***Maths Unit Planner***

***Geometry***

***Grade 2 Term II Week 9 - 11 2015***

***AusVELS***

Describe and draw two-dimensional shapes, with and without digital technologies

1. identifying key features of squares, rectangles, triangles, kites, rhombuses and circles, such as straight lines or curved lines, and counting the edges and corners

Describe the features of three-dimensional objects

1. identifying geometric features such as the number of faces, corners or edges

***Key Ideas for Concept Development in Maths***

Properties

Shapes and objects have distinguishable characteristics and are named because of the properties

The properties of 2D shapes include the number of sides, the number of corners, the lines of symmetry the length of sides, the size and types of angles

The properties of 3D objects include faces, edges, vertices and surfaces

Point of View

Objects can be seen from different perspectives

Orientation

The position of a shape does not affect its properties.

Three Dimensional Object

A solid figure with three dimensions consisting of length, width and height.

Tessellations

A plane can be covered with identically shaped pieces which do not overlap or leave blank spaces

***Learning Activities***

* Initial Assessment tasks – individual assessment of each child naming the 10 shapes
* Making shape monsters – students design and produce a monster using only the 10 given 2D shapes – for classroom display
* Shape colour in – mainly to free up teachers for assessment – from Google search
* Shape videos – 4 YouTube clip songs about shapes and solids
* “Properties of Shapes” reference book – each child makes a mini book showing each of the 10 2D shapes. They paste in the shape and write about its properties
* Pattern blocks
* ‘Mini Maths Show’ – 2 teachers performing game show for kids (and making complete fools of ourselves!) focussing on properties
* Shape count task cards – from Google search
* Pattern Block task cards – from Pinterest – eg. ‘build a hexagon using 6 triangles’
* Shape vocab game – used during Daily 5
* Make shape pizza with a tally chart
* Make a shape stamp picture with a data chart
* Tangram kits
* Adding to class posters, by cutting and pasting real world 3D objects from magazines
* Mastery assessment – individual assessments naming and drawing 2D shapes
* Symmetry and tessellations experiences – giving teachers time for assessment
* “Properties of Solids” reference book – each child makes a mini book showing each of the 8 3D solids. They paste in the solid and write about its properties, including testing for sliding or rolling.
* Magazine hunt to find solid shapes to add to class posters.
* Using blu tac and lollipop sticks to make 3D models
* Solids picture card sorting and matching – from Pinterest
* Symmetrical and Tessellating picture chat and colour – from Google search
* Solids assessment through Properties book

***Learning Wall***

What do Grade 2s need to learn about Shapes and Solids?

We’re going to learn about flat shapes (2D shapes).

We’re going to learn about solids (3D solids).

We need to learn their NAMES and their PROPERTIES.

These are the words I need to know and use for 2D shapes:

NAMES

Circle, square, triangle, rectangle, oval, rhombus, pentagon, hexagon, octagon, trapezoid

PROPERTIES

Corners, sides, straight, curved (longer, shorter, equal)

These are the words I need to know and use for 3D solids:

NAMES

Sphere, triangular prism, cube, cone, cylinder, rectangular prism, pyramid (square based, triangular based)

PROPERTIES

Faces (surfaces), edges, vertices (corners), curved, flat, roll, slide

To succeed in my lessons on shape I need to:

Look at flat shapes (2D shapes) and name them

Describe a flat shape (2D shape) by its properties

Investigate 2D shapes to learn about their properties, similarities, differences and relationships.

Use 2D shapes to investigate symmetry and tessellations.

To succeed in my lessons on solids I need to:

Look at solids (3D solids) and name them

Describe a solid (3D shape) by its properties

Find objects in our world that have a solid shape (3D shape) like the ones we’re leaning

Investigate 3D solids

***Lesson Timetable***

Week 9

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Monday | Tuesday | Wednesday | Thursday | Friday |
| Public Holiday | Specialist Day | Shape unit intro – Learning wall, outcomes and success criteriaShape Monsters - poster on board to show what shapes can be used. Fran assessing names of shapesFast finishers shape colour in, vids, pattern blocks and task cards, stamps, shape count, tangrams | Short session before PENumber kits and games Marg away | Intro shapes vocab“Properties of Shapes” mini books – pasting only. Fast finishers - vids, pattern blocks and task cards, stamps, shape count, tangrams Intro properties vocab Move onto writing in properties |

Week 10

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Monday | Tuesday | Wednesday | Thursday | Friday |
| Mini Maths Show – who am I? using properties vocabComplete Properties book. Fast finishers - vids, pattern blocks and task cards, stamps, shape count, tangrams Symmetry experiences if time | Specialist Day | Mini Maths Show – who am I? using properties vocabShape pizza with tally chart. Mastery assessment – names of 2D shapes, drawing 2D shapesFast finishers - vids, pattern blocks and task cards, stamps, shape count, tangrams | Short session before PENumber kits and games | Solids into – learning wall outcomes and success criteria“Properties of Solids” mini book – pasting only. Fast finishers - solid sort, magazine solids hunt, vids, making 3D modelsIntro properties vocab for solids and move onto writing in properties |

Week 11

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Monday | Tuesday | Wednesday | Thursday | Friday |
| Mini Maths Show – who am I? using properties vocabComplete Properties book Fast finishers - solid sort, magazine solids hunt, vids, making 3D models | Specialist Daycheck books for follow up work needed | Mini Maths Show – who am I? using properties vocabFran taking groups of kids to reinforce properties 3D Investigations - solid sort, magazine solids hunt, vids, making 3D modelsTessellation experiences if time | Short session before PENumber kits and games | Final day of Term II |

***Unit Evaluation***

Shape monsters were an engaging and exciting way to start

Kids LOVED making both of the books

Videos were appropriate and catchy

Not enough teaching time spent on properties of solids – kids had difficulty with vocab

Didn’t make enough use of pattern block task cards – could’ve done some of these in Mini Maths Show

Shape pizzas were really redundant – could’ve skipped

Putting vocab into Daily 5 – yes.

Icy pole and blu tak solid making was very successful – add matchsticks next time

Maths wall worked REALLY well.

Magazine cutting – posters not finished and messy – not popular with kids

Mini Maths Show a hit as always

Grade 2 newsletter contribution was on shape and kids made great comments to add to picture of maths wall.

Properties books were really good for assessment



