Netukulimk 12

At a Glance Document

NOVA SCOTIA
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Netkulimk 12

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Course Outline

Netukulimk 12 explores environmental science concepts through the guiding principle of Etuaptmumk (Two-Eyed Seeing). Etuaptmumk refers to learning with the strengths of both the Mi'kmaw and western knowledge systems for the benefit of all. Through Wskitqamu guided learning, learners will gain an appreciation of interconnectiveness as they question the world around them, make observations, gather information, and reflect on decisions and actions. The core values of Netukulimk (Responsibility, Reciprocity, Relationship, and Respect) will guide the exploration of environments locally, throughout Mi'kma'ki, and globally. Learners will explore land, water, and global systems through the following four modules:

- Interconnective Relationships
- Interconnectiveness in Mi'kma'ki
- Global Interconnectiveness
- Living Netukulimk

Through exploration of interconnective relationships with Wskitqamu (land), learners will deepen their understanding of Msit No'kmaq (all my relations). Mi'kmaq ways of being and knowing recognize that we are all connected and entwined together by relationships both with one another and with the Earth itself. Learners will be guided by the core values of Netukulimk as they observe and gather information about cycles, patterns, and rhythms in soil and in local ecosystems. They will consider the wholistic nature of the environment and their responsibility for future generations as they evaluate decisions and actions that impact the land in their communities.

Interconnectiveness in Mi'kma'ki is explored through the changing nature of samqwan (water). Samqwan flows throughout Mi'kma'ki in various forms and provides gifts such as food, medicines, habitats, nutrients, and drinking water. As learners grow their understanding of interconnective relationships that are nourished by samqwan, they will be able to observe and gather information about changes to natural cycles. This will provide learners with the opportunity to consider interactions, and to identify and respond to challenges. An understanding of responsibility will guide learners as they engage in Netukulimk-guided actions to protect, conserve, and advocate in support of samqwan.

The global interconnectiveness module provides learners an opportunity to consider environmental concepts at a global scale. Global interactions in the environment are fluid and are constantly in a state of flux. It is part of our collective responsibility as humans to understand our relationship to and within a complex global system. Learners will be guided by Etuaptmumk as they explore complex global issues such as climate change and reflect on how natural cycles connecting land, air and water have been disrupted through human and non-human interactions. Exploring local Indigenous Protective and Conserved Areas and UNESCO biosphere reserves will allow learners to gain an understanding of reciprocity and sustainability. Insights from multiple perspectives will help lead to more sustainable actions guided by Self, Family, Community, and Environment.

The Living Netukulimk project provides an opportunity for learners to apply what they have learned as they engage in an action project relating to an issue of their choosing. Guided by Etuaptmumk, they may gather information in multiple ways such as through observations, storytelling, and/or experimentation. As Netukulimk practitioners, learners will strive to live in balance as they take action to care for, protect, and conserve Earth's gifts for future generations. This project allows learners to appreciate that they are an important part of interconnective systems and that their decisions and actions have positive impacts in their communities, throughout Mi'kma'ki, and globally.

Learners will analyse relationships within Wskitqamu that are guided by Netukulimk.

Interconnective Relationships

Rationale

Netukulimk guides the relationships a person has with everything, including the physical features of the land; the rhythms, cycles, and patterns of Wskitqamu and all her living beings and non-living things. Learners will be introduced to the guiding principle of Etuaptmumk (Two-Eyed Seeing) to begin their exploration of relationships. Etuaptmumk uses the strengths of the Mi'kmaw and western knowledge systems to guide the exploration of interconnective relationships in nature. This will lead to a greater understanding of concepts that could not be achieved alone. Teachers can consider how best to ensure that learners are able to make authentic observations of relationships in nature.

Learners will connect with Wskitqamu as they develop a wholistic view of the land. They will investigate their personal connections with the land through the Aspects of Humanness and consider how Etuaptmumk will guide their explorations. Observing the interconnective relationships that exist in local soil and surrounding environments can serve as a starting point for an understanding of relationships. The Pemi Punqek Mi'kma'ki (Mi'kmaw Eco-calendar) provides a visual resource to be used as learners explore how living beings and non-living things are in relationship with one another.

