# Bachelor of Education (Elementary) &

# Bachelor of Education (Secondary) STEM

# Lesson Plan

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| **Lesson Title:** | Hunting for Shapes (31 min) | **Lesson #** | 1 | **Date:** | **February 28, 2024** |
| Name: | Bram Walker | Subject: | Mathematics | Grade(s): | 2 |

Rationale:

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| This lesson is designed to captivate and engage Grade 2 students in the world of geometry through hands-on exploration and discovery. This lesson will aid students in learning and describing 2D shapes in a way that is query based and allows for different demonstrations of understanding. The overarching goals are to enhance students' ability to identify shapes and to have them able to recognize shapes in their daily lives. |

Core Competencies:

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| Communication | Thinking | Personal & Social |
| **Communicating: Connecting and engaging with others**  Students engage in informal and structured conversations in which they listen, contribute, develop understanding and relationships, and learn to consider diverse perspectives. This facet of communication is closely linked to the building and sustaining of relationships at home, at school, in the community, and through social media. | **Critical Thinking and Reflective Thinking: Questioning and investigating**  Students learn to engage in inquiry when they identify and investigate questions, challenges, key issues, or problematic situations in their studies, lives, and communities and in the media. They develop and refine questions; create and carry out plans; gather, interpret, and synthesize information and evidence; and reflect to draw reasoned conclusions. Critical thinking activities may focus on one part of the process, such as questioning, and reach a simple conclusion, while others may involve more complex inquiry requiring extensive thought and reflection. | **Social Awareness and Responsibility: Resolving problems**  Students identify and develop an appreciation for different perspectives on issues. They show empathy, disagree respectfully, and create space for others to use their voices. They generate, use, and evaluate strategies to resolve problems. |

Big Ideas (Understand)

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| * Objects and shapes have attributes that can be described, measured, and compared. |

Learning Standards

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| (**DO)** | (**KNOW)** |
| Learning Standards - Curricular Competencies | Learning Standards - Content |
| -Explain and justify mathematical ideas and decisions  -Visualize to explore mathematical concepts  -Model mathematics in contextualized experiences | * multiple attributes of 2D shapes and 3D objects |

Instructional Objectives & Assessment

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| Instructional Objectives (students will be able to…) | Assessment |
| 1. identify shapes that the attributes that classify them  2. recognize where they can find these shapes in daily life | 1. a) Conversational assessment during group discussion, as well as while students are working  b) Observation of conversations between students about how they identified their shapes  c) Product-based assessment from shape identification worksheet  2. Group discussions about where shapes are found in everyday life |

Prerequisite Concepts and Skills:

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| **-understanding that objects have attributes that can be described, measured and compared (from Kindergarten-Grade 1 Big Idea)**  **-literacy skills (able to recognize name of shape once learned)**  **-ability to work productively in groups** |

Indigenous Connections/ First Peoples Principles of Learning:

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| **FPPL 3: Learning involves recognizing the consequences of one’s actions.**  Students will participate in group discussion and reflect on the answers of their peers. This is a time for students to learn how to disagree in a way that is respectful, because not doing so will have mental and emotional impacts on their peers. |

Universal Design for Learning (UDL):

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| -Shape manuals have image-based (non-text) instructions for students who struggle with literacy skills  -Hook will have students get up and move around, which can be helpful for ADHD students |

Differentiate Instruction (DI):

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| -Some shapes will be easier to identify than other during the scavenger hunt, making it a low bar/high ceiling activity  -Students who struggle with writing can relay answers to the teacher verbally if required (not a spelling test) |

Materials and Resources

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| -projector  -shape identifying manuals  -worksheets  -shapes (triangle, trapezoid, hexagon, octagon, etc.)  -pencils and pens |

Lesson Activities:

