

MATHS – SHAPE SPACE MEASURE

P1(i)

Fully prompted touches objects

Fully prompted touches a range of textures

Experiences movement up and down

Experiences movement right and left

Experiences movement forward and backwards

Opportunity to observe multiples—ie more than 1 person, brick, spoon

Assisted to take part in number rhymes

With assistance does some actions to number rhymes

Opportunity to hear number s and counting

Experiences hand tapped to counting

Fully prompted touches objects as they are counted

Hears language related to number

P1(ii)

Aware of food textures

May respond to noise from others

Responds when they knock something which makes a noise

Sometimes responds to light patterns

With assistance touches a range of shapes

With assistance touches edges

With assistance touches flat surface

With assistance touches corners

With assistance experiences a range of textures

With assistance is exposed to thing larger and small than self

Holds objects for a few seconds

Releases objects involuntarily

Observes multiple objects—ie more than 1 person, brick, spoon

Opportunity to observe a range of objects all the same colour

With assistance participates in number rhymes

Shows an interest in hand tapped numbers

Show some surprise at the sudden presence of an object

Show some surprise at the absence of an object

P2(i)
Reach and attempt to grasp object
Holds given object purposely
Holds objects for a minute
Looks at object in hand
Looks at objects
Takes given object
Handles everyday objects
Handles geometric objects
Moves objects through horizontal plane
Moves objects through vertical plane
Moves objects in circular movements
Handles multiples of same object ie more than 1 person, brick, spoon
Briefly watches bright object 15 -25 cm from face
Follows object held 10 -15 cm from face through 1/4 circle round midline
Follows object past midline held within 15 -25 cm from face
Follows object vertically when 15-25 cm from face
Follows object past midline
Raises object to look at it
Follows light patterns
Aware that an object still exists when out of sight
Watches human activity with interest
Watches animals with interest
Watches moving objects with interest
Recognises familiar routines
Responds if routine is changed

P2(ii)
Points to objects
Reaches for object
Reaches for objects offered
Reaches for preferred object from a selection of 2
Leads with one hand when reaching for objects
Manipulates large objects in hands
Manipulates object in hands
Turns object in hands
Holds object in each hand
Drops object deliberately
Passes object from one hand to another
Shakes and squeezes object placed in hand making sounds unintentionally
Immediately squeezes or shakes object they recognise as making a noise
Deliberately shakes or squeezes object to make sound
Imitates pushing a wheeled object
Roll a ball in imitation
With assistance takes object out of container
With assistance places object in container
With assistance puts similar objects together
With assistance put objects of the same colour together
Follows object through all planes
Area of focal interest 3 to 4 metres
Looks for object that has been moved from line of vision
Looks for object out of sight
Recognises familiar people as they approach
Watches an object as it falls
Turns head to follow light pattern
Shows an awareness of texture

Plays simple games

P3(i)

Selects and shakes objects deliberately to make noise ie rattle
Drops object to reach for another
Puts an object down
Shakes bangs and squeeze an object placed in hand to make sounds.
Throws objects haphazardly
Throws objects to gain attention
Throw object to repeat an effect
Watches object as it is thrown or falls
Uses index finger to point to object
Pokes small objects with index finger
Takes object out of container in imitation
Puts object in container in imitation
Observes an object being put into a container and then remove it
Bangs two objects together
Rubs surface with hand
Rubs a surface with an object
Rubs two objects together
Area of focal interest 10 metres
Repeats an action that has had an effect
Remembers simple learned responses over a period of 24 hrs
Observes the effect of their action on an object
Show an awareness of the purpose of an object
Requests interactive activities
Recognises familiar places
Recognises familiar sounds
Attempts to do action rhymes
Seeks assistance to do action rhymes

P3(ii)

