 **LESSON PLAN (2024)**

**Candidate’s name:** Terri Wilkinson

| Grade/Class/Subject: | Math grade 7 | School: | Skeena Middle School |
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| Date: | March 13 2024 | Allotted Time: | 45 min |
| Topic/Title: | Exploring Circumference and Area of a circle |

1. **LESSON ORIENTATION**

**Key resources:** Instructional Design Map

| *Briefly, describe purpose of lesson, and anything else to note about the context of lesson, students, or class, e.g. emergent learning needs being met at this time, elements of focus or emphasis, special occasions or school events.* |
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| * Students continue to practice finding circumference and area of circles
* Students will explore hands on measurement activities with various circular objects to develop their skills
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1. **CORE COMPETENCIES**

**Key resources:** https://curriculum.gov.bc.ca/competencies

| **Core /Sub-Core Competencies** *(check all that apply):* | *Describe briefly how you intend to embed Core Competencies in your lesson, or the role that they have in your lesson.* |
| --- | --- |
|  COMMUNICATION – Communicating COMMUNICATION – Collaborating  THINKING – Creative Thinking THINKING – Critical Thinking THINKING – Reflective Thinking PERSONAL AND SOCIAL – Personal Awareness and Responsibility PERSONAL AND SOCIAL – Positive Personal and Cultural Identity  PERSONAL AND SOCIAL – Social Awareness and Responsibility | * students will communicate as a group orally and by writing down their findings after they take measurements
* students will practice justifying their answers
* students will think critically while analyzing, solving and interpreting their findings
* students will think creatively while exploring the different objects
* students will self reflect on their understandings while we go over findings as a class
* students will practice regulating their emotions by having to share and wait for objects during measurement time
* students will practice taking responsibility for their own learning by moving through the classroom, following the instructions, and contributing to the activity
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1. **INDIGENOUS WORLDVIEWS AND PERSPECTIVES**

**Key resources:** First Peoples Principles of Learning (FPPL); Aboriginal Worldviews and Perspectives in the Classroom

| **FPPL to be included in this lesson** *(check all that apply):* | *How will you embed Indigenous worldviews, perspectives, or FPPL in the lesson?* |
| --- | --- |
| Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors.  Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).  Learning involves recognizing the consequences of one's actions. Learning involves generational roles and responsibilities. Learning recognizes the role of Indigenous knowledge. Learning is embedded in memory, history, and story. Learning involves patience and time.  Learning requires exploration of one's identity. Learning involves recognizing that some knowledge is sacred and only shared with permission and/or in certain situations. | experiential learning is embedded in this lesson by have the hands on practice for the students to measure real world objects* by incorporating examples from indigenous people in this lesson i am recognizing the role of indigenous knowledge
* realizing that students will need lots of time for measurements, discussions and deriving the formula incorporates patience and time
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1. **BIG IDEAS**

**Key resources:** https://curriculum.gov.bc.ca/ (choose course under Curriculum, match lesson to one or more Big Ideas)

| *What are students expected to understand? How is this lesson connected to Big Idea/s or an essential question?* |
| --- |
| The constant ratio between the circumference and diameter of circles can be used to describe, measure, and compare [spatial relationships](https://curriculum.gov.bc.ca/curriculum/mathematics/7/core). |

1. **LEARNING STANDARDS/INTENTIONS**

**Key resources:** https://curriculum.gov.bc.ca/ (choose course under Curriculum)

| **Curricular Competencies:***What are students expected to do?*  | **Content:***What are students expected to learn?* |
| --- | --- |
| Use [reasoning and logic](https://curriculum.gov.bc.ca/curriculum/mathematics/7/core) to explore, analyze, and apply mathematical ideasDevelop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solvingUse mathematical vocabulary and language to contribute to mathematical discussions[Communicate](https://curriculum.gov.bc.ca/curriculum/mathematics/7/core) mathematical thinking in many ways[Reflect](https://curriculum.gov.bc.ca/curriculum/mathematics/7/core) on mathematical thinkingConnect mathematical concepts to each other and to [other areas and personal interests](https://curriculum.gov.bc.ca/curriculum/mathematics/7/core)[Incorporate First Peoples](https://curriculum.gov.bc.ca/curriculum/mathematics/7/core#;) worldviews and perspectives to [make connections](https://curriculum.gov.bc.ca/curriculum/mathematics/7/core#;) to mathematical concepts | [circumference](https://curriculum.gov.bc.ca/curriculum/mathematics/7/core) and area of circles |

1. **ASSESSMENT PLAN**

**Key resources:** Instructional Design Map andhttps://curriculum.gov.bc.ca/classroom-assessment

| *How will students demonstrate their learning or achieve the learning intentions? How will they know if they are proficient? How will the evidence be collected, documented and shared? Will you use* ***observation****s, have targeted* ***conversations****, or collect* ***products****? Mention any opportunities for feedback, self-assessment, peer assessment and teacher assessment. What tools, structures, or rubrics will you use to assess student learning (e.g. Performance Standard Quick Scale)? Will the assessments be* ***formative****,* ***summative****, or both?* |
| --- |
| demonstrate learning* participating in hands on activities
* solving the formulas
* participating in discussions

Assessment methods* written work with the chart
* observation from teacher (walking through class, checking in on groups)
* discussion with open ended questions

Opportunities for feedback* self assessment during time of going over their findings
* peer assessment during group discussion
* teacher will give feedback during moving around classroom

