CONTENTS

ASSESSMENT

There are many forms of assessment that can be used effectively in mathematics lessons. The samples provided here are just a few. Please see the Assessment in the Primary School Curriculum: Guidelines for Schools (NCCA, 2007) for more information and guidance in relation to assessment - available at http://www.ncca.ie/uploadedfiles/publications/assess%20%20guide.pdf .

Two assessment checklists for Shape and Space are provided here – one for whole class assessment and one for individual pupil assessment. The individual pupil assessment checklist can be used to 'track' a number of pupils in the class over the course of a year. Similarly, it can be used to 'track' pupils from infants to 6th class in Shape and Space. It enables a dual-approach to assessment – assessment of the concepts of Shape and Space in addition to assessment of the developmental mathematical experiences (concrete, pictorial, abstract).

Finally, many assessment opportunities are inherent in the teaching and learning experiences throughout the Shape and Space manual, for example:

- teacher-designed tasks;
- teacher observation;
- questioning;
- portfolio assessment (learning logs);
- conferencing; and
- self-assessment (learning logs).

WHOLE CLASS ASSESSMENTS

CLASS ASSESSMENT: SHAPE AND SPACE LEARNING TRAJECTORY LEVEL A

Class Names: **Concepts**																													
Level A.1 Explore, discuss, develop and use the vocabulary of spatial relations (positional and directional)																													
Level A.2 Sort, describe and name 3-D shapes including cube, cuboid, sphere and cylinder																													
Level A.3 Sort, describe and name 2-D shapes including square, circle, triangle and rectangle																													
Level A.4 Combine and divide 3-D and 2-D shapes to make larger or smaller shapes																													
Level A.5 Use suitable 3-D and 2-D structured materials to create pictures																													

CLASS ASSESSMENT: SHAPE AND SPACE LEARNING TRAJECTORY LEVEL B

Class Names: **Concepts**																													
Level B.1 Explore, discuss, develop and use the vocabulary of spatial relations (positional and directional)																													
Level B.2 Describe, compare and name 3-D shapes including cone																													
Level B.3 Sort, describe, compare and name 2-D shapes including square, rectangle, triangle, circle, semicircle, oval																													
Level B.4 Construct, draw, combine and partition 2-D shapes																													
Level B.5 Identify halves and quarters of 2-D shapes																													
Level B.6 Identify line symmetry in shape and in the environment																													
Level B.7 Explore and recognise angles in the environment																													
Level B.8 Identify and discuss the use of 2-D and 3-D shapes in the environment																													

CLASS ASSESSMENT: SHAPE AND SPACE LEARNING TRAJECTORY LEVEL C

Class Names: **Concepts**																												
Level C.1 Identify, describe and classify 3-D shapes by comparing their properties including triangular prism and pyramid																												
Level C.2 Explore, describe, compare and classify the properties of 2-D shapes including oval and irregular shapes																												
Level C.3 Construct and draw 2-D shapes; construct 3-D shapes																												
Level C.4 Identify, describe and classify 2-D shapes including equilateral, isosceles and scalene triangle; parallelogram; rhombus; pentagon; octagon																												
Level C.5 Combine, tessellate and make patterns with 2-D shapes																												
Level C.6 Identify, draw and recognise line symmetry in the environment and in shapes																												

Class Names: **Concepts**																													
Level C.7 Identify, describe and classify parallel, perpendicular, vertical, horizontal and oblique lines																													
Level C.8 Classify angles as greater than, less than or equal to a right angle																													
Level C.9 Recognise an angle in terms of a rotation																													
Level C.10 Draw, discuss and describe intersecting lines and their angles																													

CLASS ASSESSMENT: SHAPE AND SPACE LEARNING TRAJECTORY LEVEL D

Class Names: **Concepts**																												
Level D.1 Identify and examine 3-D shapes and explore relationships including tetrahedron octahedron																												
Level D.2 Draw the nets of simple 3-D shapes and construct the shapes																												
Level D.3 Tessellate combinations of 2-D shapes																												
Level D.4 Classify 2-D shapes according to their lines of symmetry																												
Level D.5 Make informal deductions about 2-D shapes and their properties																												
Level D.6 Identify the properties of the circle and construct a circle of given radius or diameter																												

