



## Learning Standards

(DO)

(KNOW)

Learning Standards - Curricular Competencies	Learning Standards - Content
<ul style="list-style-type: none"> <li>● Use reasoning to explore and make connections</li> <li>● Develop and use multiple strategies to engage in problem-solving</li> <li>● Communicate mathematical thinking in many ways</li> </ul>	<ul style="list-style-type: none"> <li>● comparison of 2D shapes and 3D objects.               <ul style="list-style-type: none"> <li>○ sorting 3D objects and 2D shapes using one attribute, and explaining the sorting rule</li> <li>○ describing relative positions, using positional language (e.g., up and down, in and out)</li> </ul> </li> </ul>

## Instructional Objectives & Assessment

Instructional Objectives (students will be able to...)	Assessment
<ul style="list-style-type: none"> <li>● Identify and distinguish between 2D shapes (e.g., circle, square, triangle, rectangle) and 3D objects (e.g., cube, sphere, cone, cylinder).</li> <li>● Sort 2D shapes and 3D objects based on one attribute (e.g., number of sides/faces, ability to roll) and explain the rule.</li> <li>● Use positional language to describe the location of shapes relative to each other.</li> </ul>	<ul style="list-style-type: none"> <li>● Formative: Observe participation during read-aloud, stations, and discussions (e.g., correct identification of 2D vs. 3D, use of positional words).</li> <li>● - Exit Ticket: Students draw/build a composite shape and describe it with positional language (e.g., “Two triangles side by side make a square”).</li> <li>● - Self-Reflection: Students share one learned concept (rubric: clear communication, connection to objectives).</li> </ul>

## Prerequisite Concepts and Skills:

<ul style="list-style-type: none"> <li>● Basic familiarity with colours and simple counting (e.g., number of sides).</li> <li>● Ability to follow group instructions and share materials.</li> <li>● Some prior knowledge of different shapes</li> <li>● Ability to recognize and name basic 2D shapes from prior exposure (e.g., kindergarten or everyday objects).</li> <li>● Recognition of basic 2D shapes from everyday exposure; anticipate misconceptions like confusing 2D/3D (addressed via tactile examples and modelling).</li> <li>● Anticipated misconceptions: Confusing 2D/3D (e.g., calling a circle a sphere); addressed through tactile examples, modelling, and visuals.</li> </ul>
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## Indigenous Connections/ First Peoples Principles of Learning:

<p>Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, reciprocal relationships, and a sense of place). How this applies: Students engage experientially with shapes through manipulatives, schoolyard hunts that connect to local nature (e.g., spheres like Science World), and building composites inspired by First Peoples' art patterns (e.g., triangles in totems), encouraging reflection on environmental relationships.</p>
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## Universal Design for Learning (UDL):

- Multiple means of representation: Use visual aids (book illustrations, tactile shapes), auditory (read-aloud discussions), and kinesthetic (manipulatives).
- Multiple means of engagement: Hook with storytelling, choice in shape hunts, and connections to nature/culture.
- Multiple means of action and expression: Allow oral explanations, drawings, or building for assessments.

#### Differentiate Instruction (DI):

- Low floor: For struggling learners, provide vocabulary cards with pictures (e.g., “2D circle,” “up/down”), pre-sorted examples, and peer pairing.
- High ceiling: For advanced learners, extend with non-standard measurement (e.g., “How many cubes long is your shape?”) or predicting patterns.
- Inclusivity: Tactile options for the visually impaired; connect to diverse cultures (e.g., shapes in local Vancouver landmarks like Science World sphere or First Peoples art).

#### Materials and Resources

- Picture book: The Greedy Triangle by Marilyn Burns (or alternative shape-focused book).
- Assorted 2D shape cutouts and 3D objects (e.g., pattern blocks, blocks, balls).
- Chart paper/markers, non-standard measurement tools (optional).
- The Greedy Triangle read-aloud video (alternative to book):  
[https://www.youtube.com/results?search\\_query=the+greedy+triangle+read+aloud](https://www.youtube.com/results?search_query=the+greedy+triangle+read+aloud)
- Images of shapes in nature/First Peoples art:  
<https://www2.gov.bc.ca/gov/content/education-training/k-12/teach/teaching-tools/aboriginal-education> (or printable Indigenous patterns from free resources).

