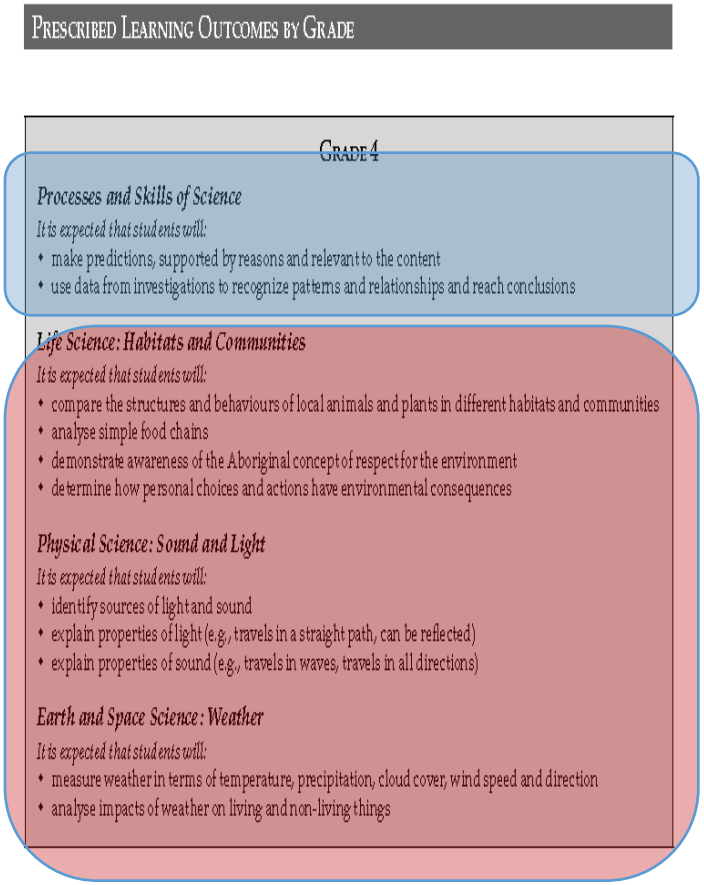
Planning Using the Renewed Curriculum

- **Backwards Design**
  - **Big Idea**
    - What do we need to understand?
  - **Content**
    - What do we need to know?
  - **Curricular Competencies**
    - What do we need to do?

What else is different? The ratios!



PRESCRIBED LEARNING OUTCOMES BY GRADE

GRADE 4

Processes and Skills of Science

It is expected that students will:

- make predictions, supported by reasons and relevant to the content
- use data from investigations to recognize patterns and relationships and reach conclusions

Life Science: Habitats and Communities

It is expected that students will:

- 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

Physical Science: Sound and Light

It is expected that students will:

