PY 1

Overall Expectation

Data Handling		Measurement		Shape and space		Pattern and Function		Numbers	
Learners will develop an understanding of **how the collection and organization of information** helps to make sense of the world.	Learners will understand how **information can be expressed as organized** and structured data and that this can occur in a range of ways.	Learners will develop an understanding of how **measurement involves the comparison of objects** and the ordering and sequencing of events.	Learners will understand how **information can be expressed** as organized and structured data and that this can occur in a range of ways.	Learners will understand that **shapes have characteristics that can be described and compared**.	Learners will continue to work with 2D and 3D shapes, developing the understanding that **shapes are classified and named according to their properties.**	Learners will understand that **patterns and sequences occur** in everyday situations.	Learners will understand that **whole numbers exhibit patterns and relationships** that can be observed and described, and that the patterns can be represented using numbers and other symbols.	Learners will understand that **numbers are used for many different purposes** in the real world.	Learners will develop their understanding of the **base 10 place value system** and **will model, read, write, estimate, compare and order numbers to hundreds or beyond.**
They will **sort, describe and label objects** by attributes and represent information in **graphs including pictographs and tally marks**. The learners will **discuss chance** in daily events.	They will **collect and represent data** in different types of graphs, interpreting the resulting information for the purpose of answering questions.	They will be able to **identify, compare and describe attributes of real objects** as well as describe and sequence familiar events in their daily routine.	They will **collect and represent data in different types of graphs**, interpreting the resulting information for the purpose of answering questions.	They will understand and use **common language to describe paths, regions and boundaries** of their immediate environment.	They will understand that **examples of symmetry and transformations can be found in their immediate environment.**	They will be able to **identify, describe, extend and create patterns** in various ways.	As a result, learners will understand t**he inverse relationship between addition and subtraction**, and the associative and commutative properties of addition.	They will develop an understanding of **one-to-one correspondence and conservation of number,** and be able to **count and use number words and numerals** to represent quantities.	They will have **automatic recall of addition and subtraction** facts and be able to **model addition and subtraction of whole numbers** using the appropriate mathematical language to describe their mental and written strategies.
			The learners will develop an **understanding that some events in daily life are more likely to happen than others** and they will identify and describe likelihood using appropriate vocabulary.		Learners will **interpret, create and use simple directions and specific vocabulary to describe paths, regions, positions and boundaries** of their immediate environment.		They will be able to use their understanding of **pattern to represent and make sense of real-life situations** and, where appropriate, to solve problems involving addition and subtraction.		Learners will have an **understanding of fractions as representations of whole-part relationships** and will be able to model fractions and use fraction names in real-life situations.
			The learners will develop an understanding that some **events in daily life are more likely to happen than others** and they will identify and describe likelihood using appropriate vocabulary.						

Conceptual Understanding

		Measurement involves comparing objects and events.	Standard units allow us to have a common language to identify, compare, order and sequence objects and events.	Shapes can be described and organized according to their properties.		Patterns and sequences occur in everyday situations.		Numbers are a naming system.	
We collect information to make sense of the world around us.		Objects have attributes that can be measured using non-standard units.		Objects in our immediate environment have a position in space that can be described according to a point of reference.		Patterns repeat and grow.			
Organizing objects and events helps us to solve problems.	Objects and events can be organized in different ways.							Numbers are connected to each other through a variety of relationships.	
Events in daily life involve chance.								Making connections between our experiences with number can help us to develop number sense.	

PY 1

PY 1 (Learning Outcomes)			PY 1 (Learning Outcomes)			PY 1 (Learning Outcomes)			PY 1 (Learning Outcomes)			PY 1 (Learning Outcomes)		
Constructing Meaning	**Transfering Meaning**	**Applying with understanding**	**Constructing Meaning**	**Transfering Meaning**	**Applying with understanding**	**Constructing Meaning**	**Transfering Meaning**	**Applying with understanding**	**Constructing Meaning**	**Transfering Meaning**	**Applying with understanding**	**Constructing Meaning**	**Transfering Meaning**	**Applying with understanding**
understand that sets can be organized by different attributes	represent information through pictographs and tally marks	create pictographs and tally marks	understand that attributes of real objects can be compared and described, for example, longer, shorter, heavier, empty, full, hotter, colder	identify, compare and describe attributes of real objects, for example, longer, shorter, heavier, empty, full, hotter, colder	describe observations about events and objects in real-life situations	understand that 2D and 3D shapes have characteristics that can be described and compared	sort, describe and compare 3D shapes	sort, describe and compare 3D shapes	understand that patterns can be found in everyday situations, for example, sounds, actions, objects, nature.	describe patterns in various ways, for example, using words, drawings, symbols, materials, actions, numbers.	extend and create patterns.		connect number names and numerals to the quantities they represent.	count to determine the number of objects in a set
understand that information about themselves and their surroundings can be obtained in different ways	-	create living graphs using real objects and people		compare the length, mass and capacity of objects using non- standard units	use non-standard units of • measurement to solve problems in real-life situations involving length, mass and capacity	understand that common language can be used to describe position and direction, for example, inside, outside, above, below, next to, behind, in front of, up, down.	describe position and direction, for example, inside, outside, above, below, next to, behind, in front of, up, down	describe position and direction, for example, inside, outside, above, below, next to, behind, in front of, up, down	understand that patterns can be found in numbers, for example, odd and even numbers, skip counting	represent patterns in a variety of ways, for example, using words, drawings, symbols, materials, actions, numbers		understand that, for a set of objects, the number name of the last object counted describes the quantity of the whole set		use number words and numerals to represent quantities in real-life situations
discuss chance in daily events (impossible, maybe, certain).		describe real objects and events by attributes.	understand the use of standard units to measure, for example, length, mass, money, time, temperature				sort, describe and label 2D and 3D shapes					understand that numbers can be constructed in multiple ways, for example, by combining and partitioning • understand conservation of number*		
understand that sets can be organized by one or more attributes												understand the relative magnitude of whole numbers		
				read and write the time to the hour, half hour and quarter hour										use simple fraction names in real-life situations.
			understand that time is measured using universal units of measure, for example, years, months, days, hours, minutes and seconds.									understand whole-part relationships		

