2015
Working group operationalizing AGPA report

2017

IMPLEMENTATION
Provincial Assessment – Grades 10-12

Sept. 2015
AGPA 2 report due to the Minister

Create new secondary provincial assessments

2016/17
Field testing and refinement
  - Interim work: Science 10 assessment (June 2016)

2017/18
Implementation
Report Cards

2015 / 16
Develop new K-9 reporting guidelines

2016/17
Implement new K-9 reporting order
Develop new 10-12 reporting guidelines

2017 / 18
Implement new 10-12 reporting order
<table>
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- **Current**
- **Development**
- **Implemented**
Aligning our work

Moving forward

• Stay student-focused
• Use the new curriculum
• Communicate changes
• Create collaborative environments
Better is not enough
Some questions to rhetorically ponder today:

1. Is the BC Ed Plan an opportunity to collaborate better in a school, between schools and between school districts?

2. How are teachers & administrators in your schools ‘really’ collaborating to achieve the mission?

3. How are teachers & administrators between schools & school districts ‘really’ working together?
What Can You ("the School Districts") Do Today?

1. Do you have a leadership model, that is open to all?

2. Is your leadership model akin to your collaborating model?

3. What collaboration technologies are being used, and what more can be implemented to support openness?
What Can You ("the School Districts") Do Today?

1. Do you have a leadership model, that is open to all?

2. Is your leadership model akin to your collaborating model?

3. What collaboration technologies are being used, and what more can be implemented to support openness?
ISTP on Innovation

• Changing pedagogical approaches
• Regrouping teachers
• Regrouping learners
• Rescheduling learning
Learning Fractal

• How is the learning?
• How do you know?
• What are you doing about it?

or

• What are you doing differently to get different results?
Social License

• Government as **enabler**, not driver of change

• Change is done **with** people, not to them

• Consultation is **not** enough

• Co-construction both requires and builds **trust**
Culture of Innovation

Ground for new ideas

www.innovationskommunikation.org
Every Learner leaving our schools as curious as when they arrive.

Judy Halbert and Linda Kaser
Thank you.
Learning environments should be:

- **Learner-centred:** highly focused on learning but not as an alternative to the key role for teachers

- **Structured and well-designed:** needs careful design and high professionalism alongside inquiry & autonomous learning

- **Profoundly personalised:** acutely sensitive to individual and group differences and offering tailored feedback

- **Inclusive:** such sensitivity to individual and group differences means they are fundamentally inclusive

- **Social:** learning is effective in group settings, when learners collaborate, and when there is a connection to community.
S-curve: raised goals or different goals?
Science

Core Competencies

Big Ideas

Learning Standards

Student will be able to

Questioning and predicting

Planning and conducting

Processing and analyzing data and information

Evaluating

Concepts and Content

Students will know and understand the following concepts and context

- Cell theory
- Scales and functions
- Physical and natural phenomena
- Matter and energy
- Microscopic and electronic techniques
- Models and simulations
- Forces and motion
- Motion and forces
- Plate tectonics
- Natural disasters
- Science and society

Flexible Learning Environment

Instructional Examples

Student Supports

Aboriginal Education

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Science

Core Competencies

- Communication
- Thinking
- Personal & Social

Big Ideas

1. Cell theory explains the fundamental nature of life.
2. The kinetic molecular theory and the theory of the atom explain the behavior of matter.
3. The wave model can be used to account for the behavior of light.

Learning Standards

Curricular Competencies

- Students will be able to inquire by question and predicting.

Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest.

Concepts and Content

- Students will know and understand the following concepts and content:
  - Cell theory
  - Structure and function
  - Endosymbiotic and eukaryotic cells

Download:
- English
- Français

K123456789
Learning Standards

Curricular Competencies

Students will be able to inquire by

Questioning and predicting

- Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest
- Make observations aimed at identifying their own questions about the natural world
- Identify a question to answer or a problem to solve through scientific inquiry
- Formulate alternative "if... then..." hypotheses based on their questions
- Make predictions about what the findings of their inquiry will be

Planning and conducting

- Collaboratively plan a range of investigation types, including field work and experiments, to answer their questions or solve problems they have identified
- In fair tests, measure and control variables
- Observe, measure, and record data, using equipment, including digital technologies, with accuracy appropriate to the task
- Ensure that safety and ethical guidelines are followed in their investigations

Processing and analyzing data and information

- Construct and use a range of methods to represent patterns or relationships in data, including tables, graphs, key, scale models, and digital technologies as appropriate
- Seek patterns and connections in data from their own investigations and secondary sources
- Use scientific understandings to identify relationships and draw conclusions

Evaluating

- Reflect on their investigation methods, including the adequacy of controls on variables and the quality of the data collected
- Identify possible sources of error and suggest improvements to their investigation methods
- Demonstrate an awareness of assumptions and identify given information and bias in their own work and secondary sources
- Demonstrate an understanding and appreciation of evidence
- Exercise a healthy, informed skepticism and use scientific knowledge and findings to form their own investigations to evaluate claims in secondary sources
- Consider social, ethical, and environmental implications of the findings from their own and others’ investigations

Communicating

- Communicate ideas, findings, and solutions to problems using scientific language, representations, and digital technologies as appropriate

Concepts and Content

Students will know and understand the following concepts and content

- cell theory
  - structure and function
  - prokaryotic and eukaryotic cells
- sexual and asexual reproduction
- kinetic molecular theory
- atomic theory
  - protons, neutrons, and quarks
  - electrons and leptons
  - models
- wave model
  - key properties
  - wave behavior
- optics
  - the visible light spectrum
  - the type of images formed by lenses: convex and concave lenses
  - The visible light spectrum and mirrors
- plate tectonic movement
- major geological events of local significance
- Layers of the Earth
Science

Core Competencies

Big Ideas

- Living things have features and behaviors that help them survive.
- Water is useful because of its properties.
- Light and sound can be produced and their properties can be changed.
- Observable patterns and cycles occur in the sky and landscape.

Learning Standards

Curricular Competencies

- Students will be able to inquire by 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.
- Make simple predictions about known 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
- Sort and classify data and information using methods such as drawings or provided tables.
- Compare observations with predictions through discussion.
- Identify simple patterns and connections.

- Evaluating
- Compare observations with others.
- Consider some consequences of their actions on the environment.

- Communicating
- Communicate observations and ideas using oral or written language, drawing, or role play.

Concepts and Content

- Students will know and understand the following concepts and content:
- The classification of living things.
- Structural features of living things in the local environment.
- Behavioural adaptations of animals in their area.
- Specific properties of materials connected to the function of the materials.
- Natural and artificial sources of light and sound.
- Properties of light and sound depend on their source and the objects they interact with.
- Common objects in the sky, such as the Sun and the Moon, and their importance to local Aboriginal culture and other cultures.
- Local patterns of events that occur on the Earth and in the sky.
Science

Core Competencies

- Communication
- Thinking
- Personal & Social

Big Ideas

1. Living things have features and behaviors that help them survive.
2. Matter is useful because of its properties.
3. Light and sound can be produced and their properties can be changed.
4. Observable patterns and cycles occur in the sky and landscape.

Learning Standards

Curricular Competencies

Students will be able to: inquire by

- Questioning and predicting
  - Demonstrate curiosity and a sense of wonder about the world
  - Observe objects and events in familiar contexts

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