Attempts to put object in specific place
Seeks assistance to put object in specific place
Places object in a specific place
Places objects into container on command
Checks that placed object is where they put it
Empties a container
Looks in container to make sure it is empty
Asks to repeat activity
Begins to place objects in groups
Matches objects
Helps stack objects
Helps fill objects
Pours sand / water out of a container
Begins to lines up objects
Makes choices from range of 2
Remembers simple learned responses over a period of time.
Shows anticipation in line with event(time).
Shows anticipation in line with event (action)
Shows anticipation when given specific equipment
Calls attention to self through actions
Is aware of the purpose of familiar objects
Uses material appropriately
Explores new objects with interest
Anticipates result of action ie knocking down tower
Finds objects hidden under a container
Takes part in action rhymes.
Shows an awareness of events related to time of day

P4

Uses play dough
Takes shapes out of form board in imitation
Observes shapes being put in shape board
Handles shapes
Rolls a cylinder
Squeezes soft ball
Presses buttons
Knocks objects to make them move
Puts ring on peg
Feels the texture of surfaces
Fill a container
Follows falling object as it disappears
Looks for objects the carer has hidden
Retrieves object from under cloth
Checks to see object is in container
Watches objects taken from container
Picks up and shakes objects
Looks for sound source that has ceased
Hammers pegs
Assists with building a tower of blocks
With assistance stacks cups
Slides blocks
Lines up objects
Dismantles object
Attempts to put object together
Watches adult rebuild object
Assembles simple construction materials
Measuring
Feels the temperature of liquids
Aware if it is light or dark
Match objects by size

P5

Understanding Shape
Draws shapes on computer drawing package
Takes lid off to find an object placed in container
Puts lids on container
Takes shapes out of form board
Attempts to put shapes back in form board
Put large round pegs in pegboard
Tries to roll different shapes / toys
Successfully places bricks on top of one another
Plays with play dough
Rolls play dough into rough ball
Breaks play dough into pieces
Uses tools to cut play dough
"Colours" picture
Aware of objects normal place:
- coat
- drinking cup
- TV
- door to go out
- painting area
- class equipment
Puts equipment away in correct place
Places objects in container
Takes objects from container
Attempts to reassemble toy / object
Place object where asked:
- in
- out
Lines up train carriages
Rolls cars down a slope
Place object where asked -
Fills a container with objects
Measuring

Shows anticipation due to daily schedule-noise from dining room
Identifies larger shape of 2 on computer screen
Identifies smaller shape of 2 on computer screen
Plays with water
Plays with sand
Pours water from one container to another
Where there is a marked difference identifies the larger of 2 objects
Where there is a marked difference identifies the smaller of 2 objects
Gives the biggest piece on request
Gives smallest piece on request

P6

Understanding Shape

Puts 3 rings on peg in order of size

Builds tower of 3 bricks

Builds tower of 4 bricks

Builds tower of 5 bricks

Handles a range of 3D shapes

Matches 2D shapes

Imitates circular movements with hand

Makes circular shapes with drawing tool

Copies a circle

Traces large shapes

Puts shapes in shape sorter

Roll 3D objects

Plays simple hide and seek with objects

Hangs coat on peg

Looks for own article of clothing if not in normal place

Looks through equipment box for specific object

Place object where asked:

- on

- under

- off

- next to

- bottom

- on top

Movement terms - with object or personal:

- stop

- go

- up

- down

- fast

- slow

Talks about play dough activity

Measuring

Points to big and little when asked

Points to a group of objects with more / less

Places balls of play dough in order by size

Points to smallest / largest

Points to larger / smaller

Uses terms to describe objects :

- hard

- soft

- hot

- cold

- long

- short

- big

- small

Sequences 2 pictures of daily events

From a choice of 2, responds to -

- give me the big ball

- give me the small box

- give named colour

Compares the weight of 2 objects with assistance

Orders rods according to length

Finds 2 rods the same length

Orders 3 objects by size

Identifies which container has more liquid

Identifies which container has less liquid

P7

Understanding Shape

Select an specific shape from a collection-circles

Talks about the properties of geometric shape in hand

Matches geometric shapes with pictures of shape

Traces shapes

Join the dots to draw a square

Join the dots to draw a triangle

Find out which 3D shapes roll

Rolls sausage with play dough

Make shapes from play dough

Make pattern from 2D shapes

Find all the shapes like this ie all circles regardless of size

Find shapes from description ie with a straight edge

Correctly uses comparative terms:

- up / down

- big / small

- top / bottom

- on / off

- hot / cold

- wet / dry

- stop / go

- in / out

- high / low

- under / over / on

- front / back

- more / less

Creates fields for farm animals

Moves forward on command

Moves backwards on command

Moves quickly on command

Moves slowly on command

Moves object forward on command

Moves object backwards on command

Moves object quickly on command

Moves object slowly on command

Describes the directional movement of object

Moves object across the computer screen

Uses term when placing object:-

- on

- under

- off

- next to

- in

- out

- bottom

- on top

Measuring

Find a cloth to cover a table

Build a tower and compare its size with an object

Finds the biggest ball from 3 or more

Finds the smallest ball from 3 or more

Sequences 3 pictures of daily events

Compares length of play dough sausage

From a choice of 2 find the lighter package

From a choice of 2 find the heavier package

Uses comparative language in practical situations -

- long / short

- heavy / light

- thick / thin

- large / small

- before / after

- wide / narrow

- full / empty

- day / night

- light / dark

- straight / curved

- more / less

- enough / not enough

P8

Understanding Shape

Handling shapes describes them by number of sides and corners:

- triangle
- rectangle
- circle
- square
- pentagon
- others

Aware that shapes have names:

- circle
- square

Find shapes in a picture

Use shapes to create pattern

Place shape in inset trays

Copy shapes

Uses play dough to make matching shapes

Plays a game using shapes

Colour in pictures

Uses material for junk modelling

Uses geometric construction material

Use shapes to make a picture ie a face

Selects object - 2 given attributes

Sort 3D objects-all the cylindrical containers

Identify shapes within objects

Talks about a line:

- straight
- curve
- corner

Describe the movement of an object using the terms ; -

- forwards
- backwards

- quickly
- slowly
- up
- down

Talks about a line:

Describe the movement of an object using the terms ; -

Measuring

Uses comparative language:

- long / short
- heavy / light
- thick / thin
- large / small
- before / after
- wide / narrow
- full / empty
- day / night
- light / dark
- straight / curved

Sequences 4 pictures of daily events

Make a set with a given property

Times of the day:

- morning
- afternoon
- meal time
- bed time
- day
- night

Rote chants days of week

Shows an awareness that each day has a name

Gives the day an appropriate name that may not be correct

Discusses what they did before lunch

Discusses what they will do after lunch

Compares volume of containers -

- Which holds more / less
- How many of smaller in larger
- Estimate number of cubes in container
- Count cubes in container

Find object longer than

Find object shorter than

Find object heavier than

Find object lighter than

NC1C

Understanding Shape

3D Shapes

Use language in practical situations:

- cone
- cube
- sphere
- flat
- curved
- round
- straight
- solid
- corner
- face
- side
- end
- hollow

Identify solid shapes around the school

Discuss the shapes describing some properties

Build with a range of 3D shapes

2D Shapes

Find shapes on the face of objects

Find similar shapes on a group of objects

Compare patterns on fabric/ wallpaper

Sort objects by shape

Sort shapes by size

Match lids to boxes

Describe a shape in terms of sides, corners and straightness of sides

Sort shapes according to properties ie has more than 3 corners

Draw round shape templates

Draw some shapes

Position, direction and movement

Describe the structure using terms related to shape and position

Make shapes from pliable material

Make a copy of a simple model as accurately as possible

Fit shapes in a box

Describe the position of objects in a picture

Places objects where asked ie ' on top of'

Put objects in order of size

In PE move into position requested

In PE move around the room as requested

Patterns and Symmetry

Create 'families' of objects

Discuss patterns in the environment

Create simple repeat patterns

Measuring

Length

Compare the height of children

Compare the size of objects ie brushes

How far can you compare

Uses comparative language:

- high / low
- deep / shallow
- far / near
- long / longer

Mass

By handling compare weights

Use a balance to compare weights

Understand how a balance works

Know weight does not depend on size

Uses comparative language-heavy / light

Capacity

Fill an empty container and use appropriate language

Find which cup will hold the most

Find which container holds the most liquid

Find which box will hold a book

Time

Join in saying the days of the week

Know some of the days names

Respond to:

- What did you do yesterday?
- What will you do tomorrow?
- How old are you?