PY1

	Data Handling	Measurement	Shape and space	Pattern and Function	Numbers
					use the language of addition and subtraction, for example, add, take away, plus, minus, sum, difference
	PY2	PY2	PY 2	PY 2	PY 2
Overall Expectation	Learners will understand how **information can be expressed as organized and structured data** and that this can occur in a range of ways. .	Learners will continue to **collect, organize, display and analyse data,** developing an understanding of how **different graphs highlight different aspects of data** more efficiently.	Learners will understand that **standard units allow us to have a common language** to measure and describe objects and events, and that while **estimation is a strategy that can be applied for approximate measurements**, **particular tools allow us to measure** and describe attributes of objects and events with more **accuracy**.	Learners will continue to **use standard units to measure objects**, in **particular developing their understanding of measuring perimeter, area and volume**.	Learners will continue to work with 2D and 3D shapes, developing the understanding that **shapes are classified and named according to their properties.**	Learners will sort, describe and model regular and irregular polygons, developing an understanding of their properties.	Learners will understand that **whole numbers exhibit patterns and relationships** that can be observed and described, and that the **patterns can be represented using numbers and other symbols.**	Learners will **analyse patterns and identify rules for patterns**, developing the understanding that **functions describe the relationship** or **rules that uniquely associate members of one set with members of another set.**	Learners will develop their understanding of the **base 10 place value system and will model, read, write, estimate, compare and order numbers to hundreds** or beyond.	Learners will develop the understanding that **fractions and decimals are ways of representing whole-part relationships** and will demonstrate this understanding by modelling equivalent fractions and decimal fractions to hundredths or beyond.
	They will collect and **represent data in different types of graphs**, interpreting the resulting information for the purpose of answering questions	They will understand that **scale can represent different quantities in graphs** and that mode can be used to summarize a set of data.	Learners will develop these **understandings in relation to measurement** involving length, mass, capacity, money, temperature and time.	They will **select and use appropriate tools and units of measurement,** and will be able to **describe measures that fall between two numbers on a scale.**	They will understand that **examples of symmetry and transformations** can be found in their immediate environment.	They will be able to describe and model congruency and similarity in 2D shapes.	As a result, **learners will understand the inverse relationship between addition and subtraction**, and the **associative and commutative properties of addition.**	They will understand the **inverse relationship between multiplication and division,** and the **associative and commutative properties of multiplication**.	They will have **automatic recall of addition and subtraction facts** and be able to model addition and subtraction of whole numbers using the appropriate mathematical language to describe their mental and written strategies.	They will be able to **model, read, write, compare and order fractions**, and use them in real-life situations.
	The learners will develop an understanding that **some events in daily life are more likely to happen than others** and they will identify and describe likelihood using appropriate vocabulary.	The learners will make the **connection that probability is based on experimental events** and can be expressed numerically.		The learners will be given the opportunity **to construct meaning about the concept of an angle** as a measure of rotation.	Learners will **interpret, create and use simple directions** and specific vocabulary to describe paths, regions, positions and boundaries of their immediate environment.	Learners will continue to develop their understanding of symmetry, in particular reflective and rotational symmetry.	They will be able to use their **understanding of pattern to represent and make sense of real-life situations** and, where appropriate, to **solve problems involving addition and subtraction.**	They will be able to use their understanding of pattern and function to **represent and make sense of real-life situations** and, where appropriate, to **solve problems involving the four operations.**	Learners will have an understanding of **fractions as representations of whole-part relationships** and will be able to model fractions and use fraction names in real-life situations.	Learners will have **automatic recall of addition, subtraction, multiplication and division facts.**
						They will understand how geometric shapes and associated vocabulary are useful for representing and describing objects and events in real-world situations.				They will select, use and describe a range of strategies to **solve problems involving addition, subtraction, multiplication and division, using estimation strategies to check the reasonableness of their answers.**
ial din	Information can be expressed as organized and structured data.	Data can be collected, organized, displayed and analysed in different ways.	Standard units allow us to have a common language to identify, compare, order and sequence objects and events.		Shapes are classified and named according to their properties.	Changing the position of a shape does not alter its properties.	Whole numbers exhibit patterns and relationships that can be observed and described.	Functions are relationships or rules that uniquely associate members of one set with members of another set.		

PY 2

Conceptual Understanding

Data Handling			Measurement			Shape and space			Pattern and Function			Numbers		
Objects and events can be organized in different ways.	Different graph forms highlight different aspects of data more efficiently		We use tools to measure the attributes of objects and events.			Some shapes are made up of parts that repeat in some way.	Shapes can be transformed in different ways.		Patterns can be represented using numbers and other symbols.	By analysing patterns and identifying rules for patterns it is possible to make predictions.				
Some events in daily life are more likely to happen than others.	Probability can be based on experimental events in daily life.		Estimation allows us to measure with different levels of accuracy.			Specific vocabulary can be used to describe an object's position in space.	Geometric shapes and vocabulary are useful for representing and describing objects and events in real-world situations							
	Probability can be expressed in numerical notations.													

