THOMPSON RIVERS UNIVERSITY | Education & Social Work

## Inquiry Demonstration Plan

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| **Lesson Title:** | The Story of the Universe | **Lesson #** | 3 | **Date:** | July 2020 |
| **Name:** | Angelina Thomson | **Subject(s):** | Science/ Socials | **Grade(s):** | 1-2-3 |

**Rationale & Overview**

Why does this topic matter to students?

Learning about the world around them and their place in the world is an important part of developing stewardship and curiosity about the universe. They build on who they are, what their responsibility is to the earth, and humble themselves to the learning that surrounds them. When students can understand and appreciate their world they will build more empathy and kindness towards all living things.

How does this lesson fit within the larger inquiry project?

This lesson fits in the inquiry process because it is a process where students pose new questions and problems about their world by interacting with the naturalistic environment. The outdoor inquiry gets students thinking about their world and the part they play within it. They begin to wonder and ask questions that develop deeper thinking and understanding of who they are and what is around them.

How does this project incorporate the inquiry cycle?

Students are building on knowledge that leads to deeper understanding. As well through storytelling and place-based approach to learning students develop habits of mind that encourage them to ask questions of evidence, and determine viewpoints, patterns and connections.

This project incorporates the inquiry cycle because students are building on their communication by experiencing and showing their learning in various ways through Sit Spots, scientific journals, mapmaking, sound poems and reflection. The students are moving beyond the borders of the school to connect with the natural environment. In their Sit Spots and through the story of the universe they are building on their imagination and curiosity to actively explore the world around them.

**Key Questions For Inquiry**

| Core Question & Supporting Questions for Inquiry Project | Question(s) Addressed in This Lesson |
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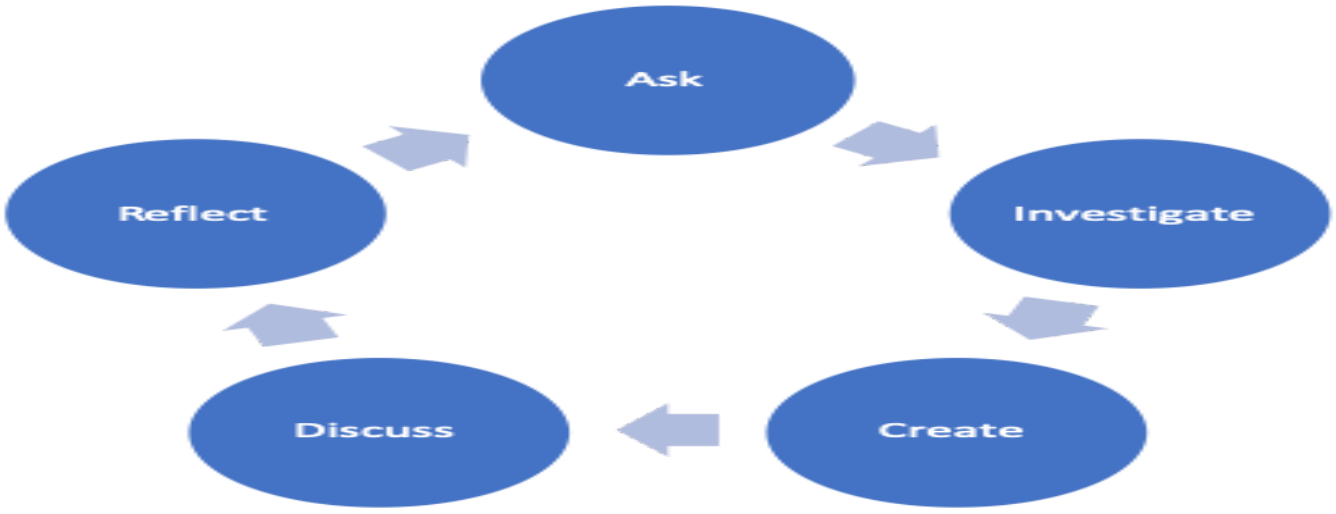
| Who am I? What is my place?<br><br>How does the story of the universe relate to my place in the world?<br><br>How did it come to be? Looking at growth, life cycles of animals, humans, the earth, the solar system, trees etc. | What did you see while outside today?<br><br>What do we see at night?<br><br>How does the story of the universe relate to my place in the world?<br><br>How did it come to be? |




**Inquiry Approach and Rationale**

Environmental awareness starts with being in nature, but there is a potential role in story telling about the universe to raise environmental awareness. Through storytelling about the universe students see the relationships that exist between all living things, this is essential to understanding a place.
As students sit in nature through their Sit Spots they discover how learning is all around them and the environment is the tool. By sitting in one place it helps the student to see the relevant and real and how they can transfer and apply to the real world. The students are using the inquiry process to explore, discover, ask questions and discuss what they know about the world, what they wonder, and what they want to know more about.

