

Curriculum Planning & Assessment Resource

Mathematics Grade 1



**Alberta Regional Professional
Development Consortia**

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Curriculum Planning & Assessment Resource

Mathematics

Grade 1 Geometry 1

About This Document

This Curriculum Planning & Assessment Resource is intended to be a collection of sample activities, assessments, and resources that teachers may wish to use as they develop their unit plans. This document is not intended to be a sequential list of activities. Rather, the intent is that teachers choose from this resource what is appropriate for their context, and sequence it in their planning.

The sample activities, assessments and resources included in this document have undergone an initial review to determine appropriateness and alignment to the curriculum. However, it is expected that teachers use their professional judgment in selecting activities, assessments and resources that are appropriate for their context.

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Acknowledgements

Thank you to all the teachers, numeracy specialists, and technical expertise from Alberta school divisions and ARPDC who collaborated to develop, review, and revise these planning and assessment documents to support curriculum implementation.

Grade 1 Geometry 1

Organizing Idea

Geometry: Shapes are defined and related by geometric attributes.

Guiding Question

In what ways can shape be characterized?

Learning Outcome

1G1 Students interpret shape in two and three dimensions.

Summative Assessment(s) - Transfer *(In Progress)*

Summative assessments can include the following.

- *Understanding/making sense of a novel context from the real world using one or more concepts (eg. “How are place value and money related?”).*
- *Understanding/making sense of a novel context using one or more understandings (eg. Students use money to model the conversion of base 10 values and relate them to base 10 block’).*
- *Being able to describe why (linking concepts) something is true, a result, or what might be an extension using learned concepts and understandings.*
- *Apply learning (create products; undertake projects; taking action such as creating a campaign) in a novel context or taking action using the understanding(s).*
- *Construct arguments by taking a position and verifying/proving it with known understandings.*

Summative Assessment(s) [\[understanding surface vs deep vs transfer\]](#)

[1G1 Summative](#)

[1G1 Summative French](#)



KUSP 1G1

[Literature Connections](#)

KUSP 1G1

Assumable Curriculum / Prerequisite Knowledge / Vocabulary

Student Language | Essential vocabulary & concepts

- **2-dimensional (2-D):** having length and width
- **3-dimensional (3-D):** having length, width, and height
- **Symmetry:** the property of having the same size and shape across a dividing line (line of symmetry)
- **Composite:** a shape made from two or more shapes
- **Attributes:** the characteristics of a set of items that allow the items to be sorted

Pre-Assessments

Pre-Assessments 1: Finding Each Students Pathway

- Describing and Finding 3D Objects - p. 25
- Describing and Finding 2D Shapes - p. 26
- Using 3D Objects - 29
- Using 2D Shapes - p. 30

Nelson Leaps and Bounds pages will be referenced in the Pre-Assessments to follow up for emerging learners.

Learning Recovery


I Know Statements | Skills

- I know a line of symmetry divides a shape into two matching halves.
- I know a shape can have different sizes and positions.
- I know a shape can be made of two or more shapes.
- I know the names of familiar 2D shapes (e.g., squares, circles, rectangles, triangles)
- I know the names of familiar 3D shapes (e.g., cubes, prisms, cylinders, spheres, pyramids, cones)

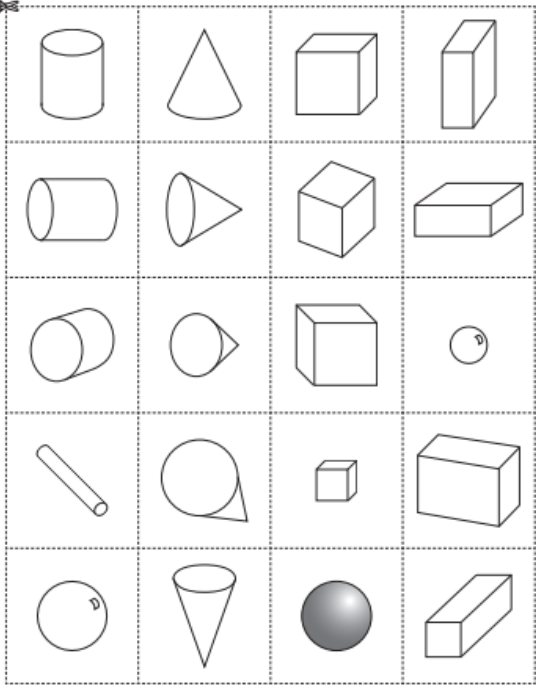
I Can Statements | Metacognition

- I can identify squares, circles, rectangles, and triangles.
- I can identify cubes, prisms, cylinders, spheres, pyramids, and cones.
- I can identify shapes in various sizes and positions.
- I can model 2-D shapes.
- I can sort shapes according to one attribute and describe the sorting rule.
- I can compose and decompose 2- or 3-D composite shapes.
- I can see shapes within other 2- or 3-D shapes.
- I can fold and match 2-D shapes to show symmetry.