PY 2(Learning Outcomes)			PY 2 (Learning Outcomes)			PY 2 (Learning Outcomes)			PY 2 (Learning Outcomes)			PY 2 (Learning Outcomes)		
Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding
understand that sets can be organized by one or more attributes	collect and represent data in different types of graphs, for example, tally marks, bar graphs	collect, display and interpret data for the purpose of answering questions	understand the use of standard units to measure, for example, length, mass, money, time, temperature	estimate and measure objects using standard units of measurement: length, mass, capacity, money and temperature	estimate and measure objects using standard units of measurement: length, mass, capacity, money and temperature	understand that there are relationships among and between 2D and 3D shapes	sort, describe and label 2D and 3D shapes	analyse and use what they know about 3D shapes to describe and work with 2D shapes	understand that patterns can be found in numbers, for example, odd and even numbers, skip counting	represent patterns in a variety of ways, for example, using words, drawings, symbols, materials, actions, numbers	extend and create patterns in numbers, for example, odd and even numbers, skip counting	model numbers to hundreds or beyond using the base 10 place value system	read and write whole numbers up to hundreds or beyond	use whole numbers up to hundreds or beyond in real-life situations
understand that information about themselves and their surroundings can be collected and recorded in different ways	represent the relationship between objects in sets using tree, Venn and Carroll diagrams	create a pictograph and sample bar graph of real objects and interpret data by comparing quantities (for example, more, fewer, less than, greater than)	understand that tools can be used to measure	read and write the time to the hour, half hour and quarter hour	read and write the time to the hour, half hour and quarter hour	understand that 2D and 3D shapes can be created by putting together and/or taking apart other shapes	analyse and describe the relationships between 2D and 3D shapes	recognize and explain simple symmetrical designs in the environment	understand the inverse relationship between addition and subtraction	describe number patterns, for example, odd and even numbers, skip counting.	use number patterns to represent and understand real-life situations	estimate quantities to 100 or beyond	read, write, compare and order cardinal and ordinal numbers	use cardinal and ordinal numbers in real-life situations
understand the concept of chance in daily events (impossible, less likely, maybe, most likely, certain).	express the chance of an event happening using words or phrases (impossible, less likely, maybe, most likely, certain)	use tree, Venn and Carroll diagrams to explore relationships between data	understand that calendars can be used to determine the date, and to identify and sequence days of the week and months of the year	estimate and compare lengths of time: second, minute, hour, day, week and month.	estimate and compare lengths of time: second, minute, hour, day, week and month.	understand that examples of symmetry and transformations can be found in their immediate environment	create and describe symmetrical and tessellating patterns	apply knowledge of symmetry to problem-solving situations	understand the associative and commutative properties of addition.	represent the rule of a pattern by using a function	use the properties and relationships of addition and subtraction to solve problems.	model simple fraction relationships	describe mental and written strategies for adding and subtracting two-digit numbers.	use fast recall of addition and subtraction number facts in real-life situations
understand that data can be collected, displayed and interpreted using simple graphs, for example, bar graphs, line graphs	collect, display and interpret data using simple graphs, for example, bar graphs, line graphs	identify and describe chance in daily events (impossible, less likely, maybe, most likely, certain).	understand that time is measured using universal units of measure, for example, years, months, days, hours, minutes and seconds.	estimate and measure using standard units of measurement: perimeter, area and volume	estimate and measure using standard units of measurement: perimeter, area and volume	understand that geometric shapes are useful for representing real-world situations	identify lines of reflective symmetry	interpret and use simple directions, describing paths, regions, positions and boundaries of their immediate environment.	understand that patterns can be analysed and rules identified	escribe the rule for a pattern in a variety of ways	select appropriate methods for representing patterns, for example using words, symbols and tables	use the language of addition and subtraction, for example, add, take away, plus, minus, sum, difference	read, write, compare and order whole numbers up to thousands or beyond	use fractions in real-life situations
understand that scale can represent different quantities in graphs	identify, read and interpret range and scale on graphs	design a survey and systematically collect, organize and display data in pictographs and bar graphs	understand the use of standard units to measure perimeter, area and volume	describe measures that fall between numbers on a scale	describe measures that fall between numbers on a scale	understand that directions can be used to describe pathways, regions, positions and boundaries of their immediate environment.	represent ideas about the real world using geometric vocabulary and symbols, for example, through oral description, drawing, modelling, labelling	analyse and describe 2D and 3D shapes, including regular and irregular polygons, using geometrical vocabulary	understand that multiplication is repeated addition and that division is repeated subtraction	identify a sequence of operations relating one set of numbers to another set.	use number patterns to make predictions and solve problems	model addition and subtraction of whole numbers	develop strategies for memorizing addition, subtraction, multiplication and division number facts	use mental and written strategies for addition and subtraction of two-digit numbers or beyond in real-life situations
understand that the mode can be used to summarize a set of data	identify the mode of a set of data	select appropriate graph form(s) to display data	understand that measures can fall between numbers on a measurement scale, for example, 3½ kg, between 4 cm and 5 cm	read and write digital and analogue time on 12-hour and 24-hour clocks.	read and write digital and analogue time on 12-hour and 24-hour clocks.	understand an angle as a measure of rotation	interpret and create simple directions, describing paths, regions, positions and boundaries of their immediate environment.	identify, describe and model congruency and similarity in 2D shapes	understand the inverse relationship between multiplication and division		use the properties and relationships of the four operations to solve problems.	develop strategies for memorizing addition and subtraction number facts	read, write, compare and order fractions	select an appropriate method for solving a problem, for example, mental estimation, mental or written strategies, or by using a calculator
understand that one of the purposes of a database is to answer questions and solve problems	use tree diagrams to express probability using simple fractions.	interpret range and scale on graphs	understand relationships between units, for example, metres, centimetres and millimetres			understand the common language used to describe shapes	sort, describe and model regular and irregular polygons	recognize and explain symmetrical patterns, including tessellation, in the environment	understand the associative and commutative properties of multiplication.			estimate sums and differences	read and write equivalent fractions	use strategies to evaluate the reasonableness of answers.
understand that probability is based on experimental events.		use probability to determine mathematically fair and unfair games and to explain possible outcomes	understand an angle as a measure of rotation.			understand the properties of regular and irregular polygons	describe and model congruency and similarity in 2D shapes	apply knowledge of transformations to problem-solving situations.				model numbers to thousands or beyond using the base 10 place value system	read, write, compare and order fractions to hundredths or beyond	use whole numbers up to thousands or beyond in real-life situations
	design a survey and systematically collect, organize and display data in pictographs and bar graphs	express probability using simple fractions.				understand the properties of circles	analyse angles by comparing and describing rotations: whole turn; half turn; quarter turn; north, south, east and west on a compass					model equivalent fractions	describe mental and written strategies for multiplication and division.	use fast recall of multiplication and division number facts in real-life situations
collect, display and interpret data using simple graphs, for example, bar graphs, line graphs	select appropriate graph form(s) to display data					understand congruent or similar shapes	locate features on a grid using coordinates					use the language of fractions, for example, numerator, denominator		use decimal fractions in real-life situations
identify, read and interpret range and scale on graphs						understand that lines and axes of reflective and rotational symmetry assist with the construction of shapes	describe and/or represent mental images of objects, patterns, and paths.					model decimal fractions to hundredths or beyond		use mental and written strategies for multiplication and division in real-life situations