**Core Principles of Effective Teaching (Sharon Friesen) Focus on one or more core principles in the lesson**

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| **Core Principle 1:** Effective teaching practice begins with the thoughtful and intentional design of learning that engages students intellectually and academically.<br>**What aspects of the inquiry are the most challenging and meaningful for students?* | With students prior knowledge of the natural world the teacher and students will make connections between existing and new ideas to build understanding of the world around them. The students will engage in doing work that requires distinct ways of thinking about and acting in the world, so that they can engage with ideas and core concepts in the same ways as botanists and photographers to make meaningful connections and build deep understanding. (Friesen, 2009) |
| **Core Principle 2:** The work that students are asked to undertake is worthy of their time and attention, is personally relevant, and deeply connected to the world in which they live.<br>**What makes this inquiry valuable, meaningful, and "alive" for the students and teachers?* | This inquiry is valuable, meaningful and alive for students because it shows how the universe, life and animals contribute to life on earth. By building enthusiasm, curiosity, imagination and inspiration from the story of the universe will give students a better understanding of the universe and earth and its interlocking scientific components which will make the Sit Spots more meaningful. The work students undertake |

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| | requires that they demonstrate conclusions relative to each other, with simplistic solutions, curiosity and examination of what is around them. As students explore the world around them in their Sit Spots they build "strong habits of mind, innovation and creativity" (Friesen, 2009, p. 8). They will need to formulate solutions, make connections between and among concepts,make assumptions, reasoned judgements and conclusions based on their observations (Friesen, 2009). |
| **Core Principle 3:** Assessment practices are clearly focused on improving student learning and guiding teaching decisions and actions.<br>**How do I define learning and success in this inquiry? How is learning expressed and articulated in peer, self and teacher assessments?* | The proof of the students learning will be in how they document their observations. I will support and guide them to identify the gap between current achievement and expected achievement by helping them with guiding questions to provide more details and specific information in their scientific journals (Friesen, 2009). At the end of the lesson, the teacher and students will review and reflect on their learning and share an important "a-ha" moment with the group about their experience. Students will share what they know, what they discovered and what they want to know in the Talking Circle.<br>I define success in this inquiry process with the sharing circle at the end of the lesson. When I hear students contributing their questions, observations, and wonders after their Sit Spots I can see that the process was articulated positively and meaningfully. |
| **Core Principle 4:** Teachers foster a variety of interdependent relationships in classrooms that promote learning and create a strong culture around learning.<br>**How do I connect students with each other, with experts in the field, with larger communities and nature, and across disciplines?* | The students will make connections between the real world, self, and the work. Students will share what really matters to them and build on interesting observations about the world around them. Students should be excited about their learning and put effort into doing their best work. The teacher will "engage students in dialogue as they work to extend learning, stimulate discussion, pose questions, provoke thinking, suggest resources and help students determine their next learning steps" (Friesen, 2009, p. 11 ). As the learning expands and builds students will communicate and collaborate with each other about their ideas. |
| **Core Principle 5:** Teachers improve their practice in the company of peers.<br>**How do I reflect on the inquiry together, and/or collaborate with others?* | As I learn more and gain knowledge through the story of the universe I will question and investigate alongside the students, this will invite students to become part of the instructional process (Friesen, 2009). I will share what worked and what could be improved upon and get feedback from other teachers to improve on my |

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| | practices. I will also continue to learn about current research and incorporate it into teaching and learning practices through the text by David Sobel called “Place Based Classrooms: Connecting Classrooms and Communities” and more current scientific information about the world (e.g., photos of Mars etc.) |

**BC Curriculum Core Competencies**

| **Communication** | **Thinking** | **Personal & Social** |
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| -Recognizing and appreciating different perspectives is key to both interpreting and creating communications. | -Students apply critical and reflective thinking to acquire and interpret information, and to make choices about how to communicate their ideas.<br><br>-Reflection is a key part of all aspects of developing goals and monitoring and assessing progress toward them. | -Students identify their personal values and strengths and abilities to determine ways they can contribute to their communities and care for the environment.<br><br>-Students bring their understanding of how relationships and cultural contexts shape who they are to building relationships with others |

**BC Curriculum Big Ideas (STUDENTS UNDERSTAND)**

Learning Principle  Grade 1: All living things have features and behaviours that help them survive in their environments.
Science:
Learning Principle  Grade 2: All living things have life cycles
Learning Principle Grade 3: Living things are diverse, can be grouped, and interact with their ecosystems
Learning Principle Grade 3: Energy is needed for life.
Social Studies:
Learning Principle 1-2-3: We shape the local environment, and the local environment shapes who we are and how we live.
Language Arts:
Learning Principle 1-2-3: Language and story can be a source of creativity and joy.