Enhancement

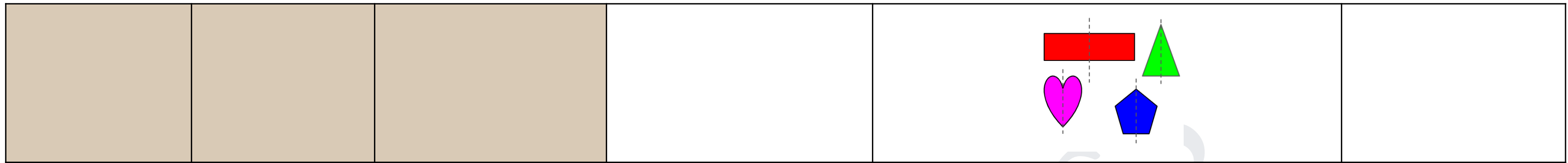
Learning Outcome					
1G1 Students interpret shape in two and three dimensions.					
Knowledge	Understanding	Skills & Procedures	Achievement Indicators	Illustrative Examples	Assessments
<p>Familiar two-dimensional shapes include</p> <ul style="list-style-type: none"> • squares • circles • rectangles • triangles <p>Familiar three-dimensional shapes include</p> <ul style="list-style-type: none"> • cubes • prisms • cylinders • spheres • pyramids • cones <p>A composite shape is composed of two or more shapes.</p> <p>A line of symmetry indicates the division between the matching halves of a symmetrical shape.</p>	<p>A shape can be modelled in various sizes and orientations.</p> <p>A shape is symmetrical if it can be decomposed into matching halves.</p>	<p>Identify familiar shapes in various sizes and orientations.</p> <p>a</p>	<p>Identify shapes in various sizes and orientations.</p>	 <p>Look at the shapes. Put an R on the rectangles Put a T on the triangles Put a C on the circles Put an S on the squares</p>	<p>Matching Shapes - K5 Learning - Surface</p> <p>Identifying and Colouring Shapes - Surface - K5 Learning</p> <p>Identifying 2D Shapes - Deep - K5 Learning</p>

INPRO

				<p>GAME _____ DATE _____</p> <p>3-D Shapes</p>  <p>Taken from Jump Math teacher resource, Grade 1 Unit 16: Geometry - 3-D shapes, pg 72. Look at the shapes. Color the cone green. Color the cube red. Color the cylinder purple. Color the sphere blue. Color the prism yellow.</p>	
		<p>Model two-dimensional shapes. b</p>	<p>Draw or create two-dimensional shapes from images or objects.</p>	<p>Have students draw or create (e.g., playdough, pipe cleaners, geoboards, foam on a desk and use their fingers to draw, sandbox drawing, snow drawing etc.) 2D shapes.</p> <p>Students can use Pattern Blocks to trace and create 2D shapes and identify them by name</p> <p>Teacher Note: Attribute blocks are 3-D objects because they have length, width, and thickness. They are, however, described using 2-D vocabulary (e.g., is described as a hexagon and not as a hexagonal prism). This is true for pattern blocks as well.</p>	<p>1G1b Modelling 2D Shapes - Surface/Deep</p>
		<p>Sort shapes according to one attribute and describe the sorting rule. c</p>	<p>Sort a collection of shapes using a single attribute and describe the sorting rule.</p>	<p>Teacher Note: Attribute blocks are 3-D objects because they have length, width, and thickness. They are, however, described using 2-D vocabulary (e.g., is described as a hexagon and not as a hexagonal prism). This is true for pattern blocks as well.</p>	<p>Data Sort - by NRICH (link to download sorting cards found in the activity).</p> <p>1G1c Sorting 2D Shapes - Deep</p>