PY 1

Data Handling	Measurement	Shape and space	Pattern and Function	Numbers
identify the mode of a set of data		understand an angle as a measure of rotation		model multiplication and division of whole numbers	select an efficient method for solving a problem, for example, mental estimation, mental or written strategies, or by using a calculator
use tree diagrams to express probability using simple fractions.		understand that 2D representations of 3D objects can be used to visualize and solve problems		use the language of multiplication and division, for example, factor, multiple, product, quotient, prime numbers, composite numbe	use strategies to evaluate the reasonableness of answers
		understand that directions for location can be represented by coordinates on a grid	analyse and describe 2D and 3D shapes, including regular and irregular polygons, using geometrical vocabulary	model addition and subtraction of fractions with related denominators	add and subtract fractions with related denominators in real-life situations
design a survey and systematically collect, organize and display data in pictographs and bar graphs		understand that visualization of shape and space is a strategy for solving problems.	identify, describe and model congruency and similarity in 2D shapes	model addition and subtraction of decimals.	add and subtract decimals in real-life situations, including money
select appropriate graph form(s) to display data			recognize and explain symmetrical patterns, including tessellation, in the environment		estimate sum, difference, product and quotient in real-life situations, including fractions and decimals.
interpret range and scale on graphs			apply knowledge of transformations to problem-solving situations.		
use probability to determine mathematically fair and unfair games and to explain possible outcomes					
express probability using simple fractions.					

Overall Expectation

PY3	PY3	PY3	PY3	PY3
Learners will understand how information can be expressed as organized and structured data and that this can occur in a range of ways.	Learners will continue to collect, organize, display and analyse data, developing an understanding of how different graphs highlight different aspects of data more efficiently.	Learners will understand that standard units allow us to have a common language to measure and describe objects and events, and that while estimation is a strategy that can be applied for approximate measurements, particular tools allow us to measure and describe attributes of objects and events with more accuracy.	Learners will continue to use standard units to measure objects, in particular developing their understanding of measuring perimeter, area and volume.	Learners will continue to work with 2D and 3D shapes, developing the understanding that shapes are classified and named according to their properties.	Learners will sort, describe and model regular and irregular polygons, developing an understanding of their properties.	Learners will understand that whole numbers exhibit patterns and relationships that can be observed and described, and that the patterns can be represented using numbers and other symbols.	Learners will analyse patterns and identify rules for patterns, developing the understanding that functions describe the relationship or rules that uniquely associate members of one set with members of another set.	Learners will develop the understanding that fractions and decimals are ways of representing whole-part relationships and will demonstrate this understanding by modelling equivalent fractions and decimal fractions to hundredths or beyond.	Learners will develop the understanding that fractions and decimals are ways of representing whole-part relationships and will demonstrate this understanding by modelling equivalent fractions and decimal fractions to hundredths or beyond.
They will collect and represent data in different types of graphs, interpreting the resulting information for the purpose of answering questions.	They will select and use appropriate tools and units of measurement, and will be able to describe measures that fall between two numbers on a scale.	Learners will develop these understandings in relation to measurement involving length, mass, capacity, money, temperature and time.	They will select and use appropriate tools and units of measurement, and will be able to describe measures that fall between two numbers on a scale.	They will understand that examples of symmetry and transformations can be found in their immediate environment.	They will be able to describe and model congruency and similarity in 2D shapes.	As a result, learners will understand the inverse relationship between addition and subtraction, and the associative and commutative properties of addition.	They will understand the inverse relationship between multiplication and division, and the associative and commutative properties of multiplication.	They will be able to model, read, write, compare and order fractions, and use them in real-life situations.	They will be able to model, read, write, compare and order fractions, and use them in real-life situations.
The learners will develop an understanding that some events in daily life are more likely to happen than others and they will identify and describe likelihood using appropriate vocabulary.	They will understand that scale can represent different quantities in graphs and that mode can be used to summarize a set of data.		The learners will be given the opportunity to construct meaning about the concept of an angle as a measure of rotation.	Learners will interpret, create and use simple directions and specific vocabulary to describe paths, regions, positions and boundaries of their immediate environment.	Learners will continue to develop their understanding of symmetry, in particular reflective and rotational symmetry.	They will be able to use their understanding of pattern to represent and make sense of real-life situations and, where appropriate, to solve problems involving addition and subtraction.	They will be able to use their understanding of pattern and function to represent and make sense of real-life situations and, where appropriate, to solve problems involving the four operations.	Learners will have automatic recall of addition, subtraction, multiplication and division facts.	Learners will have automatic recall of addition, subtraction, multiplication and division facts.