Competencies

- Citizenship (CZ)
- Communication (COM)
- Critical Thinking (CT)
- Personal and Career Development (PCD)

Indicators

- Reflect on how knowledge systems shape, build, and grow knowledge and understanding (CZ, COM, CT)
- Investigate how relationships with Wskitqamu are connected to Aspects of humanness (spirit, heart, mind, and body) (COM, CT, PCD)
- Investigate how Etuaptmumk can guide exploration of Wskitqamu (CZ, CT)
- Analyse the interconnective Relationships that exist in soil systems within Wskitqamu (COM, CT)
- Investigate how living beings and non-living things are interconnective within local ecosystems (CZ, CT)

Concepts and Guiding Questions

- How am I guided by Etuaptmumk?

Knowledge Systems

- How can traditional stories such as the Mi'kmaw Creation Story help me to understand relationships within Wskitqamu?
- How does *Msit No'kmaq* (all my relations) shape my understanding of relationships in and with Wskitqamu?
- How is knowledge gathered and shared?
- How can I develop an authentic Relationship with Wskitqamu?
- How does thinking about the environment from a variety of perspectives change and grow my thinking?

Connections to Aspects of Humanness

- How can we use all our senses to understand our personal relationship with Wskitqamu?
- How do the gifts that Wskitqamu provides nourish the aspects of humanness of people in our community?
- How are our needs for nourishment met through our relationships with the land?
- How does the health of Wskitqamu contribute to our personal health?
- What is my relationship with Wskitqamu?

Learners will analyse relationships within Wskitqamu that are guided by Netukulimk. (cont.)

Etuaptmumk

- How do the strengths of the Mi'kmaw and western knowledge systems contribute to my understanding of relationships within Wskitqamu?
- How does an understanding of Wejisqalia'ti'k (from this earth we sprouted) help to guide my approaches to learning about Wskitqamu?
- How do my observations of the natural world guide my understanding of Wskitqamu from a variety of perspectives?
- How can we grow our understanding of living and non-living beings and things through observations, experiments, data collection, and technology?

Interconnective Relationships with Soil

- How can my understanding of relationships in Wskitqamu allow me to predict what lives in an ecosystem?
- How can I grow my understanding of relationships by observing the flow of nutrients within soil systems?
- How can I grow my understanding of interconnectiveness through the storages and flows in soil systems?
- How can the level of biodiversity in soil be used as an indicator of soil health and productivity?

Interconnectiveness of Local Ecosystems

- How does Pemi Punqek Mi'kma'ki (Mi'kmaw Eco-calendar) show relationships and patterns in nature over a full year?
- How does biodiversity in local ecosystems depend on interconnectiveness?
- What do my observations tell me about interconnectiveness among organisms in a local ecosystem?
- How do living (biotic) beings such as plants play an important role within soil systems?
- How do non-living (abiotic) beings influence relationships in local ecosystems?

Skills

Analyse

Consider the nature or structure of something by deconstructing it into its component parts in order to understand or explain it.

Reflect

Ask questions of experiences and/or concepts; Examine further ideas and information; consider ideas, perceptions, and perspectives about experiences and/or concepts; Evaluate perceptions and perspectives in relation to experiences and/or concepts; Synthesize perceptions, and perspectives in relation to experiences and/or concepts; Communicate the impact of the process.

Investigate

Ask and revise questions; locate several relevant and dependable details to support an answer; organize and compare details; identify relationships, recognize represented perspectives, and communicate findings.

Learners will analyse natural cycles, patterns, and rhythms guided by the core values of Netukulimk.

Interconnective Relationships

Rationale

Learners will be guided by the core values of Netukulimk (Respect, Relationship, Reciprocity and Responsibility) in their interactions, observations, and experiences learning about cycles, patterns, and rhythms around them. Thinking critically about how the core values guide their gathering of information, learners will grow their understanding of how to observe, investigate, and live alongside and with other living beings and non-living things. They will explore multiple ways to gather information about the land such as through observation, storytelling, measurement, and experimentation. Learners will use a variety of methods and technology to explore soil systems. It is important for learners to consider how relationships, patterns, and cycles in soil change over time, and what this tells us about the interconnective relationships that exist within Wskitqamu.

Competencies

- Citizenship (CZ)
- Communication (COM)
- Critical Thinking (CT)
- Technological Fluency (TF)

Indicators

- Question how Respect, Responsibility, Reciprocity, and Relationship can guide information gathering (COM, CT)
- Investigate ways to explore the interconnective cycles in local soil systems (COM, CT)
- Classify soil samples according to structure, properties, and patterns (CT, TF)
- Analyse how relationships in soil change over time (CZ, CT)

Concepts and Guiding Questions

- How am I guided by Etuaptmumk?

