

Exploring Curriculum Design:



DEFINING CROSS-CURRICULAR COMPETENCIES & TRANSFORMING CURRICULUM AND ASSESSMENT

**PRESENTATION PREPARED BY J.ROUSSEAU DIRECTOR OF
INSTRUCTION ABBOTSFORD SCHOOL DISTRICT**



Curriculum Transformation



- 1. UPDATE ON CURRICULUM TRANSFORMATION.**
- 2. FAMILIARIZE OURSELVES WITH THE CURRICULUM TRANSFORMATIONS TO DATE.**
- 3. OBTAIN FEEDBACK TO BE PROVIDED TO THE MINISTRY.**

Guiding Principles for Future Curriculum Development (pg. 3)



1. Make curriculum more flexible to enable teachers to innovate and personalize learning.
2. Reduce the prescriptive nature of current curricula with a solid focus on essential learning
3. Focus new curricula on higher order learning: key concepts & enduring understandings (big ideas)
4. Respect unique nature of disciplines, but support development of cross curricular units

Guiding Principles for Future Curriculum Development



5. Integrate Aboriginal worldviews and knowledge.
6. Develop assessments that align with the changed emphasis in curriculum.
7. Make explicit cross curricular competencies that support life-long learning

Proposed Curriculum Design



- **WHAT ARE CROSS-CURRICULAR COMPETENCIES?**
- **LET'S LOOK AT A PROTOTYPE AND HOW IT IS BROKEN DOWN.**
- **OPPORTUNITY FOR DISCUSSION AND FEEDBACK**



Cross-Curricular Competencies

Thinking Competency

- *Critical
- *Creative
- *Reflective

Communication Competency

- *Language and Symbols
- *Digital Literacy

Personal and Social Competency

- *Personal Identity
- *Personal Awareness/Responsibility
- *Social Awareness/Responsibility

Learning Standards

Curricular Competencies

Students will be able to:

- Inquire**
- explore essential understandings (e.g., how to build a self-sustaining ecosystem, how the Earth's processes can be harnessed into alternative energy)
 - make predictions, supported by reasons and relevant to the content (e.g., the effect of overfishing on ocean ecosystems)
- Reason**
- use data from investigations to recognize patterns and relationships and reach conclusions (e.g., orbital electrons and reactivity)
 - identify variables that can be changed in an experiment (e.g., amount, material, temperature)
 - evaluate the fairness of a given experiment
 - describe the steps in designing an experiment
 - test hypotheses by designing and conducting experiments that control for two or more variables (e.g., with solutions and mixtures).
- Apply**
- apply solutions to a technical problem (e.g., water flow and erosion)
 - create models that help to explain scientific concepts and hypotheses (e.g., solids, liquids, gases).

Content

Students will know and understand:

- Living and non-living things interact within an ecosystem
- Habitats provide basic needs for living things
- Activities (e.g., agriculture, forestry, fisheries, development) can alter ecosystems.
- Wind, water and ice effect the surface of the Earth
- Weathering, erosion, and deposition are examples of change over time
- Natural and human processes contribute to the breakdown, transportation and accumulation of materials.
- The properties of matter are observable and measurable (e.g., colour, state, density, melting point)
- Physical and chemical changes affect the properties of matter
- The particle theory can be used to explain the properties of elements, compounds, and mixtures

Enduring Understandings

Ecosystems support all life, including humans

Human activities impact ecosystems

The physical features of the earth's surface are in a constant state of dynamic change

Weathering, erosion and deposition as well as human activities work together to wear down and build up the earth's surface

All matter is made up of particles which interact with each other

Attributes of each particle determine how they combine and interact with each other

Implementation Links

K-12 Science
(Goals and Rationale)

Assessment

Demonstrations of
Learning

Instructional Support
(Inquiries; integration)

Learning Resources

Cross-Curricular Competencies (CCC)



- The focus is on educating the whole child.
- Learning is considered to influence and be influenced in the context in which it occurs.
- Learning in school interacts with student's life.
- The CCC's are interconnected: not distinct entities.

Cross-Curricular Competencies (CCC)



- 3 CCC'S each with sub-domains

1. Thinking Competency:

Represent knowledge, skills and processes in intellectual development.