	Data Handling			Measurement			Shape and space			Pattern and Function			Numbers			
		The learners will make the connection that probability is based on experimental events and can be expressed numerically.						They will understand how geometric shapes and associated vocabulary are useful for representing and describing objects and events in real-world situations.					They will select, use and describe a range of strategies to solve problems involving addition, subtraction, multiplication and division, using estimation strategies to check the reasonableness of their answers.	They will select, use and describe a range of strategies to solve problems involving addition, subtraction, multiplication and division, using estimation strategies to check the reasonableness of their answers.		
Conceptual Understanding	Information can be expressed as organized and structured data.	Data can be collected, organized, displayed and analysed in different ways.		Standard units allow us to have a common language to identify, compare, order and sequence objects and events.	Objects and events have attributes that can be measured using appropriate tools.		Shapes are classified and named according to their properties.	Changing the position of a shape does not alter its properties.		Whole numbers exhibit patterns and relationships that can be observed and described.	Functions are relationships or rules that uniquely associate members of one set with members of another set.		model numbers to hundreds or beyond using the base 10 place value system	model numbers to thousands or beyond using the base 10 place value system		
	Objects and events can be organized in different ways.	Different graph forms highlight different aspects of data more efficiently		We use tools to measure the attributes of objects and events.	Relationships exist between standard units that measure the same attributes		Some shapes are made up of parts that repeat in some way.	Shapes can be transformed in different ways.		Patterns can be represented using numbers and other symbols.	By analysing patterns and identifying rules for patterns it is possible to make predictions.		estimate quantities to 100 or beyond	model equivalent fractions		
	Some events in daily life are more likely to happen than others.	Probability can be based on experimental events in daily life.		Estimation allows us to measure with different levels of accuracy.			Specific vocabulary can be used to describe an object's position in space.	Geometric shapes and vocabulary are useful for representing and describing objects and events in real-world situations					model simple fraction relationships	use the language of fractions, for example, numerator, denominator		
		Probability can be expressed in numerical notations.											use the language of addition and subtraction, for example, add, take away, plus, minus, sum, difference	model decimal fractions to hundredths or beyond		
													model addition and subtraction of whole numbers	model multiplication and division of whole numbers		
													develop strategies for memorizing addition and subtraction number facts	use the language of multiplication and division, for example, factor, multiple, product, quotient, prime numbers, composite numbe		
													estimate sums and differences	model addition and subtraction of fractions with related denominators		
													understand situations that involve multiplication and division	model addition and subtraction of decimals.		
													model addition and subtraction of fractions with the same denominator.			