The Core Values and Information Gathering

- How does my Relationship with Wskitqamu guide my intentions and actions?
- How do I gather information in a way that shows Respect?
- How does my Responsibility to Wskitqamu guide me as I gather information?
- How do I gather information in ways that practice Reciprocity with Wskitqamu?

Cycles in Soil Systems

- How do the gifts of Wskitqamu differ through the seasons?
- How can I learn about the environment by observing organisms in soil (e.g., life cycles, hibernation)?
- How can I learn about interconnective cycles through exploration of soil processes (e.g., decomposition, weathering, and nutrient cycling)?
- How are cycles in the environment impacted by actions such as crop rotation or erosion prevention?

Understanding Soil

- How can my observations of the environment (e.g., plant growth, biodiversity, species composition, drainage patterns) help me to learn about soil?
- How do the qualities of soil contribute to the health and gifts of Wskitqamu?
- How can classifying soil help me understand patterns in the environment?
- What can a soil profile tell me about the formation, structure, properties, and patterns in soil?
- How can observations and technology be used to provide information about structure, properties, and patterns in soil (e.g., pH, nutrient levels, porosity, moisture)?

Learners will analyse natural cycles, patterns, and rhythms guided by the core values of Netukulimk. (cont.)

Change Over Time

- How do we know changes are happening over time?
- How can I recognize change through observations of patterns, cycles, and rhythms in soil systems?
- How is the environment affected by changes in soil over time?
- How might changes in populations of living beings affect soil systems over time?
- How do human activities impact soil fertility and erosion over time?

Skills

Analyse

Consider the nature or structure of something by deconstructing it into its component parts in order to understand or explain it.

Question

Consider an argument, perspective or issue in a way that uncovers assumptions, biases, or underlying relationships.

Investigate

Ask and revise questions; locate several relevant and dependable details to support an answer; organize and compare details; identify relationships, recognize represented perspectives, and communicate findings.

Classify

Identify attributes and select criteria for groupings and subgroupings; sort based on selected criteria and consider the grouping(s); incorporate a new item in a group, offering a rationale for the choice based on relationships.

Learners will evaluate local environmental decisions that impact Wskitqamu.

Interconnective Relationships

Rationale

Local communities need to make decisions and take action to protect, care for, and responsibly use the gifts and natural resources that nature provides. All decisions and actions have wide impacts due to the interconnectivity of relationships within Wskitqamu. It is important to consider how Netukulimk can guide decision making in support of the environment. This outcome provides opportunities for learners to evaluate environmental decisions that impact the land in their local communities. Learners might consider how the protection of species at risk (e.g., Black Ash, Wood Turtle, Moose, etc.) can increase biodiversity and sustain healthy forest ecosystems. In addition, they can consider responsible agricultural stewardship practices that help to ensure food security and health of the environment. As a part of this interconnective system, learners will evaluate practices, decisions, and actions with respect to responsibility to future generations.

Competencies

- Citizenship (CZ)
- Communication (COM)
- Critical Thinking (CT)
- Personal and Career Development (PCD)

Indicators

- Question the impact of land use practices in relation to levels of Interactions (self, family, community, and environment) (CZ, CT, PCD)
- Investigate factors influencing the sustainability of land based natural resources (CZ, COM)
- Evaluate intended and unintended impacts of environmental stewardship decisions on key species that live on or within the land (CZ, CT)

Concepts and Guiding Questions

- How am I guided by Etuaptmumk?

Land Use Practices and Levels of Interaction

- How are Mi'kmaw stewardship practices guided by Netukulimk?
- Why is it important that practices grow, change, and adapt over time?
- How do stewardship practices consider the needs of community?
- How can I extend my understanding of family kinship to the living and non-living beings and things in Wskitqamu?
- How are the levels of interaction of interconnectiveness considered in various land use practices?
- How can I participate in responsible stewardship practices?

Factors that Influence Land Based Resources

- How can I recognize when decisions related to sustainability are guided by Etuaptmumk?
- How do social, political, economic, and ecological factors influence decisions about sustainable land use?
- How do various agricultural practices impact the surrounding ecosystem?
- How can responsible stewardship practices sustain forest ecosystems?
- How can development be planned to minimize changes to natural resources in both urban and rural areas?

Learners will evaluate local environmental decisions that impact Wskitqamu. (cont.)

Impacts of Decisions on Key Species

- Why is it important to consider multiple perspectives and available information prior to making an environmental decision?
- How can I evaluate stewardship practices and decisions to determine the effects on key species?
- How have key species been impacted by local environmental decisions?
- How might interconnectiveness guide community responses to support key species?
- How might changes to key species affect the overall biodiversity of an ecosystem?

