

Subject	Math/Art/Science	Grade	4
Lesson Title	Symmetry and Animal habitats		
Prepare By	Ian Bonnell		

Stage 1 – Identify Desired Results
Outcome(s) & Indicator(s)
<p>SS4.4 Demonstrate an understanding of line symmetry by:</p> <ul style="list-style-type: none"> ● identifying symmetrical 2-D shapes ● creating symmetrical 2-D shapes ● drawing one or more lines of symmetry in a 2-D shape. <p>g) Create a symmetrical shape with and without manipulatives.</p> <p>Cross-curricular outcomes:</p> <p>Science - HC4.2 - Analyze the structures and behaviours of plants and animals that enable them to exist in various habitats.</p> <p>Art - CP4.8 - Create art works using a variety of visual art concepts (e.g., organic shapes), forms (e.g., kinetic sculpture, mural), and media (e.g., wood, wire, and found objects).</p> <p>Indicator(s):</p> <p>Math - SS4.4</p> <p>f) Determine whether or not a given 2-D shape is symmetrical by using a Mira or by folding and superimposing.</p> <p>g) Create a symmetrical shape with and without manipulatives.</p> <p>Science HC4.2</p> <p>a) Generate questions to investigate about the structures (e.g., beak shape, colour markings, type of feet, and thorny branches) and behaviours (e.g., seasonal migration, living in groups, and growing towards light) of plants and animals that enable them to exist within various habitats (e.g., schoolyard, wildlife reserve area, and creek bank).</p> <p>b) Recognize that each plant and animal depends on a specific habitat to meet its needs.</p>

Art - CP4.8

e) identify and use geometric and organic shapes and forms; symmetrical and asymmetrical shapes and forms.

m) expand skills and abilities in using various visual art tools and materials.

Key Understandings (I can statements)		Essential or Key Questions	
<ul style="list-style-type: none"> ● I can create a symmetrical game. ● I can research animals and their habitat. ● I can learn the Cree names of the animals. 		<ul style="list-style-type: none"> ● How does the game I created use symmetry? ● What are the habitats of the animals I researched? ● What is another way to say the names of the animals I researched? 	
Big Ideas	Prerequisite Learning	Instructional Strategies	
<ul style="list-style-type: none"> ● Symmetry is all around us. ● Art can represent math. ● Where do animals live? ● Can we say the animal names in a different language? 	<ul style="list-style-type: none"> ● Students must know what shapes are and how to fold paper. ● Students must know how to work a computer to conduct research. ● Students must be able to safely use scissors. 	<ul style="list-style-type: none"> ● Demonstration ● Instruction ● Modeling 	

Stage 2 – Determine Evidence for Assessing Learning	
Formative	Summative
<ul style="list-style-type: none"> ● Students will be observed while creating their fortune teller and while researching both animal habitats and Cree language. ● Teacher will inform and conduct a question-and-answer period to discuss symmetry in the project and the science and art aspects. 	<ul style="list-style-type: none"> ● Students will present their project to a peer and then hand in their project to the teacher. ● Students will be evaluated on their ability to incorporate all the components of the project - the fortune teller, the animals, the Cree name of the animal, and the animal habitat.

Stage 3 – Build Learning Plan

Set (Engagement):

Time: 5 min

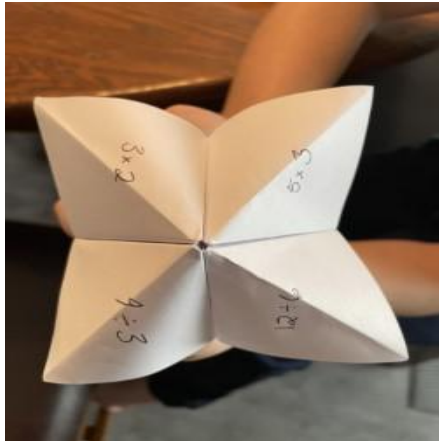
- Students will review the principals of symmetry learned in previous lessons. As a class, we discuss how we could create a craft using symmetrical shapes.
- The teacher will show the class the finger game we will create during the lesson. We will discuss how we will apply our learnings in science into the craft, and incorporate indigenous language.

