

MATHEMATICS.

Focus: **Shape and Pattern. Length of Unit 10 lessons**

Victorian Curriculum Learning Focus Statement:

Victorian Curriculum

Foundation; Sort. describe and name familiar two-dimensional shapes and three-dimensional objects in the environment.

Students describe two-dimensional shapes and three-dimensional objects. They use the language of distance and direction to move from place to place

Level 1: Recognise and classify familiar two-dimensional shapes and three-dimensional objects using obvious features.

Students describe two-dimensional shapes and three-dimensional objects.

Level 2: Describe and draw two-dimensional shapes, with and without digital technologies.

Describe the features of three-dimensional objects

Students draw two-dimensional shapes, specify their features and explain the effects of one-step transformations. They recognise the features of three-dimensional objects.

Vocabulary Development:

Side, corner, straight, curved, edge, faces, shape, polygon, closed, open, square, circle, rectangle, triangle, sort, classify, patterns, colour, shape, size, square bases, triangular based

Common Assessment Tasks

Assessment FOR Learning	Assessment OF Learning	Assessment AS Learning
<p>Pre Assessment: Shape: Allow students the opportunity to group, classify and justify the way they grouped a set of shapes and lines.</p> <p>Pattern: Provide students with a range of classroom resources (teddies, counters, dinosaurs etc.). Students are asked to create patterns using materials. Stop students and do a gallery walk. What did you see? Students return to their patterns and make any necessary changes. Take a photo and students draw and write about their pattern.</p>	<p>Post Assessment: Re visit pre assessment task Draw and label all the shapes you know. Write anything else you know about the shapes.</p> <p>Pattern: Provide students with a range of classroom resources (teddies, counters, dinosaurs etc.). Students are asked to create patterns using materials. Ask students to continue their pattern During a gallery walk ask students to continue a pattern they stop at. Justify their decision.</p>	<p>Share/ reflections – turn etc. Class Maths Journal Anecdotal records</p>

Other Resources:

Pattern blocks, counters, teddies, Mathletics program, geoboards and elastic bands, musical instruments.

Ensure developmental play incorporates pattern blocks, geo shapes, templates, etc. that allow students to trace shapes. Pre-cut shapes to make pictures.

Student generated anchor charts that show and label 2D and 3D shapes.

Key Understandings to Look For During This Unit:

1. Makes and draws reasonable representations of common shapes.
2. Recognises and names common shapes.
3. Matches 2D figures to faces of 3D shapes.
4. Uses appropriate language to talk about shapes (e.g. 2D round, corner, side – 3D, edges, faces, corners) while sorting and classifying.
5. Makes pictures and patterns with shapes.
6. Recognises symmetry and makes symmetrical pictures.

7. Explores shapes that tessellate.
8. Identify and name known three-dimensional shapes such as cone, sphere, cube and pyramid using features such as faces, edges, corners.

Mathematics:

Focus: Measurement- Volume and Capacity length of Unit 10 sessions

Victorian Curriculum:

Measurement and Geometry

Foundation Level

Description:

Students identify measurement attributes in practical situations and compare lengths, masses and capacities of familiar objects.

Content description:

Using units of measurement

- Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language

Level 1

Description:

Students use informal units of measurement to order objects based on length, mass and capacity.

Content description:

- Measure and compare the lengths, masses and capacities of pairs of objects using uniform informal units

Level 2

Description:

Students order shapes and objects, using informal units for a range of measures.

Content description:

- Compare and order several shapes and objects based on length, area, volume and capacity using appropriate uniform informal units

First Steps Understandings:

Direct Measure

KU 1 We can directly compare objects and events to say which has more length, mass, capacity, area, volume, angle or time.

KU 2 We can indirectly compare two objects by using other objects as go-betweens or by altering the objects in some way, which does not affect the quantity.

Establishing Prior Knowledge

Pre-assessment Task

Students to collect 5 items from the room and order these items from heaviest to lightest. Students' record/draw and label items on A3 sized paper. Students to make a statement or observation about their items they have ordered.

Common Assessment Tasks

Assessment FOR Learning	Assessment AS Learning	Assessment OF Learning
<ul style="list-style-type: none"> • Pre-assessment Task, • Previous measurement (length) unit. • Teacher anecdotal maths notes. 	<p>Set up a rotational math activity to include balancing/measuring and/or pouring items etc.</p> <ul style="list-style-type: none"> • Teacher anecdotal notes (ongoing) • Student work samples/Student response to tasks • Whole class and small group reflections and anchor charts. 	<ul style="list-style-type: none"> • Post assessment task • Teacher anecdotal notes/recordings • Student work samples

- Mathematics journal entries
- Interactions with students, conferences, questioning and observing behaviour and choices.

- Interviewing students/conferencing
- Questioning/student reflections

Key Understandings to look for are;

- Describes objects as heavier/ lighter and talks about different attributes when comparing objects (holds more than, lighter than etc.).
- Accurately compares and orders objects to decide which holds more or is heavier (e.g. using hefting).
- Counts informal units to measure objects for mass and capacity (how many blocks it takes to balance an object, how many cups a container holds etc.).
- Responds to questions about the size of objects with an appropriate action (e.g. knows where to measure for mass or capacity).
- Demonstrates an understanding that the units we measure with tell us about the size of an object and counts units as a strategy to compare and order (e.g. uses blocks to check whose pencil case is heavier).
- Attempts to ensure the units are of uniform size (e.g. uses full cups each time, same sized teddies to balance items) and knows that they need the same size units to compare objects.

Vocabulary Development:

Longer, heavier, holds more, holds less, lighter, heaviest, lightest, less, more, the same, capacity, volume, space, estimate, measure, pour, order, hold, hefting, fuller, empty, bigger, smaller, equal, weight, half full, half empty, compare, full, empty,

Dimension: Number and Algebra

Focus: Number Patterns, Skip Counting, Early Division and Multiplication

Length of Unit: 10 sessions

Victorian Curriculum Learning Focus Statement:

Standards

Foundation: Establish understanding of the language and processes of counting by naming numbers in sequence, initially to and from 20, moving from any starting point.

Represent practical situations to model sharing

Level 1: Develop confidence with number sequences to and from 100 by ones from any starting point. Skip count by twos, fives and tens starting from zero. Investigate and describe number patterns formed by skip counting and patterns with objects.

Represent practical situations that model sharing

Level 2: Investigate number sequences, initially those increasing and decreasing by twos, threes, fives and ten from any starting point, then moving to other sequences.
Recognise and represent multiplication as repeated addition, groups and arrays.

Recognise and represent division as grouping into equal sets and solve simple problems using these representations

Level 3: Investigate the conditions required for a number to be odd or even and identify odd and even numbers.

Recall multiplication facts of two, three, five and ten and related division facts.

Describe, continue, and create number patterns resulting from performing addition or subtraction.

Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies .

First Steps Understandings:

Reason About Number Patterns: KU 1 We use regularity or pattern to infer one thing from another thing and to make predictions.

Reason About Number Patterns: KU 5 Our numeration system has a lot of specially built-in patterns that make working with numbers easier.

Understand Operations: KU 3 Multiplying numbers is useful when we repeat equal quantities.

Understand Operations: KU 5 Repeating equal quantities and partitioning a quantity into equal parts helps us relate multiplication and division and understand their properties.

Vocabulary Development:

Establishing Prior Knowledge

Pre Assessment – see below