Skills

Evaluate

Offer a critical review of something by considering the strengths and limitations.

Question

Consider an argument, perspective or issue in a way that uncovers assumptions, biases, or underlying relationships.

Investigate

Ask and revise questions; locate several relevant and dependable details to support an answer; organize and compare details; identify relationships, recognize represented perspectives, and communicate findings.

Learners will reflect on their growing relationship with samqwan through Msit No'kmaq.

Interconnectiveness in Mi'kma'ki

Rationale

Samqwan (water) is honoured and respected as the first medicine among Mi'kmaq people. There are many meanings of the word samqwan, and in the context of this outcome it is referring to water that is present on the surface of the land (e.g., oceans, rivers, lakes, snow and ice), underground as groundwater, in the atmosphere, and within all living beings. The presence and flow of samqwan through ecosystems is essential for all life on Earth. Learners will deepen their understanding of relationships with and within samqwan in Mi'kma'ki.

This outcome provides an opportunity for learners to grow their understanding of Msit No'kmaq (all my relations) in that the relationship one has with family extends to all living beings and things. Learners will explore the gifts and ecosystem services that water provides such as medicines, foods, habitats, nutrient cycling, and drinking water. They will also consider the relationship between quality of water and quality of life. Water quality impacts the health of all living beings, and the influences of factors including chemical contamination and imbalances in algae or bacterial levels should be explored.

All living beings, including humans, participate in interconnective relationships with samqwan and access to clean water is important for the health of all life.

Competencies

- Citizenship (CZ)
- Communication (COM)
- Critical Thinking (CT)
- Technological Fluency (TF)

Indicators

- Investigate the relationship between samqwan and self, family, community, and environment (COM, CT)
- Compare water habitats in Mi'kma'ki in relation to the gifts they provide (CZ, COM, CT)
- Analyse the relationships between quality of water and the variety of available resources in Mi'kma'ki (CZ, CT)
- Evaluate how quality of water can influence health and quality of life (CZ, TF)

Concepts (and Guiding Questions)

- How am I guided by Etuaptmumk?

Relationship with Samqwan

- How do the gifts of samqwan contribute to the well-being of self, family, community, and environment?
- How does the Mi'kmaq eco-calendar guide understandings of samqwan?
- How can our interactions and relationship with samqwan be guided by respect?
- How can I participate in Reciprocity with the gifts of samqwan?

Gifts of Water Habitats

- How does Mi'kmaw (collective) knowledge help me understand water habitats in Mi'kma'ki?
- How can my observations of gifts help me to learn about water habitats?
- How do living beings and non-living things interact with the gifts of water habitats?
- How do variations in water habitats affect the gifts of watersheds in Mi'kma'ki?
- How does the type of water habitat influence aquatic life that can thrive there?

Learners will reflect on their growing relationship with samqwan through Msit No'kmaq. (cont.)

Water and Resource Availability

- How does the amount and quality of water impact living and non-living beings and things?
- How are resource needs and wants connected to the Aspects of Humanness?
- What relationships can I observe among the physical features of the land (e.g., wetlands, riparian zones, moss) and the supply and purification of water?
- How can I be more conscious of my daily interactions with samqwan?

Water Quality and Health

- How are living beings and non-living things impacted by changes in water quality?
- How are the impacts of quality of water experienced through Aspects of Humanness?
- How can the health of self, family, community, and environment be impacted by water quality?
- How can natural and technological water purification systems maintain and improve water quality?

Skills

Reflect

Ask questions of experiences and/or concepts; Examine further ideas and information; consider ideas, perceptions, and perspectives about experiences and/or concepts; Evaluate perceptions and perspectives in relation to experiences and/or concepts; Synthesize perceptions, and perspectives in relation to experiences and/or concepts; Communicate the impact of the process.

Investigate

Ask and revise questions; locate several relevant and dependable details to support an answer; organize and compare details; identify relationships, recognize represented perspectives, and communicate findings.

Compare

Make observations; identify similarities and differences; identify relationships and offer an interpretation; communicate the findings.

Analyse

Consider the nature or structure of something by deconstructing it into its component parts in order to understand or explain it.

Evaluate

Offer a critical review of something by considering the strengths and limitations.

Learners will analyse factors that impact the changing nature of samqwan within Mi'kma'ki.