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| Teacher Activities | Student Activities | Time |
| Introduction (anticipatory set – “HOOK”):  Hook: Shape Scavenger Hunt  As class begins, the instructor will have already hidden shapes around the classroom.  As students get settled have them sit quietly in their seats as per routine.  Get student’s attention with waterfall.  Give instructions to students: “Today you are all on a scavenger hunt. Imagine you are explorers in a mysterious land, and your mission is to discover the amazing shapes that surround us. Hidden around the classroom, there are different shapes for you to find and there are more than enough shapes for everywhere to have one. When we begin, one table group at a time will quietly move around the classroom to find their one shape and you will walk back to your table group with your shape. At your table group, you will use the shape identifying manuals to find out what shape you found. Remember we are explorers on a hunt, and we don’t want to scare the shapes away, so how do you think we should be moving in the classroom to stay as quiet as possible? Yes, we should be tiptoeing. It’s not a race and there are plenty of shapes for everyone"  Do a CFU and ask for hands to see if students understand what they’re doing.  Ask students how they will walk around?  Begin the introductory exercise. Ask one table group at a time to begin hunting, giving 5 seconds between when tables begin.  Monitor students as they move around the classroom. Make sure students can find a shape, giving hints as necessary.  Once most students have identified their shapes, get the class attention with waterfall and have students discuss with their table group which shape they found and how they identified it.  Observe and assess student understanding of the relation between the attributes of a shape and its classification. | Students enter the classroom and sit at desks as per usual routine.  Students make waterfall sounds and look up to the teacher.  Students listen attentively to the instructions.  Students answer with how they think they will be moving around the classroom.  Students raise their hands to ask clarifying questions.  Students will answer: “tiptoeing”  Students begin tiptoeing around the classroom. Upon finding their shapes, they return to their desk and begin using manuals, manipulatives, and measuring instruments to identify shapes. | 5 min  2 min  1 min  8 min |
| Body:  Once students have talked with their group partners, bring the class attention to the projector for a slideshow on the shapes they have just identified.  For each shape covered, students will be asked:  -who had this shape?  -how can we be sure that this is what shape we had? (attributes, # of sides)  -where do we find this shape in the real world  -Assess conversations for understanding of shapes and their connection to the real world.  Demonstrate slides with real-life examples of each of the shapes in the slideshow to reinforce learning.  After going through each shape together, go over shape worksheet. Explain to students that they will simply draw a line between the name of the shape and the shape itself to demonstrate that they know which shape is which. Have volunteers collect the manuals and hand out. Explain that they will be working individually.  Once all students have their handouts, ask them to begin.  While students are filling out the worksheet, assess 3-4 of them through conversation to see why they picked their answers. (ie. How did you know that was a hexagon?) | -Students observe the front of the class  -Students answer the questions for each shape.  -Students will listen to instructions for the worksheet. Volunteers collect manuals and give out handouts.  Students begin matching shapes with the shape names. | 8 min  4 min |
| Closure:  After all or almost all students have finished, bring the attention to the front of the class using waterfall. Put the worksheet up on the projector to go over.  Ask students to correct their pages as the class goes over each shape. Ask for students to raise their hands one at a time to give their answer for each shape, then ask each student why they believe that is the answer. Ask the rest of the class if they had something else.  Once all of the shapes have been reviewed, collect all the worksheets to use for product-based assessment.  Move on to the next lesson. | -Students put their pencils down and look at the projector.  -Students correct their pages and give out the answers they had by raising their hand. They can also agree with, or challenge, the answers of other students.  Students hand in their worksheet and move on to the next lesson. | 3 min |

Organizational Strategies:

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| -preparing the scavenger hunt and projector slideshow will allow for smoother transitions during the lesson  -having students in table groups allows for easy group conversations about their shapes  -use students volunteers for handouts to speed up the lesson |

Proactive, Positive Classroom Learning Environment Strategies:

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| -more than enough shapes will be available for the scavenger hunt so that students do not need to be competitive or disruptive to find them  -having one group tiptoe out at a time makes sure that students observe each other listening to the instructions  -begin the day by randomly assigning table groups, allowing for sharing of learning and maximizing growth students of all competency levels  -focus on making the lesson short and to the point to allow for better concentration |

Extensions:

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| -To make it a part of an “exploring” Unit, this lesson can be taught to be cross-curricular with Science lessons about living things in their environment  -To further cement the understanding of the different shapes, review this material in a followup lesson wherein students will fill out charts describing the attributes of each shape. |

Reflections (if necessary, continue on separate sheet):

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