		<p>Identify familiar shapes within two- or three-dimensional composite shapes</p> <p>d</p>	<p>Identify shapes (circles, squares, rectangles, triangles) within two- or three-dimensional composite shapes.</p>	<p>Provide students with a collection of paper shapes of various sizes including triangles, rectangles, circles, and other shapes. Ask students to sort the collection into two groups and name the sorting rule. Then have students regroup the collection and sort it in other ways</p> <p>When presented with a composite shape, students can identify the 2D and 3D shapes found within.</p>  <p>Taken from Jump Math teacher resource, Grade 1 Unit 16: Geometry - 3-D shapes, pg 105.</p>	<p>1G1d Finding Shapes - Deep</p>
		<p>Investigate symmetry of two-dimensional shapes by folding and matching.</p> <p>e</p>	<p>Investigate whether a 2-D shape (squares, triangles, circles and rectangles) is symmetrical by folding and matching.</p>	<p>Focus on folding familiar 2-D shapes to determine symmetry</p>   <p>● We can use tissue paper, or construction paper to find if a shape has <u>line symmetry</u>.</p> <p>We fold it on a <u>line of symmetry</u>.</p>	<p>1G1e - Finding Symmetry - Deep</p>

Identify and draw a line of symmetry on a 2-D shape.



Resources

Mathology

[ARPD Math Little Books for Alberta Curriculum](#)
[Mathology Free Resources on New Learn Alberta](#)

Mathology Little Books

Mathology Little Book: [What Was Here?](#)
 Mathology Little Book: [Memory Book](#)
 Mathology Little Book: [The Tailor Shop](#)

Links to Other Grades:

Mathology Little Book: [The New Nest \(K\)](#)
 Mathology Little Book: [Zoom In, Zoom Out \(K\)](#)
 Mathology Little Book: [The Castle Wall \(K\)](#)

Mathology Activities

Mathology Grade 1: Geometry Cluster 1, 2-D Shapes: Activities 1-6
 Mathology Grade 1: Geometry Cluster 2, 3-D Solids: Activities 7-10
 Mathology Grade 1: Geometry Cluster 3, Geometric Relationships: Activities 11-15
 Mathology Grade 1: Geometry Cluster 4, Symmetry: Activities 16-18

Existing Texts

Math Makes Sense 1 - Unit 6 Pages 139-161
Math Focus 1 - Chapter 7 Pages 57 - 69

Indigenous Lesson Plans and Resources

In development

Other

Math UP

AB_2-D Shapes

- Lesson 1: Sorting and Classifying 2-D Shapes
- Lesson 2: Composing and Decomposing 2-D Shapes
- Lesson 3: Lines of Symmetry

AB_3-D Objects

- Lesson 1: Describing 3-D Shapes
- Lesson 2: Sorting and Classifying 3-D Shapes
- Lesson 3: Building With 3-D Shapes

NCETM

[Year 1 Geometry - Properties of Shapes](#) (see Links and Resources for Activities)
[Year 2 Geometry - Properties of Shapes](#) Select from Activities B, C

Problem Solving In development

[Shapes: 2D shapes and 3D objects](#) - Teacher Resource Slides

Identify Patterns in Nature: [Identifying Patterns in Nature](#) **Author:** Inspire Math Matematyka

Option One: The teacher provides a page with shapes on one side. Students fold the page vertically and draw what might appear on the other side. To verify, students fold their paper and cut it out to see if the shape is symmetrical.

Questions:

- What does it mean for two shapes to be symmetrical?
- What did you notice when you folded and cut the paper?

Option Two: The teacher folds a paper horizontally and cuts out a shape (e.g., a square). If both halves are symmetrical, what shape would we get? This helps develop spatial awareness and the concept of shapes and symmetry. Allow students to fold their own paper, cut out a square, and unfold the paper to verify their initial thoughts.

Geoboard Creations: Students have a set of geoboards, elastics, and pre-made cards of “shapes” that they can create on their geoboards. This would make for a great fine-motor activity in your fine-motor morning bins. Extension: Have students create their own shapes without the use of the modeled cards.

Click to jump!



KUSP 1G1

[Literature Connections](#)

Literature Connections

Title	Author	Format (Picture Book, Novel, Non-fiction, other)	Publisher	ISBN	Notes
The Perfect Fit	Naomi Jones	Picture Book	Oxford University Press (April 14 2021)	0192774611, 978-0192774613	Sorting shapes, 2D shapes, attributes of shapes
Cubes, Cones, Cylinders, & Spheres	Tana Hoban	Picture Book	Greenwillow Books; First Edition (September 19, 2000)	0688153259, 978-0688153250	3D Shapes in environment
Shapes	Luana Mitten	Picture Book	Rourke Pub., 2009	1606948490, 9781606948491	3D Shapes in environment
Shapes	Sara Pistoia	Picture Book	Childs World Inc (Aug. 1 2013)	1623235340, 978-1623235345	2D Shapes in environment, attributes of 2D shapes
Seeing Symmetry	Loreen Leedy	Picture Book	Holiday House; Illustrated edition (Jan. 1 2013)	0823427625, 978-0823427628	Symmetry