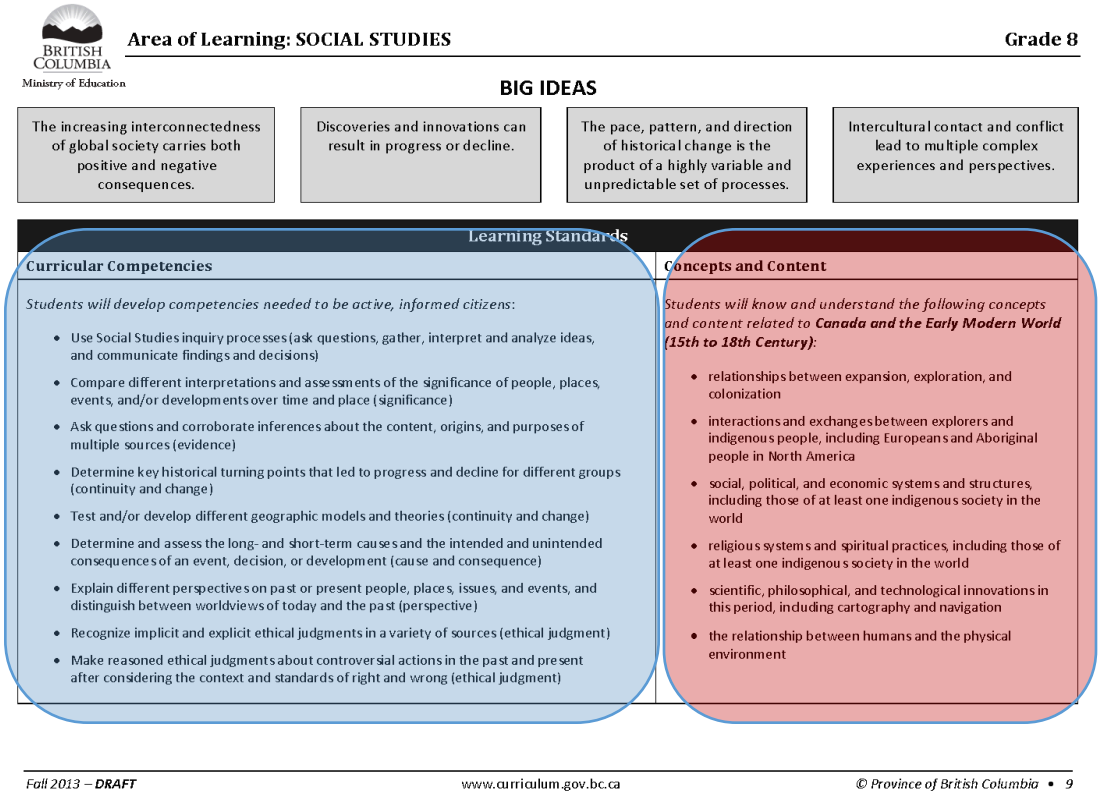
- identify sources of light and sound
- explain properties of light (e.g., travels in a straight path, can be reflected)
- explain properties of sound (e.g., travels in waves, travels in all directions)

Earth and Space Science: Weather

It is expected that students will:

- measure weather in terms of temperature, precipitation, cloud cover, wind speed and direction
- analyse impacts of weather on living and non-living things

The goal ratios have shifted



BRITISH COLUMBIA
Ministry of Education

Area of Learning: SOCIAL STUDIES **Grade 8**

BIG IDEAS

The increasing interconnectedness of global society carries both positive and negative consequences.	Discoveries and innovations can result in progress or decline.	The pace, pattern, and direction of historical change is the product of a highly variable and unpredictable set of processes.	Intercultural contact and conflict lead to multiple complex experiences and perspectives.

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)
- Compare different interpretations and assessments of the significance of people, places, events, and/or developments over time and place (significance)
- Ask questions and corroborate inferences about the content, origins, and purposes of multiple sources (evidence)
- Determine key historical turning points that led to progress and decline for different groups (continuity and change)
- Test and/or develop different geographic models and theories (continuity and change)
- Determine and assess the long- and short-term causes and the intended and unintended consequences of an event, decision, or development (cause and consequence)
- Explain different perspectives on past or present people, places, issues, and events, and distinguish between worldviews of today and the past (perspective)
- Recognize implicit and explicit ethical judgments in a variety of sources (ethical judgment)
- Make reasoned ethical judgments about controversial actions in the past and present after considering the context and standards of right and wrong (ethical judgment)

Concepts and Content

Students will know and understand the following concepts and content related to ***Canada and the Early Modern World (15th to 18th Century)***:

- relationships between expansion, exploration, and colonization
- interactions and exchanges between explorers and indigenous people, including Europeans and Aboriginal people in North America
- social, political, and economic systems and structures, including those of at least one indigenous society in the world
- religious systems and spiritual practices, including those of at least one indigenous society in the world
- scientific, philosophical, and technological innovations in this period, including cartography and navigation
- the relationship between humans and the physical environment

Building a Learning Map!