- Critical thinking
- Creative thinking
- Reflective thinking

2. Personal and Social Competency

The ability to understand and take responsibility for one's actions.

- Positive personal and cultural identity
- Personal awareness and responsibility
- Social awareness and responsibility

Cross-Curricular Competencies (CCC)



3. Communication Competency

Represents the set of abilities that students use to impart and exchange information, experiences, ideas and explore world and use digital media in an effective and ethical way.

- Language and symbols
- Digital literacy

Cross-Curricular Competencies

Thinking Competency

- *Critical
- *Creative
- *Reflective

Communication Competency

- *Language and Symbols
- *Digital Literacy

Personal and Social Competency

- *Personal Identity
- *Personal Awareness/Responsibility
- *Social Awareness/Responsibility

Learning Standards

Curricular Competencies

Students will be able to:

Inquire

- explore essential understandings (e.g., how to build a self-sustaining ecosystem, how the Earth's processes can be harnessed into alternative energy)
- make predictions, supported by reasons and relevant to the content (e.g., the effect of overfishing on ocean ecosystems)

Reason

- use data from investigations to recognize patterns and relationships and reach conclusions (e.g., orbital electrons and reactivity)
- identify variables that can be changed in an experiment (e.g., amount, material, temperature)
- evaluate the fairness of a given experiment
- describe the steps in designing an experiment
- test hypotheses by designing and conducting experiments that control for two or more variables (e.g., with solutions and mixtures).

Apply

- apply solutions to a technical problem (e.g., water flow and erosion)
- create models that help to explain scientific concepts and hypotheses (e.g., solids, liquids, gases).

Content

Students will know and understand:

- Living and non-living things interact within an ecosystem
- Habitats provide basic needs for living things
- Activities (e.g., agriculture, forestry, fisheries, development) can alter ecosystems.
- Wind, water and ice effect the surface of the Earth
- Weathering, erosion, and deposition are examples of change over time
- Natural and human processes contribute to the breakdown, transportation and accumulation of materials.
- The properties of matter are observable and measurable (e.g., colour, state, density, melting point)
- Physical and chemical changes affect the properties of matter
- The particle theory can be used to explain the properties of elements, compounds, and mixtures

Enduring Understandings

Ecosystems support all life, including humans

Human activities impact ecosystems

The physical features of the earth's surface are in a constant state of dynamic change

Weathering, erosion and deposition as well as human activities work together to wear down and build up the earth's surface

All matter is made up of particles which interact with each other

Attributes of each particle determine how they combine and interact with each other

Implementation Links

K-12 Science
(Goals and Rationale)

Assessment

Demonstrations of
Learning

Instructional Support
(Inquiries; integration)

Learning Resources

Curriculum Organizers: Learning Standards



Broken down into 2 categories:

1. Curricular Competencies: (Do)

- Expresses what the students will be able to do.
- Focus on experiential and behavioural learning

2. Content: (Know & Understand)

- Focus is on cognitive learning

Cross-Curricular Competencies

Thinking Competency

- *Critical
- *Creative
- *Reflective

Communication Competency

- *Language and Symbols
- *Digital Literacy

Personal and Social Competency

- *Personal Identity
- *Personal Awareness/Responsibility
- *Social Awareness/Responsibility

Learning Standards

Curricular Competencies

Students will be able to:

Inquire

- explore essential understandings (e.g., how to build a self-sustaining ecosystem, how the Earth's processes can be harnessed into alternative energy)
- make predictions, supported by reasons and relevant to the content (e.g., the effect of overfishing on ocean ecosystems)

Reason

- use data from investigations to recognize patterns and relationships and reach conclusions (e.g., orbital electrons and reactivity)
- identify variables that can be changed in an experiment (e.g., amount, material, temperature)
- evaluate the fairness of a given experiment
- describe the steps in designing an experiment
- test hypotheses by designing and conducting experiments that control for two or more variables (e.g., with solutions and mixtures).

Apply

- apply solutions to a technical problem (e.g., water flow and erosion)
- create models that help to explain scientific concepts and hypotheses (e.g., solids, liquids, gases).