Class Names: **Concepts**																													
Level D.7 Construct triangles from given sides or angles																													
Level D.8 Plot simple co-ordinates and apply where appropriate																													
Level D.9 Recognise, classify and describe angles and relate angles to shape and the environment																													
Level D.10 Recognise angles in terms of a rotation																													
Level D.11 Estimate, measure and construct angles in degrees																													
Level D.12 Explore the sum of the angles in a triangle and quadrilateral																													

INDIVIDUAL PUPIL ASSESSMENT: SHAPE AND SPACE LEARNING TRAJECTORY LEVEL A

Individual Pupil Name:	**Developmental Experiences** →		
Concepts	 **Concrete**	 **Pictorial**	 **Abstract**
Level A.1 Explore, discuss, develop and use the vocabulary of spatial relations (positional and directional)			
Level A.2 Sort, describe and name 3-D shapes including cube, cuboid, sphere and cylinder			
Level A.3 Sort, describe and name 2-D shapes including square, circle, triangle and rectangle			
Level A.4 Combine and divide 3-D and 2-D shapes to make larger or smaller shapes			
Level A.5 Use suitable 3-D and 2-D structured materials to create pictures			

INDIVIDUAL PUPIL ASSESSMENT: SHAPE AND SPACE LEARNING TRAJECTORY LEVEL B

Individual Pupil Name:	**Developmental Experiences** →		
Concepts	 **Concrete**	 **Pictorial**	 **Abstract**
Level B.1 Explore, discuss, develop and use the vocabulary of spatial relations (positional and directional)			
Level B.2 Describe, compare and name 3-D shapes including cone			
Level B.3 Sort, describe, compare and name 2-D shapes including square, rectangle, triangle, circle, semicircle, oval			
Level B.4 Construct, draw, combine and partition 2-D shapes			
Level B.5 Identify halves and quarters of 2-D shapes			
Level B.6 Identify line symmetry in shape and in the environment			
Level B.7 Explore and recognise angles in the environment			

Level B.8 Identify and discuss the use of 2-D and 3-D shapes in the environment			

INDIVIDUAL PUPIL ASSESSMENT: SHAPE AND SPACE LEARNING TRAJECTORY LEVEL C

Individual Pupil Name:	**Developmental Experiences** →		
Concepts	 **Concrete**	 **Pictorial**	 **Abstract**
Level C.1 Identify, describe and classify 3-D shapes by comparing their properties including triangular prism and pyramid			
Level C.2 Explore, describe, compare and classify the properties of 2-D shapes including oval and irregular shapes			
Level C.3 Construct and draw 2-D shapes; construct 3-D shapes			
Level C.4 Identify, describe and classify 2-D shapes including equilateral, isosceles and scalene triangle; parallelogram; rhombus; pentagon; octagon			
Level C.5 Combine, tessellate and make patterns with 2-D shapes			
Level C.6 Identify, draw and recognise line symmetry in the environment and in shapes			

Concepts	 Concrete	 Pictorial	 Abstract
Level C.7 Identify, describe and classify parallel, perpendicular, vertical, horizontal and oblique lines			
Level C.8 Classify angles as greater than, less than or equal to a right angle			
Level C.9 Recognise an angle in terms of a rotation			
Level C.10 Draw, discuss and describe intersecting lines and their angles			

INDIVIDUAL PUPIL ASSESSMENT: SHAPE AND SPACE LEARNING TRAJECTORY LEVEL D

Individual Pupil Name:	**Developmental Experiences** →		
Concepts	 **Concrete**	 **Pictorial**	 **Abstract**
Level D.1 Identify and examine 3-D shapes and explore relationships including tetrahedron octahedron			
Level D.2 Draw the nets of simple 3-D shapes and construct the shapes			
Level D.3 Tessellate combinations of 2-D shapes			
Level D.4 Classify 2-D shapes according to their lines of symmetry			
Level D.5 Make informal deductions about 2-D shapes and their properties			
Level D.6 Identify the properties of the circle and construct a circle of given radius or diameter			
Level D.7 Construct triangles from given sides or angles			

Concepts	 Concrete	 Pictorial	 Abstract
Level D.8 Plot simple co-ordinates and apply where appropriate			
Level D.9 Recognise, classify and describe angles and relate angles to shape and the environment			
Level D.10 Recognise angles in terms of a rotation			
Level D.11 Estimate, measure and construct angles in degrees			
Level D.12 Explore the sum of the angles in a triangle and quadrilateral			