Formative assessment* walking thought out classroom to observe
* going over the worksheet
* informal questioning
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1. **DESIGN CONSIDERATIONS**

**Key resources:** Instructional Design Map

| *Make brief notes to indicate how the lesson will meet needs of your students for: differentiation, especially for known exceptionalities, learning differences or barriers, and language abilities; inclusion of diverse needs, interests, cultural safety and relevance; higher order thinking; motivations and specific adaptations or modifications for identified students or behavioral challenges. Mention any other design notes of importance, e.g. cross-curricular connections, organization or management strategies you plan to use, extensions for students that need or want a challenge.* |
| --- |
| * i will incorporate different methods of learning through the lesson including the work sheet, the different objects and by grouping students together in the groups
* there will be different opportunities for group members to participate in group activity including writing, measuring, and discussing their findings
* for students who need extra support or have special needs I can adapt this lesson by adapting the materials, adjusting the expectation or using the EA in the room ( there are 2 students that will need help with moving through the room because of wheelchairs, materials can be brought to them)
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| **Required preparation:** *Mention briefly the resources, material, or technology you need to have ready, or special tasks to do before the lesson starts, e.g. rearrange desks, book a room or equipment.* |
| * worksheet
* real world objects that are circular
* window
* Mrs. O’Neill chair
* tape ring
* drum
* dream catcher
* pizza tray
* bike wheel
* wood pieces
* pencils
* ruler/measuring tape
* calculators
* handout from previous class with formula on it (“Cheat sheet”)
* visualizer tool for demonstrating findings after
* whiteboard
* marker
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1. **LESSON OUTLINE**

| **Instructional Steps** | **Student Does/Teacher Does** *(learning activities to target learning intentions)* | **Pacing** |
| --- | --- | --- |
| **OPENING:***e.g. greeting students, sharing intentions, look back at what was learned, look ahead to what will be learning, use of a hook, motivator, or other introduction to engage students and activate thinking and prior knowledge* | Introduction to activity* brief review of formulas for circumference and area
* brief review of definitions of radius and diameter
* explanation of activity to continue practice of finding circumference and area.
* hand out worksheets for activity
 | 5 min |
| **BODY:*** *Best order of activities to maximize learning -- each task moves students towards learning intentions*
* *Students are interacting with new ideas, actively constructing knowledge and understanding, and given opportunities to practice, apply, or share learning, ask questions and get feedback*
* *Teacher uses learning resources and strategic opportunities for guided practice, direct instruction, and/or modeling*
* *Can include: transitions, sample questions, student choices, assessment notes (formative or otherwise), and other applications of design considerations*
 | Activity* explain to students that today they will be measuring various circular objects. They are to measure the various circles to find the diameter and radius and record the measurements on the worksheets
* explain how to fill out worksheet
* do first example together as a class using the visualizer to put up on over head
* next the students go and measure all objects and they will calculate the circumference and area of each circle and record it on the worksheet
* students will move around classroom to the various stations to measure the circle objects
* after all students have measured all circular objects and recorded their answers the class will regroup and go over answers as a class
 | 30 min |
| **CLOSING:*** *Closure tasks or plans to gather, solidify, deepen or reflect on the learning*
* *review or summary if applicable*
* *anticipate what’s next in learning*
* *“housekeeping” items (e.g. due dates, next day requirements*
 | Closing* go over a few of the measurements and answer together as a class, record results in the handout chart (explain to students that we may have slightly different measurements but that is ok)
* have students record results
* ask class a question to class to reflect on area and circumference
* How would you explain the concepts of area and circumference of a circle to someone that has not heard about this before
 | 10 min |

1. **REFLECTION** *(anticipate if possible)*

| * *Did any reflection in learning occur, e.g. that shifted the lesson in progress?*
* *What went well in the lesson (reflection on learning)?*
* *What would you revise if you taught the lesson again?*
* *How do the lesson and learners inform you about necessary next steps?*
* *Comment on any ways you modelled and acted within the Professional Standards of BC Educators and BCTF Code of Ethics?*
* *If this lesson is being observed, do you have a specific observation focus in mind?*
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| --- |
| * During the lesson I realized that I should do a few examples with measuring and finding the answer with the students, so I grabbed an object, measured it with the visualizer over head as a class, filled in the worksheet, went through the formulas and answers with the class. It went really well and was helpful for the students
* I also had the opportunity to do 2 math lessons back to back teaching the same lesson to two different classes. After realizing that the students needed help with the measurements that is how I ended up starting the second class. Again this went so well, and having the opportunity to reflect right away was very beneficial for me.
* a few things that went well included,
* the hands on measurements activities help students with more practice finding the diameter
* the differentiated learning activities accommodate the students that needed help getting around the room, the EA’s helped the students that need help filling out the worksheet
* going over an example as a class helped the students get started on the rest of the objects
* a few things i would revise include,
* I would clarify how to fill out the worksheet before handing it out
* maybe add a few different objects to measure
* How does the lesson and learners inform next steps?
* I after the lesson i realized that the students still need some practice with finding area and circumference of a circle
* next steps should include more practice, repeating the steps, and maybe more assessment
* How was this lesson modeling the professional standards and BCTF code of ethics?
* i modeled respectful inclusion and teaching practices
* i created a safe and supportive learning environment
* i included all students and supported students that needed extra help
* focus of the lesson
* developing students understanding of circumference and area of a circle
* hands on exploration, inquiry-based learning and practice of understanding mathematical concepts
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