Interconnectiveness in Mi'kma'ki

Rationale

Mi'kma'ki is home to a variety of fresh and saltwater bodies including oceans, rivers, lakes, and ponds that support life. Guided by Etuaptmumk, learners will grow their understanding of factors that impact the changing nature of samqwan and value the benefits of using multiple approaches to gathering information. Samqwan is constantly changing through the movement of the water cycle and learners will observe the interconnective relationships that exist in various watersheds and ecosystems. To analyse the factors that impact samqwan, it is important to gather relevant and accurate information about the interactions that take place. Learners will gather both qualitative and quantitative information in a variety of ways, including through the use of technology.

Learners will investigate interconnectiveness through the movement of water and its contents and inhabitants, such as animals, plants, and non-living things. Learners will consider evidence of changes (e.g., flooding, pollution, migration patterns, and invasive species) in order to gain an appreciation for the interconnective nature of interactions with and within samqwan. They will observe various properties of samqwan from a systems perspective down to specific factors through sampling. A look at individual and collective human interactions provides an opportunity to further explore Respect, Responsibility, Relationship, and Reciprocity.

Competencies

- Citizenship (CZ)
- Communication (COM)
- Critical Thinking (CT)
- Technological Fluency (TF)

Indicators

- Question changes occurring with samqwan in Mi'kma'ki (COM, CT)
- Investigate interconnectiveness through the movement and cycling of samqwan (CZ, CT)
- Observe various properties of samqwan through sampling (COM, TF)
- Analyse individual and collective human interactions with samqwan (CZ, CT)

Concepts (and Guiding Questions)

- How am I guided by Etuaptmumk?

Changing Nature of Samqwan

- How can I observe changes in water systems?
- What changes are occurring with samqwan in Mi'kma'ki?
- How do living beings and non-living things influence changes within samqwan?
- How do changes in samqwan affect the surrounding environment?

Interconnectiveness

- How do living and non-living beings and things move with the flow of samqwan (e.g., migration patterns, sediment, nutrients)?
- What observations can I make about the patterns, cycles, and rhythms of samqwan?
- How do ocean circulation systems drive the movement and cycling of water?
- How is interconnectiveness observed through tidal movement and changing sea levels?
- How does the flow of samqwan through wetlands and riparian zones naturally benefit watersheds and ecosystems?

Learners will analyse factors that impact the changing nature of samqwan within Mi'kma'ki. (cont.)

Understanding Samqwan

- How do the unique features of the water systems of Mi'kma'ki affect biodiversity and allow species to thrive?
- How can I collect accurate and reliable information about water?
- How can the availability and abundance of traditional Mi'kmaw medicines guide understanding of samqwan health?
- How can biological factors (e.g., key species, biotic and water quality indices, etc.) contribute to our understanding of samqwan?
- How can gathering information about samqwan properties (e.g., pH, salinity, turbidity, temperature, oxygen) help us grow our understanding of samqwan?

Human Interactions

- How do self, family, community, environment influence interactions with samqwan?
- How can I observe individual and collective human interactions that are influencing samqwan?
- How does access to and use of water differ among communities in Mi'kma'ki?
- How does respect guide my interactions with samqwan?

Skills

Analyse

Consider the nature or structure of something by deconstructing it into its component parts in order to understand or explain it.

Question

Consider an argument, perspective or issue in a way that uncovers assumptions, biases, or underlying relationships.

Investigate

Ask and revise questions; locate several relevant and dependable details to support an answer; organize and compare details; identify relationships, recognize represented perspectives, and communicate findings.

Observe

Recognize or notice something for the purpose of making meaning through the senses and/or use of technology. Use observational evidence including surrounding context and conditions in order to describe findings.

Learners will formulate a Netukulimk-guided response in support of samqwan.

Interconnectiveness in Mi'kma'ki

Rationale

Samqwan is an honoured, sacred, and valuable natural resource in Mi'kma'ki that supports and benefits all living beings. It is important to grow our understanding of our responsibility to care for, appreciate, protect, conserve, and mitigate harm to samqwan as the Mi'kmaq have since time immemorial. In this outcome, learners will investigate the challenges affecting samqwan in Mi'kma'ki as they plan a response guided by Netukulimk. They will explore the ways that Mi'kmaw communities and local organizations are working to protect, conserve, and advocate for samqwan. Considering these responses, learners will begin to evaluate the impacts of both proactive actions as well as mitigation efforts that work to protect the health of samqwan.