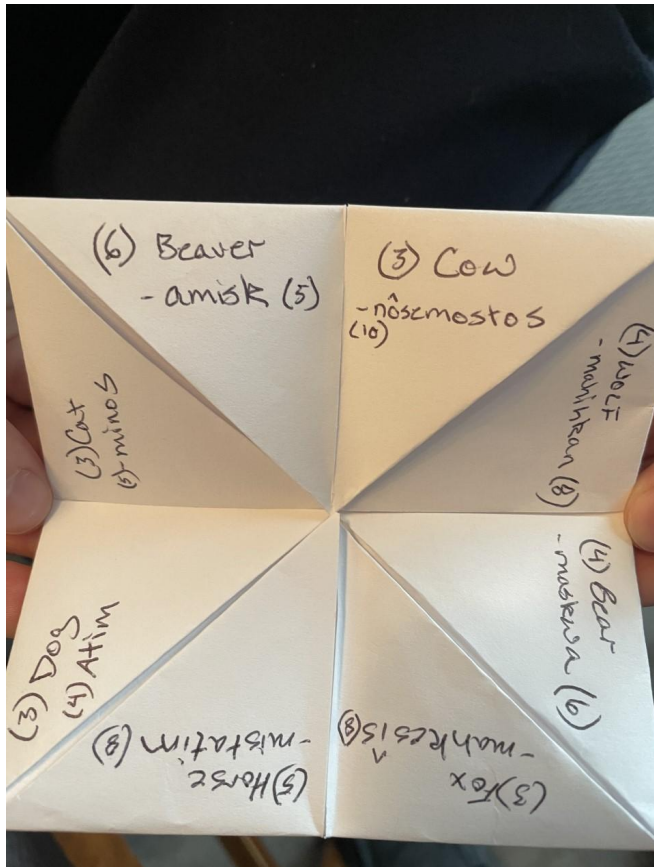
Development:

Time: 45 min

Learning Activities (tasks):

- Provide each student a paper to begin the craft.
- Teach the students every step of making the finger craft and discuss how the object is made up of symmetrical shapes throughout the lesson.
- Ask the students to use multiplication or division on the outside of the craft, but on the inside, they must pick 8 animals. They can write the name or draw the animals that they've chosen on the inside of the fortune-teller as pictured below.





- Putting the information together, the student will complete their craft and consider how they will present it to their peers about their chosen animals, the Cree names of the animals, and their habitat.

Learning Closure:		Time: 10 min
<ul style="list-style-type: none"> - The students will find a partner and will take turns playing with and teaching their partner about the symmetry in the game, the animals they researched, their habitats, and their Cree names. After showing their partner, they can switch partners with someone else. 		
Materials/Resources:		Adaptations/Differentiation:
<ul style="list-style-type: none"> - Computers - Paper - Scissors - Pen or Colouring tools 		<ul style="list-style-type: none"> - The teacher may have to help students who are struggling to create the fortune-teller. - Other students who are proficient at the craft may be asked to help their peers. - The teacher may have to assist with the computers to find ways to research animal habitats and Cree names of animals.

<p style="text-align: center;">Management Strategies:</p>	<p style="text-align: center;">Culturally Responsive and Appropriate Integration:</p>
<ul style="list-style-type: none"> - Students will be shown an example of the final product before starting the craft. - The teacher will slowly explain and demonstrate how to make the craft. - Teacher will have some websites ready to show the students in case they have a hard time researching. 	<ul style="list-style-type: none"> - The students will research the Cree names of the animals they have selected. When they play the game with their partner, they will teach their partners what the Cree name of the animal is before guessing or learning about the animal's habitat. - www.creedictionary.com
<p style="text-align: center;">Classroom Support Staff Roles:</p>	<p style="text-align: center;">Safety Considerations:</p>
<ul style="list-style-type: none"> - EA's will be able to walk around the classroom and support students needing help. 	<ul style="list-style-type: none"> - Internet safety - ensuring students are staying on task and using the internet appropriately. - Scissor safety. Students will be monitored while using scissors to create the craft.

<p>Stage 4 – Reflection</p>
<p>**Will be completed after lesson**</p>