	PY 3(Learning Outcomes)			PY 3 (Learning Outcomes)			PY 3 (Learning Outcomes)			PY 3 (Learning Outcomes)			PY 3 (Learning Outcomes)			
	Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding	
3	understand that sets can be organized by one or more attributes	collect and represent data in different types of graphs, for example, tally marks, bar graphs	collect, display and interpret data for the purpose of answering questions	understand the use of standard units to measure, for example, length, mass, money, time, temperature	estimate and measure objects using standard units of measurement: length, mass, capacity, money and temperature	use standard units of measurement to solve problems in real-life situations involving length, mass, capacity, money and temperature	understand that there are relationships among and between 2D and 3D shapes	sort, describe and label 2D and 3D shapes	analyse and use what they know about 3D shapes to describe and work with 2D shapes	understand that patterns can be found in numbers, for example, odd and even numbers, skip counting	represent patterns in a variety of ways, for example, using words, drawings, symbols, materials, actions, numbers	extend and create patterns in numbers, for example, odd and even numbers, skip counting	**model numbers to hundreds or beyond using the base 10 place value system**	**read and write whole numbers up to hundreds or beyond**	**use whole numbers up to hundreds or beyond in real-life situations**	WWA
	understand that information about themselves and their surroundings can be collected and recorded in different ways	represent the relationship between objects in sets using tree, Venn and Carroll diagrams	create a pictograph and sample bar graph of real objects and interpret data by comparing quantities (for example, more, fewer, less than, greater than)	understand that tools can be used to measure	read and write the time to the hour, half hour and quarter hour	use measures of time to assist with problem solving in real-life situations.	understand that 2D and 3D shapes can be created by putting together and/or taking apart other shapes	analyse and describe the relationships between 2D and 3D shapes	recognize and explain simple symmetrical designs in the environment	understand the inverse relationship between addition and subtraction	describe number patterns, for example, odd and even numbers, skip counting.	use number patterns to represent and understand real-life situations	estimate quantities to 100 or beyond	read, write, compare and order cardinal and ordinal numbers	use cardinal and ordinal numbers in real-life situations	
				understand that calendars can be used to determine the date, and to identify and sequence days of the week and months of the year	estimate and compare lengths of time: second, minute, hour, day, week and month.	use standard units of measurement to solve problems in real-life situations involving perimeter, area and volume	understand that examples of symmetry and transformations can be found in their immediate environment	create and describe symmetrical and tessellating patterns	apply knowledge of symmetry to problem-solving situations	understand the associative and commutative properties of addition.	represent the rule of a pattern by using a function	use the properties and relationships of addition and subtraction to solve problems.	model simple fraction relationships	describe mental and written strategies for adding and subtracting two-digit numbers.	use fast recall of addition and subtraction number facts in real-life situations	
	understand that data can be collected, displayed and interpreted using simple graphs, for example, bar graphs, line graphs	**collect, display and interpret data using simple graphs, for example, bar graphs, line graphs**		understand that time is measured using universal units of measure, for example, years, months, days, hours, minutes and seconds.	estimate and measure using standard units of measurement: perimeter, area and volume	select appropriate tools and units of measurement	understand that geometric shapes are useful for representing real-world situations	identify lines of reflective symmetry	interpret and use simple directions, describing paths, regions, positions and boundaries of their immediate environment.	understand that patterns can be analysed and rules identified	escribe the rule for a pattern in a variety of ways	select appropriate methods for representing patterns, for example using words, symbols and tables	use the language of addition and subtraction, for example, add, take away, plus, minus, sum, difference	read, write, compare and order whole numbers up to thousands or beyond	use fractions in real-life situations	
	understand that scale can represent different quantities in graphs	identify, read and interpret range and scale on graphs	**design a survey and systematically collect, organize and display data in pictographs and bar graphs**	understand the use of standard units to measure perimeter, area and volume	describe measures that fall between numbers on a scale	use timelines in units of inquiry and other real-life situations.	understand that directions can be used to describe pathways, regions, positions and boundaries of their immediate environment.	represent ideas about the real world using geometric vocabulary and symbols, for example, through oral description, drawing, modelling, labelling	analyse and describe 2D and 3D shapes, including regular and irregular polygons, using geometrical vocabulary	understand that multiplication is repeated addition and that division is repeated subtraction	identify a sequence of operations relating one set of numbers to another set.	use number patterns to make predictions and solve problems	model addition and subtraction of whole numbers	**develop strategies for memorizing addition, subtraction, multiplication and division number facts**	use mental and written strategies for addition and subtraction of two-digit numbers or beyond in real-life situations	

PY 3 PY

Data Handling			Measurement		Shape and space			Pattern and Function			Numbers		
understand that the mode can be used to summarize a set of data		select appropriate graph form(s) to display data	understand that measures can fall between numbers on a measurement scale, for example, 3½ kg, between 4 cm and 5 cm	read and write digital and analogue time on 12-hour and 24-hour clocks.	understand an angle as a measure of rotation	interpret and create simple directions, describing paths, regions, positions and boundaries of their immediate environment.	identify, describe and model congruency and similarity in 2D shapes	understand the inverse relationship between multiplication and division		use the properties and relationships of the four operations to solve problems.	**develop strategies for memorizing addition and subtraction number facts**	read, write, compare and order fractions	select an appropriate method for solving a problem, for example, mental estimation, mental or written strategies, or by using a calculator
understand that one of the purposes of a database is to answer questions and solve problems	use tree diagrams to express probability using simple fractions.	interpret range and scale on graphs	understand relationships between units, for example, metres, centimetres and millimetres		understand that directions for location can be represented by coordinates on a grid	sort, describe and model regular and irregular polygons	recognize and explain symmetrical patterns, including tessellation, in the environment	understand the associative and commutative properties of multiplication.			estimate sums and differences	read and write equivalent fractions	**use strategies to evaluate the reasonableness of answers.**
understand that probability is based on experimental events.		use probability to determine mathematically fair and unfair games and to explain possible outcomes	understand an angle as a measure of rotation.		understand that visualization of shape and space is a strategy for solving problems.	describe and model congruency and similarity in 2D shapes	apply knowledge of transformations to problem-solving situations.				understand situations that involve multiplication and division	read, write, compare and order fractions to hundredths or beyond	use whole numbers up to thousands or beyond in real-life situations
					understand the properties of regular and irregular polygons	analyse angles by comparing and describing rotations: whole turn; half turn; quarter turn; north, south, east and west on a compass					model addition and subtraction of fractions with the same denominator.	describe mental and written strategies for multiplication and division.	use fast recall of multiplication and division number facts in real-life situations
					understand the properties of circles	locate features on a grid using coordinates					model numbers to thousands or beyond using the base 10 place value system		use decimal fractions in real-life situations
					understand congruent or similar shapes	describe and/or represent mental images of objects, patterns, and paths.					model equivalent fractions		use mental and written strategies for multiplication and division in real-life situations
					understand that lines and axes of reflective and rotational symmetry assist with the construction of shapes	analyse and describe 2D and 3D shapes, including regular and irregular polygons, using geometrical vocabulary					use the language of fractions, for example, numerator, denominator		select an efficient method for solving a problem, for example, mental estimation, mental or written strategies, or by using a calculator
					understand an angle as a measure of rotation	sort, describe and model regular and irregular polygons					model decimal fractions to hundredths or beyond		**use strategies to evaluate the reasonableness of answers**
					understand that 2D representations of 3D objects can be used to visualize and solve problems	describe and model congruency and similarity in 2D shapes					model multiplication and division of whole numbers		
					understand that directions for location can be represented by coordinates on a grid	analyse angles by comparing and describing rotations: whole turn; half turn; quarter turn; north, south, east and west on a compass					use the language of multiplication and division, for example, factor, multiple, product, quotient, prime numbers, composite numbe		
					understand that visualization of shape and space is a strategy for solving problems.	locate features on a grid using coordinates					model addition and subtraction of fractions with related denominators		
						describe and/or represent mental images of objects, patterns, and paths.					model addition and subtraction of decimals.		
					sort, describe and model regular and irregular polygons								
					describe and model congruency and similarity in 2D shapes								
					analyse angles by comparing and describing rotations: whole turn; half turn; quarter turn; north, south, east and west on a compass								
					locate features on a grid using coordinates								
					describe and/or represent mental images of objects, patterns, and paths.								