#### Lesson Activities:

Teacher Activities	Student Activities	Time
Introduction (anticipatory set – “HOOK”): Read aloud The Greedy Triangle, pausing at illustrations to ask: “Is this 2D or 3D? Name the shape!” Activate prior knowledge with inquiry questions (e.g., “How are shapes alike/different?”). Introduce objectives and big ideas.	Listen and participate: Point out/call out 2D vs. 3D shapes, name them, and discuss attributes. Turn and talk with partners.	10-15 mins
Body: Rotate through 3 stations (groups of 3-4 students, 10-12 min each, plus quick transitions with a timer). The teacher provides direct instruction/modelling at each (e.g., demonstrates sorting rule explanation, models positional language).	1. Sort shapes by attribute (e.g., roll vs. not), explain the rule on the chart.  2. Hunt for shapes, compare (e.g., “Clock is 2D circle like book”).	30-40 mins total

<p>1. Sorting Station: Sort 2D/3D by one attribute (e.g., can roll vs. cannot), explain rule verbally/on chart (practice skill).</p> <p>2. Shape Hunt: Hunt in the classroom/schoolyard for shapes; compare and describe positions (e.g., “The door is a rectangle next to the circle clock”).</p> <p>3. Building Station: Build composite shapes (e.g., two triangles side by side to make a diamond/square), describe with positional language and connect to patterns in nature/First Peoples art.</p>	<p>3. Build composites (e.g., triangles to square), describe positions/storytell.</p>	
<p>Closure: Review key learnings, facilitate exit ticket and self-reflection sharing.</p>	<p>Complete exit ticket (draw/describe shape), share one learning (e.g., “I learned 2D vs. 3D from the book!”).</p>	<p>10 min</p>

**Organizational Strategies:**

- Small groups (3-4 students) for stations, with rotations every 10 minutes using a timer.
- Clear transitions: Use signals (e.g., clap pattern) and a visual schedule on the board.

**Proactive, Positive Classroom Learning Environment Strategies:**

- Establish norms: “We listen respectfully and share ideas kindly.”
- Positive reinforcement: Praise specific efforts (e.g., “Great job using ‘up’ to describe position!”).
- Inclusive setup: Flexible seating, quiet zones for focus.

**Extensions:**

- Extend into a multi-day unit by introducing more attributes (e.g., edges/corners/vertices for 3D) or partitioning shapes (e.g., halves/quarters of circles/squares).
- Homework or take-home activity: Students hunt for shapes in their home/environment, draw/photograph 3 examples (one 2D, one 3D, one composite), and describe positions using words like “next to,” “above,” or “inside.”
- Integration with other subjects: Connect to art by having students create patterns inspired by First Peoples designs (e.g., using triangles/circles in repeating motifs) or

to science/nature (e.g., identifying spherical/cylindrical objects outdoors, such as trees/rocks).

- Tech/digital extension: Use free apps/tools (e.g., pattern-block apps or Shape Hunt digital scavenger) for advanced students to compose virtual shapes and explain their attributes.
- Challenge for high-ceiling learners: Predict and test if certain composites can form new shapes (e.g., “How many triangles make a hexagon?”), or measure non-standard length of built shapes (e.g., “How many cubes long is your house?”).

Reflections (if necessary, continue on separate sheet):

- This was my first full lesson plan for Grade 1 geometry, and starting with the BC Curriculum’s Big Idea (“Objects and shapes have attributes that can be described, measured, and compared”) helped me stay focused and backward-design the activities from desired outcomes rather than just fun activities.
- Choosing the Greedy Triangle as the hook felt natural because it connects storytelling to math concepts, fostering engagement and tying into the Communication core competency through discussions and turn-and-talks.
- Integrating Indigenous Connections was meaningful. I researched local examples (e.g., spheres like Science World, triangles in First Peoples’ art/totems) to make learning holistic, reflexive, and place-based, deepening my understanding of the First Peoples’ Principles of Learning and how they apply to math.
- Addressing anticipated misconceptions (e.g., confusing 2D circles with 3D spheres) through tactile manipulatives and modelling strengthened the plan’s UDL and DI elements, reminding me how important it is to plan inclusively from the start.
- The station rotations (Sorting, Shape Hunt, Building) were challenging to time realistically for Grade 1 attention spans. I adjusted to 10-12 minutes each with buffers, which taught me to prioritize smooth transitions and positive classroom norms early in the planning process.
- Overall, iterating on this plan (refining rationale, cleaning up typos/formatting, adding Extensions) built my confidence in aligning hands-on, experiential activities with curriculum standards while promoting spatial reasoning and real-world connections.