Content

Students will know and understand:

- Living and non-living things interact within an ecosystem
- Habitats provide basic needs for living things
- Activities (e.g., agriculture, forestry, fisheries, development) can alter ecosystems.
- Wind, water and ice effect the surface of the Earth
- Weathering, erosion, and deposition are examples of change over time
- Natural and human processes contribute to the breakdown, transportation and accumulation of materials.
- The properties of matter are observable and measurable (e.g., colour, state, density, melting point)
- Physical and chemical changes affect the properties of matter
- The particle theory can be used to explain the properties of elements, compounds, and mixtures

Enduring Understandings

Ecosystems support all life, including humans

Human activities impact ecosystems

The physical features of the earth's surface are in a constant state of dynamic change

Weathering, erosion and deposition as well as human activities work together to wear down and build up the earth's surface

All matter is made up of particles which interact with each other

Attributes of each particle determine how they combine and interact with each other

Implementation Links

K-12 Science
(Goals and Rationale)

Assessment

Demonstrations of
Learning

Instructional Support
(Inquiries; integration)

Learning Resources

Enduring Understandings



- Identify the Big Ideas (essential learning outcomes)



Proposed Design: Science 7 – DRAFT

Cross-Curricular Competencies

Thinking Competency

- *Critical
- *Creative
- *Reflective

Communication Competency

- *Language and Symbols
- *Digital Literacy

Personal and Social Competency

- *Personal Identity
- *Personal Awareness/Responsibility
- *Social Awareness/Responsibility

Learning Standards

Curricular Competencies

Students will be able to:

Inquire

- explore essential understandings (e.g., how to build a self-sustaining ecosystem, how the Earth's processes can be harnessed into alternative energy)
- make predictions, supported by reasons and relevant to the content (e.g., the effect of overfishing on ocean ecosystems)

Reason

- use data from investigations to recognize patterns and relationships and reach conclusions (e.g., orbital electrons and reactivity)
- identify variables that can be changed in an experiment (e.g., amount, material, temperature)
- evaluate the fairness of a given experiment
- describe the steps in designing an experiment
- test hypotheses by designing and conducting experiments that control for two or more variables (e.g., with solutions and mixtures).

Apply

- apply solutions to a technical problem (e.g., water flow and erosion)
- create models that help to explain scientific concepts and hypotheses (e.g., solids, liquids, gases).

Content

Students will know and understand:

- Living and non-living things interact within an ecosystem
- Habitats provide basic needs for living things
- Activities (e.g., agriculture, forestry, fisheries, development) can alter ecosystems.
- Wind, water and ice effect the surface of the Earth
- Weathering, erosion, and deposition are examples of change over time
- Natural and human processes contribute to the breakdown, transportation and accumulation of materials.
- The properties of matter are observable and measurable (e.g., colour, state, density, melting point)
- Physical and chemical changes affect the properties of matter
- The particle theory can be used to explain the properties of elements, compounds, and mixtures

Enduring Understandings

Ecosystems support all life, including humans

Human activities impact ecosystems

The physical features of the earth's surface are in a constant state of dynamic change

Weathering, erosion and deposition as well as human activities work together to wear down and build up the earth's surface

All matter is made up of particles which interact with each other

Attributes of each particle determine how they combine and interact with each other

Implementation Links

K-12 Science
(Goals and Rationale)

Assessment

Demonstrations of
Learning

Instructional Support
(Inquiries; integration)

Learning Resources

Assessment and Reporting



- Assessment and reporting will need to be more deeply explored in subsequent consultations once the curriculum is more fully developed and grad requirements have been identified.
- Advisory groups on provincial assessment will be formed in the near future.



Next Steps



1. Ministry wishes to obtain feedback on definitions of Cross Curricular Competencies.
2. Email feedback to curriculum@gov.bc.ca
3. Process for co-development of continua for competencies: The ministry will work collaboratively with participating educators and districts to define tasks and provide support and guidance.

Discussion



- Please appoint one person per table to record your groups feedback on the following questions:
 1. To what extent do these prototypes make curriculum more flexible to better enable teachers to innovate and personalize learning?
 2. To what extent do these prototypes focus new curricula on higher order learning.?
 3. To what extent do these prototypes support cross-curricular integration?



4. The use of curriculum organizers is still under discussion. What is your feedback on its current structure?

5. What types of support materials should be included in the implementation links to support teachers in implementing new curricula?

Email your feedback to curriculum@gov.bc.ca