PY4 PY4 PY4 PY4 PY4

Grade 4

	Data Handling	Measurement	Shape and space	Pattern and Function	Numbers
Overall Expectation	Learners will continue to collect, organize, display and analyse data, developing an understanding of how different graphs highlight different aspects of data more efficiently. They will select and use appropriate tools and units of measurement, and will be able to describe measures that fall between two numbers on a scale. They will understand that scale can represent different quantities in graphs and that mode can be used to summarize a set of data. The learners will make the connection that probability is based on experimental events and can be expressed numerically.	Learners will continue to use standard units to measure objects, in particular developing their understanding of measuring perimeter, area and volume. They will select and use appropriate tools and units of measurement, and will be able to describe measures that fall between two numbers on a scale. The learners will be given the opportunity to construct meaning about the concept of an angle as a measure of rotation.	Learners will sort, describe and model regular and irregular polygons, developing an understanding of their properties. They will be able to describe and model congruency and similarity in 2D shapes. Learners will continue to develop their understanding of symmetry, in particular reflective and rotational symmetry. They will understand how geometric shapes and associated vocabulary are useful for representing and describing objects and events in real-world situations.	Learners will analyse patterns and identify rules for patterns, developing the understanding that functions describe the relationship or rules that uniquely associate members of one set with members of another set. They will understand the inverse relationship between multiplication and division, and the associative and commutative properties of multiplication. They will be able to use their understanding of pattern and function to represent and make sense of real-life situations and, where appropriate, to solve problems involving the four operations.	Learners will develop the understanding that fractions and decimals are ways of representing whole-part relationships and will demonstrate this understanding by modelling equivalent fractions and decimal fractions to hundredths or beyond. They will be able to model, read, write, compare and order fractions, and use them in real-life situations. Learners will have automatic recall of addition, subtraction, multiplication and division facts. They will select, use and describe a range of strategies to solve problems involving addition, subtraction, multiplication and division, using estimation strategies to check the reasonableness of their answers.
Conceptual Understanding	Data can be collected, organized, displayed and analysed in different ways. Different graph forms highlight different aspects of data more efficiently Probability can be based on experimental events in daily life. Probability can be expressed in numerical notations.	recognize and explain symmetrical patterns, including tessellation, in the environment apply knowledge of transformations to problem-solving situations.	Changing the position of a shape does not alter its properties. Shapes can be transformed in different ways. Geometric shapes and vocabulary are useful for representing and describing objects and events in real-world situations	Functions are relationships or rules that uniquely associate members of one set with members of another set. By analysing patterns and identifying rules for patterns it is possible to make predictions.	The base 10 place value system can be extended to represent magnitude. Fractions and decimals are ways of representing whole-part relationships. The operations of addition, subtraction, multiplication and division are related to each other and are used to process information to solve problems. Even complex operations can be modelled in a variety of ways, for example, an algorithm is a way to represent an operation.

PY 4(Learning Outcomes)			PY 4(Learning Outcomes)			PY 4(Learning Outcomes)			PY 4 (Learning Outcomes)			PY 4 (Learning Outcomes)		
Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding
understand that data can be collected, displayed and interpreted using simple graphs, for example, bar graphs, line graphs	collect, display and interpret data using simple graphs, for example, bar graphs, line graphs	design a survey and systematically collect, organize and display data in pictographs and bar graphs	understand the use of standard units to measure perimeter, area and volume	describe measures that fall between numbers on a scale	use standard units of measurement to solve problems in real-life situations involving perimeter, area and volume	understand the common language used to describe shapes	sort, describe and model regular and irregular polygons	analyse and describe 2D and 3D shapes, including regular and irregular polygons, using geometrical vocabulary	understand that patterns can be analysed and rules identified	represent the rule of a pattern by using a function	select appropriate methods for representing patterns, for example using words, symbols and tables	model numbers to thousands or beyond using the base 10 place value system	read, write, compare and order whole numbers up to thousands or beyond	use whole numbers up to thousands or beyond in real-life situations
understand that scale can represent different quantities in graphs	identify, read and interpret range and scale on graphs	select appropriate graph form(s) to display data	understand that measures can fall between numbers on a measurement scale, for example, 3½ kg, between 4 cm and 5 cm	read and write digital and analogue time on 12-hour and 24-hour clocks.	select appropriate tools and units of measurement	understand the properties of regular and irregular polygons	describe and model congruency and similarity in 2D shapes	identify, describe and model congruency and similarity in 2D shapes	understand that multiplication is repeated addition and that division is repeated subtraction	escribe the rule for a pattern in a variety of ways	use number patterns to make predictions and solve problems	model equivalent fractions	develop strategies for memorizing addition, subtraction, multiplication and division number facts	use fast recall of multiplication and division number facts in real-life situations