Learners will become more aware of relationships and responsibility as they identify and problem solve various solutions to a community concern. They may want to consider a current concern (e.g., eutrophication, acidification, red tides, dead zones) or a possible emerging concern.

Competencies

- Citizenship (CZ)
- Communication (COM)
- Creativity and Innovation (CI)
- Critical Thinking (CT)
- Personal and Career Development (PCD)

Indicators

- Investigate challenges affecting samqwan (COM, CT)
- Investigate how Mi'kmaw communities and other organizations are protecting and conserving samqwan (CZ, COM, PCD)
- Evaluate the impact of proactive and mitigation actions that protect the health of samqwan (CZ, CT)
- Problem Solve potential responses to a community concern about samqwan (CI, CT)

Concepts (and Guiding Questions)

- How am I guided by Etuaptmumk?

Challenges affecting Samqwan

- How is samqwan vital to the survival of Wskitqamu?
- What challenges to living beings and non-living things are caused by changes to the natural balance in water bodies?
- How do the challenges that I observe impact self, family, community, and environment?
- How can I see the influence of climate change in coastal areas of Mi'kma'ki?
- How does the movement and cycling of pollutants (e.g. fishing ghost gear, pesticides, contaminants, microplastics) impact aquatic systems?

Protection and Conservation of Samqwan

- How are we guided by the actions and intentions of Mi'kmaw communities?
- How can we advocate both individually and collectively for protection, conservation, and equitable access to samqwan?
- How have the protection and conservation actions of Mi'kmaw communities and other organizations changed over time?
- How have Mi'kmaw water protectors (e.g.,- Grassroots Grandmothers) worked to raise awareness about issues facing samqwan?

Learners will formulate a Netukulimk-guided response in support of samqwan. (cont.)

Actions that work to address harm

- How do I recognize Netukulimk in the actions that others take to protect the health of samqwan?
- How do actions show responsibility for seven generations?
- How are individuals and communities working proactively to address harm?
- How can I assess the effectiveness of mitigation action through observing intended and unintended results?
- What are the impacts of current measures in place to protect the health of samqwan?
- How do sustainable practices (e.g., fishing, aquaculture) support the overall health of aquatic environments?

Responding to Challenges

- How can Netukulimk guide my response to address a challenge?
- How can multiple perspectives guide actions and decision making?
- How can an ecosystem approach be used to address concerns about samqwan?
- How could individual and collective actions impact seven generations?
- How does the interconnectiveness of water systems influence responses to a community concern?

Skills

Formulate

Identify a topic of interest; brainstorm ideas; choose, prioritize, and refine ideas; evaluate choices.

Investigate

Ask and revise questions; locate several relevant and dependable details to support an answer; organize and compare details; identify relationships, recognize represented perspectives, and communicate findings.

Evaluate

Offer a critical review of something by considering the strengths and limitations.

Problem Solve

Question-Independently and collaboratively generate questions in response to complex problems and/or issues. Choose and develop a specific question to investigate.

Analyse- Consider the nature or structure of something by deconstructing it into its component parts in order to understand or explain it.

Plan- Identify a topic of interest; brainstorm ideas; choose, prioritize, and refine ideas; evaluate choices. Devise a process to solve the problem. Execute the steps, modifying as necessary.

Evaluate- Offer a critical review of something by considering the strengths and limitations.

Learners will analyse global interconnective relationships within Wskitqamu.

Global Interconnectiveness

Rationale

All living beings and non-living things interact with one another to form a complex whole. It is part of our responsibility to understand how global systems are interconnective through the land, water and air. This outcome provides learners an opportunity to consider environmental concepts at a global scale. Exploring local relationships can serve as a starting point as learners consider interconnectiveness on the global scale. Learners are considering reciprocity and sustainability relating to resources (e.g., energy, food production, etc.) and in doing so have opportunities to consider the impacts of resource use on a variety of living beings across Wskitqamu. They will need to consider the types of decisions that get made, responses to actions, and why people have strong connections to various environmental concerns that exist around the globe. Exploring Indigenous Protected and Conserved Areas (IPCA) and UNESCO biosphere reserves can help learners understand reciprocity and sustainability at a local level. They can then expand their understanding to global interconnective relationships.

Learners consider the impacts of their choices on a global scale in an effort to sustain, regenerate, and support global resources.