Report the events of a specific day

Sequence a series of pictures from a story

Aware of the duration of time

Aware of key times of the day

Aware of the use of a clock

NC1B

Understanding Shape

3D Shapes

Find specific shapes when asked

Use shapes to make patterns

Use shapes to make models

Count the number of faces on each 3D shape

Relate 3D shapes to pictures of them

Put objects or shapes in order according to size

Use language to describe the shape and size of solids and flat shapes

2D Shapes

Find the shape that contains given properties

Match shapes regardless of size

Draw shapes when requested

Create patterns using 2D shapes

Use a computer program to match shapes

Discuss the fact shapes are the same although the size changes

Patterns and Symmetry

Describe the repeat pattern created

Explore shapes with a mirror and discuss their findings

Copy simple patterns such as pegboard

Create own patterns using pegboard, shapes or computer

Notice that some shapes fit together

Tessellate

Position, direction and movement

Use positional language to describe where objects are in relationship to others

Put objects where directed

Describe movements to on a track

Describe how objects move

Measuring

Length

Order objects according to length

Order objects according to width

Compare the distances

Make a line of bricks as long as.....

Use the correct vocabulary when comparing length

Time

Describe the basic routine of a school day

Talk about how often events occur

Read the hour on an analogue clock

Carry out tasks in a given time ie jumps in a minute

Mass

Use bricks to balance scales

By handling put three objects in order of their weight

Check the results of their estimation of weights using scales

Find a range of objects heavier / lighter than..

Use the correct vocabulary when comparing mass

Capacity

Use visual judgement to estimate which container hold the greater volume

Check their estimation using bricks or liquid

Compare the volume of three containers and order them by size

Use the correct vocabulary when comparing capacity

NC1A

Understanding Shape

3D Shapes

Describe shapes by the number of faces, edges and corners

Recognise shapes they cannot see but they can feel

Investigate which 3D shapes roll

Investigate which 3D shapes slide

Describe objects in a picture in terms of 3D shapes

2D Shapes

Look at the use of shapes in designs on material

Make pictures using 2D shapes

Create a repeat pattern

Make a repeat pattern by printing on paper

Observe shapes in nature

Make halves of paper shape by folding them.

Position, direction and movement

Use everyday language to describe the position of objects

Use everyday language to describe directions

Using arrows write instructions to a floor turtle

In PE make whole turn

In PE make 2 turns

In PE make $1/2$ turn

Construct things that turn ie windmills

Patterns and Symmetry

Paint repeat patterns

Continue a peg board pattern

Use a computer to create a linear pattern

Use a computer to create a tile pattern

Describe a repeat pattern

Measuring

Length

Using parts of the body measure objects ie spans

Using strides measure the length of a room

Compare the length and width of a room measured in strides

Estimate the number of strides across the hall

Check their estimate

Consider why another child had different number of strides

Use cubes / matches to measure objects

Compare the length of two objects measured with cubes

Mass

Use a balance to find out which object is heavier

Find out how many cubes equal the weight of an object

Compare weight and size

Capacity

Put 4 containers in order of size

Find how many small cups of water/ sand /rice fill a container

Use terms such as full, empty, holds

Discuss shape and volume

Time

Know in order the days of the week

Name tomorrow

Name yesterday

Knows in which month their birthday occurs

Say the months of the year in rote

NC2C

Understanding Shape

3D Shapes

Sort 3D shape according to properties ie those that have a curved surface

Identify and describe -

- pyramids

- prism

- hemi-sphere

Patterns and Symmetry

Use a kaleidoscope and describe the pattern

Use a mirror and compare the object with its reflection

Create an ink blot pattern

Draw a line of symmetry on a simple shape

2D Shapes

Name draw and describe:

- square

- rectangle

- circle

- triangle

Position, direction and movement

Identify objects in named position

Describe the position of a feature on a simple map

Recognise that books, tables etc have corners that are right angles

Measuring

Length

Suggest suitable units to measure an object

Become aware of a range of standard measuring tools

Draw lines along a straight edge

Mass

Suggest suitable units to weigh an object

Become aware of standard units of weight

Capacity

Suggest suitable units to measure volume

Become aware of standard units used to measure liquids

Time

Read half hours on analogue clock

Know 1 week = 7 days

Names the days that make the week-end

Names the seasons of the year

Relates times of the day to events

Look to the classroom clock and recognise regular times

Solve simple problems related to hours

NC2B

Understanding Shape

3D Shapes

Use construction equipment to build 3D shapes

Record which 2D shapes were used to build a 3D shape

Relate 3D shapes to objects of that shape

2D Shapes

Name draw and describe:

- pentagon

- hexagon

- decagon

Patterns and Symmetry

Use a mirror to complete half a symmetrical pattern on a pegboard

Use shapes to create a symmetrical pattern

Position, direction and movement

Move in straight lines and turn

In PE turn clockwise or anti-clockwise

Move a finger along a line describing direction and corners

Make right angles using different material

Repeat & rotate a shape to create a linear pattern

Measuring

Length

Make a simple measuring device

Discuss the problems of using non standard units

Describe objects as longer or shorter than a ruler

Mass

List where they may see objects being weighed

Discuss different types of scales

Discuss objects that weigh more / less than a kilogram

Capacity

List liquids that come in standard measures

Identify containers that hold more or less than a litre

Time

Read $\frac{1}{4}$ hours on analogue clock

Read hours and half hours on a digital clock

Put hour and half hours on a clock

Solve simple problems related to $\frac{1}{2}$ hours

Count the seconds in time with a clock with sweep hand

NC2A

Understanding Shape

3D Shapes

Label 3D shapes

Sort 3D shapes by own criteria and explain the criteria

Explore how many shapes can be made using 4 linking cubes

Identify and describe -

- tetrahedron

- polyhedron

2D Shapes

Name draw describe and compare common 2D shapes

Be aware that 2D shapes are not all regular

Use pinboard to create a variety of hexagons

Use a programmable robot to draw a square, rectangle, triangle

Patterns and Symmetry

Complete a symmetrical pattern on a pegboard

From a range of shapes sort them into those that have and do not have lines of symmetry ie letters of the alphabet

Position, direction and movement

Give instructions to someone else to follow

Follow instructions given by someone else

Identify right angles in 2D shapes

Recognise that rectangles and squares have right angles at each corner

Discover how far the large hand on a clock moves in a $\frac{1}{4}$ hr

Measuring

Length

Know 1 metre = 100 centimetres

Describes an object as longer or shorter than a standard measure

Use a ruler to measure in centimetres

Use a metre rule to measure in units of 10 cm

Understand the need to identify the unit used when recording

Mass

Knows 1 kilogram = 1000 grams

Describes an object as heavier or lighter than a standard measures

Find the weight of objects up to 100 grams

Solve simple problems concerning weights

Capacity

Knows 1 litre = 1000 millilitres

Describes an object as holding more or less than a standard measures

Solve simple problems involving capacity

Time

Know 1 day = 24 hours

Know 1 hour = 60 minutes

Know 1 minute = 60 seconds

Know the months of the year

Knows how long a fortnight is

Read hours, $\frac{1}{2}$ hours, $\frac{1}{4}$ hours on analogue and digital clocks

Solve simple problems related to $\frac{1}{4}$ hours

Estimate how long a task will take

Estimate which task will take longer