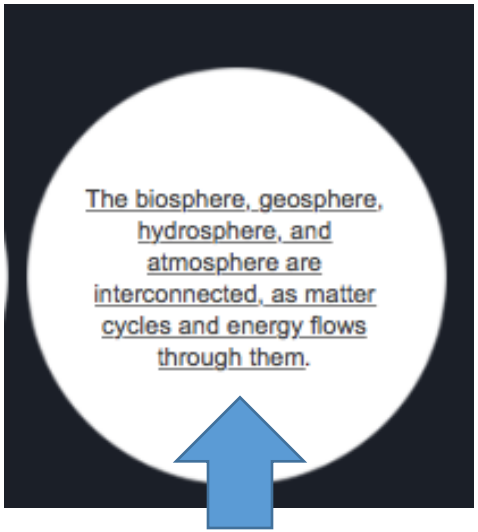
Course/Subject/Grade(s):	**Planning Team:**
Unit Big Idea:	Unit Guiding Question:

Goals	
Content:	
Curricular Competencies	

Science 9

Need to know

- asexual reproduction:
  - mitosis
  - different forms
- sexual reproduction:
  - meiosis
  - human sexual reproduction
- element properties as organized in the periodic table
- The arrangement of electrons determines the compounds formed by elements
- circuits — must be complete for electrons to flow
- voltage, current, and resistance
- effects of solar radiation on the cycling of matter and energy
- matter cycles within biotic and abiotic components of ecosystems
- sustainability of systems
- First Peoples knowledge of interconnectedness and sustainability



Need to understand

Need do

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 complex ones, about the natural world
- Formulate multiple hypotheses and predict multiple outcomes

Course/Subject/Grade(s): Science 9	**Planning Team:**
Unit Big Idea: The biosphere, geosphere and atmosphere are interconnected as matter cycles and energy flow through them	**Unit Guiding Question: Why do we need the sun?**

Goals		
Content: **Effects of Solar Radiation**		
Curricular Competencies: Questioning	**Sustained intellectual curiosity**	
	Make observations	
	Hypothesize	

Building a Learning Map!

Course/Subject/Grade(s):	**Planning Team:**
Unit Big Idea:	Unit Guiding Question:

Goals		Access	All	Most	Few	Extension
Content:						
Curricular Competencies						

Prior knowledge

Grade Level Curriculum

Challenge

Course/Subject/Grade(s): Science 9			Planning Team:		
Unit Big Idea: The biosphere, geosphere and atmosphere are interconnected as matter cycles and energy flow through them			**Unit Guiding Question: Why do we need the sun?**		
Goals	**Access**	**All**	**Most**	**Few**	**Extension**
Content: Effects of Solar Radiation	I know that the sun gives **light** I know why the **Earth** needs light from the **sun**	I know **solar radiation** I know the **different types** of light radiation	I know the **effects** of solar energy on the **cycling** of **matter** and **energy** on the Earth I know the **connection** of solar radiation to the **water cycle**	I know the connection of solar radiation to **wind and ocean currents**	I know how solar radiation is connected to the **distribution** of **energy and nutrients** around the planet
Curricular Competencies: Questioning — **Sustained intellectual curiosity**	I can wonder about about a scientific topic	I can ask questions about a scientific topic	I can ask questions to further my inquiry about a scientific topic	I can sustain my inquiry about a scientific topic over time	I can sustain an inquiry about a scientific topic of my own interest over time
Make observations	I can use my senses to observe and describe	I can make observations to identify questions about a topic	I can observe to find patterns to help explain or support a hypothesis	I can observe & make connections to phenomena in the natural world connected to my inquiry	I can observe ethically in the natural world
Hypothesize	I can come up with possible explanations to my wonderings	I can make an informed hypothesis about a scientific question	I can come up with multiple informed hypothesis about a scientific topic	I can formulate new hypothesis based on new information in an scientific inquiry	I can predict multiple outcomes to my own inquiry