Competencies

- Citizenship (CZ)
- Communication (COM)
- Critical Thinking (CT)
- Technological Fluency (TF)

Indicators

- Investigate how land, water and air are a wholistic interconnective global system. (CZ, CT)
- Investigate how reciprocal relationships contribute to sustainability of global resources (CZ, CT)
- Compare the impacts of resource use in a global context(CZ, COM, TF)

Concepts (and Guiding Questions)

- How am I guided by Etuaptmumk?

Interconnective Global Systems

- How can I make observations of local environments to help grow my understanding of global interconnectiveness?
- How are the patterns, rhythms, and cycles in my community part of global interconnective relationships?
- How can stories inform our understanding of global systems?
- How are global air and water circulation patterns guided by the Sun?
- How does the moon and sun influence tidal rhythms?
- How is the quality of air and water influenced by land-based living beings and non-living things?

Reciprocity and Sustainability of Global Resources

- Where can I observe examples of reciprocity within Wskitqamu?
- How can we increase our understanding of global sustainability through observation of reciprocal relationships in IPCAs and UNESCO biosphere reserves?
- How does our relationship with Wskitqamu influence harvesting practices?
- What relationships can I observe that contribute to the sustainability of clean air?
- How can conservation of biodiversity contribute to the sustainability of global resources?

Learners will analyse global interconnective relationships within Wskitqamu. (cont.)

Resource Use in a Global World

- How can I observe the environmental impacts of resource use on water, air, and land?
- How do my choices about resource use impact on a global scale?
- How can our individual and collective decisions about resources have impacts on global sustainability?
- How do various forms of energy production impact interconnective relationships?
- What are the personal, ecological, economic, and cultural impacts of excessive resource use?

Skills

Analyse

Consider the nature or structure of something by deconstructing it into its component parts in order to understand or explain it.

Investigate

Ask and revise questions; locate several relevant and dependable details to support an answer; organize and compare details; identify relationships, recognize represented perspectives, and communicate findings.

Compare

Make observations; identify similarities and differences; identify relationships and offer an interpretation; communicate the findings.

Learners will evaluate the impacts of climate change within the complex global interactions of Wskitqamu.

Global Interconnectiveness

Rationale

There is interconnectiveness among all living and non-living things. As a result, global interactions in the environment are fluid and are constantly in a state of flux. Climate change is taking place and the impacts of this are felt globally. The global sharing of information and data about the impacts of climate change contributes to increased opportunities for collaboration in response to these changes. In this outcome, learners will analyse global environmental data as they continue to develop their understanding of cycles, patterns, and rhythms through comparing the impacts of climate change disruptions on natural cycles. They can explore various changes such as those within the composition of the atmosphere, to the ocean environment, and those taking place on land. Learners will investigate how climate change impacts are far reaching due to the interconnectiveness within Wskitqamu. Understanding the impacts of human and non-human factors that cause and contribute to climate change will help learners consider how to respond and take action, guided by Netukulimk. Through this outcome learners will explore the idea that the health and sustainability of Wskitqamu is a shared responsibility.

Competencies

- Citizenship (CZ)
- Communication (COM)
- Critical Thinking (CT)
- Personal and Career Development (PCD)
- Technological Fluency (TF)

Indicators

- Analyse rights and responsibilities in relation to global change and sustainability (CZ, COM, PCD)
- Analyse evidence of changes to global patterns over time. (CT, TF)
- Compare the impact of human and non-human factors that can disrupt natural cycles, patterns, and rhythms (CT, TF)
- Investigate how climate change has global impacts due to the interconnectiveness of Wskitqamu (CZ, CT, TF)

Concepts (and Guiding Questions)

- How am I guided by Etuaptmumk?

Rights and Responsibilities

- How do communities, society, and governance contribute to sustainability?
- How can decisions in the past, present, or future lead to sustainability for seven generations?
- How are the Four Levels of Interactions (self, family, community, and environment) involved when making responsible choices concerning climate change?
- How do we balance the needs of various groups for the greater global benefit? (e.g. marine spatial planning, protected areas,)
- How can the core values of Netukulimk be incorporated when addressing the impacts of climate change?

Changes to Global Patterns

- How does Etuaptmumk contribute to our understanding of changes to global patterns?
- How can I observe and gather evidence of changes to natural cycles, patterns, and rhythms?
- How can changing migration patterns inform my understanding of climate change?
- How can stories, data, and models be used to explain patterns and trends over time?
- How does climate change impact populations of key species?

Learners will evaluate the impacts of climate change within the complex global interactions of Wskitqamu. (cont.)

