

Bachelor of Education (Elementary) & Bachelor of Education (Secondary) STEM Unit Plan Template

Unit Title: Math: 3D Shapes **Number of Lessons:** 5 **Time (in weeks):** 3
Name: Melissa Green **Subject(s):** Math **Grade(s):** Kindergarten

Rationale

This unit is important as it introduces students to 3D shapes and teaches them to identify and describe shapes and sort 2D and 2D objects.

Overview:

This unit introduces students to 3D shapes and has students sorting 3D shapes, sorting 2D and 3D shapes, finding out whether a shape rolls, slides, or stacks, and creating shapes with various materials. This unit will be accompanied by learning centres.

CORE COMPETENCIES

Communication	Thinking	Personal & Social
<ul style="list-style-type: none"> • <i>Communicating</i> Students will communicate with peers and teachers through sharing with the group and individually. Students will communicate with one another through learning centres. • <i>Collaborating</i> Students will collaborate together during learning centres, when learning about whether shapes roll, stack, or slide and when making shapes in the final lesson. 	<ul style="list-style-type: none"> • <i>Creative Thinking</i> Students will be encouraged to be creative in their creation of shapes in the final lesson and while looking for shapes in the classroom. • <i>Critical and Reflective Thinking</i> Students will be invited to analyze shapes and determine whether the shape is a 2D or 3D shape. 	<ul style="list-style-type: none"> • <i>Personal Awareness and Responsibility</i> Students will be expected to be aware of, and regulate, their behaviour during class discussions and during work periods. As this is Kindergarten, this will continue to be modeled and reviewed through the unit and indeed, through the school year.

BIG IDEAS

(multiple subject areas for integrated unit)

Math

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

LEARNING STANDARDS

Curricular Competencies	Content
CC1: Use reasoning to explore and make connections. CC6: Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving. CC11: Use mathematical vocabulary and language to contribute to mathematical discussions.	C8: Single attributes of 2D shapes and 3D objects.

Prerequisite Concepts and Skills:

- Students are familiar with the math centre expectations

- Students can cut and glue independently

Teacher Preparation Required:

Lesson #	Teacher Preparation Required (See Unit Plan Sample)
Lesson 1	• 3D shape posters, worksheet, crayons
Lesson 2	• Book, worksheet, glue, scissors, crayons
Lesson 3	• Video, 3D shape kits, documentation sheet
Lesson 4	• Worksheet
Lesson 5	• I have who has playing cards, mini marshmallows, toothpicks, plasticine, magnetic blocks, playdough

Cross-Curricular Connections:

N/A

Aboriginal Connections/ First Peoples Principles of Learning:

N/A

Overview of Lessons:

Lesson 1

Name & Time (Minutes Allotted):	3D shape introduction
Learning Standards: Curricular Competencies	CC1, CC6
Learning Standards: Content	C8
Instructional Objectives	TSWBAT complete the colour and match 3D shapes sheet
Assessment:	Formative <i>for</i> learning What: Worksheet How: Teacher will review to learn about student understanding.
Teaching Strategies:	Shape posters, worksheet, math centres
Materials:	3D shape posters, worksheet, crayons
Lesson Activities:	
Introduction/Hook:	Introduce the 3D shapes: Cone, Sphere, Cube, Cylinder
Body:	Students complete the colour to match 3D shapes sheet.
Closure:	Students transition to math learning centres. Options: Roll and cover a 3D shape, 3D shape sorting, magnetic blocks, create a picture with pattern blocks.

Lesson 2

Name & Time (Minutes Allotted):	3D shape sorting
Learning Standards: Curricular Competencies	CC1, CC6
Learning Standards: Content	C8
Instructional Objectives	TSWBAT complete the cut and paste 3D shape worksheet
Assessment:	Formative <i>for</i> learning What: Worksheet How: Teacher will review to gauge understanding of the different 3D shapes.
Teaching Strategies:	Story, worksheet, math centres
Materials:	Book, worksheet, glue, scissors, crayons
Lesson Activities:	

Introduction/Hook:	Read: So many circles, so many squares
Body:	Students complete the cut and paste 3D shapes sheet.
Closure:	Students transition to math learning centres. Options: Roll and cover a 3D shape, 3D shape sorting, magnetic blocks, create a picture with pattern blocks.

Lesson 3

Name & Time (Minutes Allotted):	Roll, Stack, Slide
Learning Standards: Curricular Competencies	CC1, CC6, C11
Learning Standards: Content	C8
Instructional Objectives	TSWABT document their findings on the documentation sheet to show their understanding of roll, stack, slide.
Assessment:	Formative <i>for</i> learning What: Worksheet How: Teacher will review
Teaching Strategies:	Video, hands-on-learning, documentation sheets, math centres
Materials:	Video, 3D shape kits, documentation sheet
Lesson Activities:	
Introduction/Hook:	Video: https://www.youtube.com/watch?v=AcsUQIxJKjY
Body:	In small groups , have students explore the 3D shapes and determine whether they roll, stack, or slide. Students indicate their findings on Roll, Stack, Slide, documentation sheet.
Closure:	Students transition to math learning centres. Options: Roll and cover a 3D shape, 3D shape sorting, magnetic blocks, create a picture with pattern blocks.

Lesson 4

Name & Time (Minutes Allotted):	2D and 3D sort
Learning Standards: Curricular Competencies	CC1, CC6
Learning Standards: Content	C8
Instructional Objectives	TSWBAT complete the cut and paste worksheet to sort the 2D and 3D shapes.
Assessment:	Summative <i>of</i> learning What: Worksheet How: Teacher will review to assess student understanding of 2D and 3D shapes.
Teaching Strategies:	Find and share, worksheet, math centres
Materials:	Worksheet
Lesson Activities:	
Introduction/Hook:	Classroom hunt for 2D and 3D shapes. (when students find one they sit down at that spot for reporting back)
Body:	Students complete the cut and paste 2D and 3D sorting sheet.
Closure:	Students transition to math learning centres. Options: Roll and cover a 3D shape, 3D shape sorting, magnetic blocks, create a picture with pattern blocks.

Lesson 5

Name & Time (Minutes Allotted):	Yay shapes!!
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Learning Standards: Curricular Competencies	CC6
Learning Standards: Content	C8
Instructional Objectives	TSWBAT participate in the centres and use varying materials to make 3D shapes.
Assessment:	Formative <i>of</i> learning What: 3D shape making centres How: Students will learn from one another as they create 3D shapes using different materials.
Teaching Strategies:	Game, hands-on-learning
Materials:	I have who has playing cards, mini marshmallows, toothpicks, plasticine, magnetic blocks, playdough
Lesson Activities:	
Introduction/Hook:	I have who has 3D shapes.
Body:	Different centres for making shapes: Marshmallows and toothpicks Plasticine and toothpicks Magnetic blocks Playdough
Closure:	Transition into next lesson (or math centres if needed!)

Resources:

Kindergarten Math by “Moffatt Girls”

Extensions to Unit:

This mini-unit is an extension of 2D shapes and could lead into learning about positional words.

Reflections and Revisions

N/A