BC Curriculum Learning Standards

| **(STUDENTS DO)** | **(STUDENTS KNOW)** |
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| Learning Standards - Curricular Competencies | Learning Standards - Content |
| -Demonstrate curiosity and a sense of wonder about the world.<br>-Observe objects and events in familiar contexts<br>-Experience and interpret the local environment<br>-Represent and communicate ideas and findings in a variety of ways, such as diagrams and simple reports in their scientific journals | -Is it living or nonliving? Is it a plant, animal or something else?<br>-Differences between conventional scientific and indigenous ways of classifying<br>-Characteristics of local plants, animals, and fungi in the local environment<br>-Structural features: How do stems, roots, leaves, |

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| -Express and reflect on personal experiences of place in our Talking Circle<br>(***How does what you know about a place affect your observations, questions, and predictions?) | skeleton or no skeleton or exoskeleton, lots of legs, few legs, eyes, etc. help us understand organisms or living things in the local environment<br>-Behavioural adaptations: dormancy, hibernation, nesting, migration, catching food, camouflage (stick bug), mimicry (fly that looks like a bee), territorialism (squirrels fighting), etc. of animals in the local environment<br>-Biodiversity: the variety of different types of living things in an ecosystem |

BC Curriculum Indigenous Connections/ First Peoples Principles of Learning

*How will I incorporate Indigenous knowledge and principles of learning?*

In the new BC curriculum they define place as, “Place is any environment, locality, or context with which people interact to learn, create memory, reflect on history, connect with culture, and establish identity. The connection between people and place is foundational to First Peoples perspectives of the world.” (BC’s New Curriculum, 2018).

First People's Principles of Learning will be incorporated through the holistic way of learning about how everything is interconnected;

- “Learning is holistic, reflexive, experiential, and relational.”
- “Learning is embedded in memory, history, and story.”
- “Learning involves patience and time.”
- “Learning requires exploration of one’s identity.”

Respectful Relations

*How will I invite students of all backgrounds, interests and skills into the inquiry?*

Students will be given opportunities to participate in sharing their wonders, questions and interests about the world. They may share previous knowledge, something new or exciting that they discovered. Every student will be able to share something that is meaningful to them.

Different students have different values  about how the world came to be. It is important to allow students to share their perspectives and make sure it is clear that this is only one theory of the coming of the universe.

Lesson Activities

| Time Allotted | | Teacher | Students |
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| Invitation | 15 minutes | -In a circle outside<br>Ask: How did the Earth come to be? | Listening and reflecting on the story of the universe. |

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| | | How does the story of the universe relate to my place in the world?<br><br>Reading/dramatizing The Big Bang: The Story of the Universe. | |
| Inquiry | 15 minutes | Sit Spots<br><u>Investigate</u>:<br>Guide the students to find their Sit Spots and observe for 10 minutes.<br>*Teacher will rolemodel the Sit Spot with the students. | Finding their individual sit spots in the field near the school to observe through their senses. Using the book as a point of contemplation, discovery, and wonder about the world around them. |
| Reflection | 10 minutes | Scientific Journals<br><u>Create/Reflect</u>:<br>Using a chime to get the students attention the teacher will redirect the students to their scientific journals to draw or write for 10 minutes.<br>Remind the students they can document anything they wonder, question, or are curious about.<br>*Teacher is role modelling the Sit Spot and Scientific Journal exercise and doing it alongside the students. | The students are writing or drawing things that they wonder, question, or are curious about in their scientific journals for 10 minutes. Connecting their observations, wonders, and questions to the story of the universe. |
| Discussion | 5 minutes | Talking/Sharing Circle<br><u>Discuss</u>:<br>-What did you see while outside today?<br>-What do we see at night?<br>Talking/Sharing Circle- The teacher will facilitate the talking circle.<br>Ask the students to exit with a wondering or question they have. | Using a talking stick students will share a meaningful observation, question, or wondering about their experiences in their Sit Spots and the story of the universe. Students are making connections between what they know what they want to know.<br><br>Students will do an exit slip about what they wonder or a question they have as their ticket out the door. |

Materials and Resources

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| Book: Born with a Bang- The Story of the Universe<br><br>Field trip forms signed and returned by parents to go to the Sit Spot location that is 1 minute walk from the school.<br><br>Scientific notebooks and pencils. |

**Organizational Strategies**

-Sitting in a circle to share: A sharing/talking circle reflection on the field of the school to share their observations and what they noticed. Circles are a traditional First Nations format for discussion. The Talking Circle is used to demonstrate that everyone is connected and that every person in the circle has an equal voice. We will usually pass around a stick to ensure that the one with the stick is the only one who should be speaking and the rest of the students are listening.
-Chime to get the students attention and redirect them back to the group.
-Exit Slip for their ticket out the door
-Think/Pair/Share
-Clear expectations of what it looks like to be in their Sit Spots and how to use their scientific journals.
-Know/Wonder/Learn

Proactive, Positive Classroom Learning Environment Strategies

-Review outside expectations and safety while just off of school grounds in their Sit Spots.
-Make sure students are properly distanced from one another.
-Use a chime/whistle to get students attention and redirect them.

Extensions

-Scientific journals
-Loose natural parts story creations
-Mapmaking of their sit spots

Reflections (to be completed after the lesson demonstration)

Reference

Friesen, Shannon (2009). What Did You Do in School Today? Teacher Effectiveness: A Framework and

a Rubric. Canadian Education Council, p. 1-13

https://moodle.tru.ca/pluginfile.php/1366969/mod_resource/content/1/Friesen%20What%20Did%20you%20do%20in%20School%20Today%3F.pdf