Course/Subject/Grade(s): Science 9			Planning Team:		
Unit Big Idea: Cells are derived from cells			Unit Guiding Question: What are cells and where so they come from?		
Goals	**Access**	**All**	**Most**	**Few**	**Extension**
Content: **asexual reproduction** **Sexual reproduction**	I know what cells are I know identical and non identical	I know mitosis I know the 6 different forms of asexual reproduction I know meiosis I know how humans reproduce	I know the different stages of mitosis/meiosis I know the difference between asexual and sexual reproduction	I know the genetic results of human reproduction	I know what a gene is and its importance
Curricular Competencies: Questioning	**Sustained intellectual curiosity**	I can wonder about about a scientific topic	I can ask questions about a scientific topic	I can ask questions to further my inquiry about a scientific topic	I can sustain my inquiry about a scientific topic over time	I can sustain an inquiry about a scientific topic of my own interest over time
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Unit Mini Lesson Planner

Course/Subject/Grade(s): Science 9		**Planning Team:**	
Unit Big Idea: The biosphere, geosphere and atmosphere are interconnected as matter cycles and energy flow through them		**Unit Guiding Question:** Why do we need the sun?	
Content mini lessons		**Competency mini lessons**	
Unit vocabulary	1	Asking scientific questions	1,2
Solar Radiation & light	4	Continuing question asking as we get more information	4
Different types of light radiation	5	Sustaining an inquiry over time	11
Sun's effect on matter and energy of the Earth	6	How to observe	5
Sun's connection to the water cycle	7	Finding patterns in observations	8
Sun's connection to wind and ocean currents	8	Connecting my question through observation in the world	7
Sun's connection to nutrient and energy distribution	9	Ethical considerations of observing	10
		How to make predications/hypotheses	3
		Making multiple predictions/hypotheses	9
		Making new predictions/ hypotheses	6
		Answering our unit question	12-13

Course/Subject/Grade(s): Science 9	Planning Team:
Unit Big Idea: The biosphere, geosphere and atmosphere are interconnected as matter cycles and energy flow through them	**Unit Guiding Question:** Why do we need the sun?

Lesson Goal 1: I can ask questions about a scientific topic	**Materials/ Prep**
Connect: Introduce unit question Drawing vocab activity: Light, earth, sun, radiation, effect, cycle, matter, energy, wind, ocean currents, water cycle, connection, solar radiation, nutrients, Earth	Word squares, pencils, scissors
Process: Picture set Brain storm questions using vocabulary words and information from the picture set, write questions on sentence strips Organize questions into themes on the wall	Sentence strips, markers
Transform: Choose a theme to investigate further for an inquiry, decide what supports you need to be successful in your inquiry (e.g. individual, partner)	Question planning form

Activity

Access	MUST do…	CAN do…	COULD do…
Match vocab words to images	Choose a question to investigate further	Come up with 3 or more follow up questions to begin an inquiry	Make a possible hypothesis to one of your questions

Course/Subject/Grade(s): Science 9	**Planning Team:**
Unit Big Idea: The biosphere, geosphere and atmosphere are interconnected as matter cycles and energy flow through them	**Unit Guiding Question:** Why do we need the sun?

Lesson Goal 2: I can ask scientific questions about a scientific topic	**Materials/ Prep**
Connect: Share questions chosen Brainstorm: What makes a good question?	Chart paper
Process: What makes a good scientific question? (evidence can be found, testable- data collection, hypothesis, interesting) Groups – Make the example questions more “scientific” Groups/individuals – Make their own questions more “scientific”	Power point Markers Sentence strips
Transform: Exit slip: What is your scientific question about the sun? Come up with a scientific question about something else that is interesting that you would like to inquire about	Exit slip form

Activity

Access	MUST do…	CAN do…	COULD do…
Choose a question for inquiry	Add to your question to make it more scientific	Come up with 3 or more follow up scientific questions	Trade your question with another peer or group for feedback