Disrupting Natural Cycles, Patterns, and Rhythms

- How have interconnective relationships of Wskitqamu been impacted by humans over the last century?
- How do non-human factors (e.g., natural disasters, fire, succession) impact natural cycles, patterns, and rhythms?
- How does human activity (e.g., pollution, deforestation, increases in population) contribute to changes in the atmosphere?
- What are the impacts of the greenhouse effect on natural cycles, patterns, and rhythms in the environment?

Impacts of Climate Change

- How can we learn about the impacts of climate change through various perspectives?
- How do environmental changes impact global interconnectiveness?
- How do increasing levels of CO_2 in the atmosphere impact seasonal cycles?
- What is the relationship between climate change and the global ocean?
- How can I observe changes to the interconnective relationships among living beings due to climate change?

Skills

Evaluate

Offer a critical review of something by considering the strengths and limitations.

Analyse

Consider the nature or structure of something by deconstructing it into its component parts in order to understand or explain it.

Compare

Make observations; identify similarities and differences; identify relationships and offer an interpretation; communicate the findings.

Investigate

Ask and revise questions; locate several relevant and dependable details to support an answer; organize and compare details; identify relationships, recognize represented perspectives, and communicate findings.

Learners will implement a local environmental action project guided by Netukulimk

Living Netukulimk

Rationale

This outcome provides an opportunity for learners to live Netukulimk as they reflect on how they are growing in their knowledge, experiences, and actions. Learners will apply the skills that they have developed along with their growing understanding of Netukulimk to engage in a local environmental action project in their community. It is important to consider how learners can ensure that they are engaging with an authentic community concern as they identify an area of interest for the basis of their project. Learners will gather information in order to brainstorm possible responses before refining their plans. They will take action as they consider their learning about Netukulimk and think about the impacts of their project through the levels of interactions of interconnectiveness.

Through this project, learners will weave together Responsibility, Respect, Reciprocity, and Relationship, and consider how their project impacts and supports the four aspects of Humanness. Learners will reflect on their experience as they consider new questions that arise. They will also reflect on their personal journey to becoming a Netukulimk practitioner and how that contributes to a sustainable future.

Competencies

- Citizenship (CZ)
- Communication (COM)
- Creativity and Innovation (CI)
- Critical Thinking (CT)
- Personal and Career Development (PCD)
- Technological Fluency (TF)

Indicators

- Reflect on how Netukulimk guides actions towards a sustainable future (CZ, PCD)
- Select an area of environmental interest in consideration of self, family, community, and environment (COM, CT)
- Plan a response that is guided by the core values of Netukulimk (CI, CT)
- Evaluate the impact of actions on self, family, community, and environment (COM, CT, TF)

Concepts (and Guiding Questions)

- How am I guided by Etuaptmumk?

Reflecting on Netukulimk-Guided Actions

- How will my action project demonstrate Responsibility for seven generations?
- How am I continuing to grow as a Netukulimk practitioner?
- How will my understanding of Netukulimk inform my future actions?

Area of Environmental Interest

- How does my connection to place inform my choice of project?
- How will my understanding of the core values of Netukulimk guide my choice of project?
- How do the Four Aspects of Humanness guide my awareness of environmental issues?
- What will I learn about an environmental issue from the experiences of people in my community?
- How can I access and gather information that I need in order to select an issue of concern?

Learners will implement a local environmental action project guided by Netukulimk (cont.)

Planning a Response

- How do I see Respect, Reciprocity, Responsibility, and Relationship in my project plan?
- How will I be guided by self, family, community, and environment?
- How will I ensure my project will meet an authentic community need?
- What actions are needed to carry out and communicate my plan?
- How will I modify or grow my plan in response to new information?

Impact of Actions

- How do I observe the impacts of my actions?
- How do my actions impact self, family, community, and environment?
- How does my action project prepare me to consider future questions I will encounter?
- How will I evaluate whether actions are effective?

Skills

Implement

Carry out a process, strategy, or plan

Reflect

Ask questions of experiences and/or concepts; Examine further ideas and information; consider ideas, perceptions, and perspectives about experiences and/or concepts; Evaluate perceptions and perspectives in relation to experiences and/or concepts; Synthesize perceptions, and perspectives in relation to experiences and/or concepts; Communicate the impact of the process.

Select

Locate several relevant and dependable details to support an answer.

Plan

Formulate- Identify a topic of interest; brainstorm ideas; choose, prioritize, and refine ideas; evaluate choices. Devise a process to solve the problem. Execute the steps, modifying as necessary.

Evaluate

Offer a critical review of something by considering the strengths and limitations.