PY 4

PY 4

Data Handling			Measurement			Shape and space			Pattern and Function			Numbers		
understand that the mode can be used to summarize a set of data	identify the mode of a set of data	interpret range and scale on graphs	understand relationships between units, for example, metres, centimetres and millimetres		use timelines in units of inquiry and other real-life situations.	understand the properties of circles	analyse angles by comparing and describing rotations: whole turn; half turn; quarter turn; north, south, east and west on a compass	recognize and explain symmetrical patterns, including tessellation, in the environment	understand the inverse relationship between multiplication and division	identify a sequence of operations relating one set of numbers to another set.	use the properties and relationships of the four operations to solve problems.	use the language of fractions, for example, numerator, denominator	read, write, compare and order fractions	use decimal fractions in real-life situations
understand that one of the purposes of a database is to answer questions and solve problems	use tree diagrams to express probability using simple fractions.	use probability to determine mathematically fair and unfair games and to explain possible outcomes	understand an angle as a measure of rotation.			understand congruent or similar shapes	locate features on a grid using coordinates	apply knowledge of transformations to problem-solving situations.	understand the associative and commutative properties of multiplication.			model decimal fractions to hundredths or beyond	read and write equivalent fractions	use mental and written strategies for multiplication and division in real-life situations
understand that probability is based on experimental events.		express probability using simple fractions.				understand that lines and axes of reflective and rotational symmetry assist with the construction of shapes	describe and/or represent mental images of objects, patterns, and paths.			select appropriate methods for representing patterns, for example using words, symbols and tables		model multiplication and division of whole numbers	read, write, compare and order fractions to hundredths or beyond	select an efficient method for solving a problem, for example, mental estimation, mental or written strategies, or by using a calculator
						understand an angle as a measure of rotation				use number patterns to make predictions and solve problems		use the language of multiplication and division, for example, factor, multiple, product, quotient, prime numbers, composite numbe	describe mental and written strategies for multiplication and division.	use strategies to evaluate the reasonableness of answers
						understand that 2D representations of 3D objects can be used to visualize and solve problems						model addition and subtraction of fractions with related denominators		add and subtract fractions with related denominators in real-life situations
						understand that directions for location can be represented by coordinates on a grid						model addition and subtraction of decimals.		add and subtract decimals in real-life situations, including money
						understand that visualization of shape and space is a strategy for solving problems.						read, write, compare and order whole numbers up to thousands or beyond		estimate sum, difference, product and quotient in real-life situations, including fractions and decimals.

PY5

PY5			PY5		PY5			PY5			PY5		
Learners will continue to collect, organize, display and analyse data, developing an understanding of how different graphs highlight different aspects of data more efficiently.	Learners will collect, organize and display data for the purposes of valid interpretation and communication.		Learners will continue to use standard units to measure objects, in particular developing their understanding of measuring perimeter, area and volume.	Learners will understand that a range of procedures exists to measure different attributes of objects and events, for example, the use of formulas for finding area, perimeter and volume.	Learners will sort, describe and model regular and irregular polygons, developing an understanding of their properties.			Learners will analyse patterns and identify rules for patterns, developing the understanding that functions describe the relationship or rules that uniquely associate members of one set with members of another set.	Learners will understand that patterns can be represented, analysed and generalized using algebraic expressions, equations or functions.		Learners will develop the understanding that fractions and decimals are ways of representing whole-part relationships and will demonstrate this understanding by modelling equivalent fractions and decimal fractions to hundredths or beyond.	Learners will understand that the base 10 place value system extends infinitely in two directions and will be able to model, compare, read, write and order numbers to millions or beyond, as well as model integers.	
They will select and use appropriate tools and units of measurement, and will be able to describe measures that fall between two numbers on a scale.	They will be able to use the mode, median, mean and range to summarize a set of data.		They will select and use appropriate tools and units of measurement, and will be able to describe measures that fall between two numbers on a scale.	They will be able to decide on the level of accuracy required for measuring and using decimal and fraction notation when precise measurements are necessary.	They will be able to describe and model congruency and similarity in 2D shapes.			They will understand the inverse relationship between multiplication and division, and the associative and commutative properties of multiplication.	They will use words, tables, graphs and, where possible, symbolic rules to analyse and represent patterns.		They will be able to model, read, write, compare and order fractions, and use them in real-life situations.	They will develop an understanding of ratios.	

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Data Handling		Measurement		Shape and space	Pattern and Function		Numbers	
They will understand that scale can represent different quantities in graphs and that mode can be used to summarize a set of data.	They will create and manipulate an electronic database for their own purposes, including setting up spreadsheets and using simple formulas to create graphs.	The learners will be given the opportunity to construct meaning about the concept of an angle as a measure of rotation.	To demonstrate their understanding of angles as a measure of rotation, the learners will be able to measure and construct angles.	Learners will continue to develop their understanding of symmetry, in particular reflective and rotational symmetry.	They will be able to use their understanding of pattern and function to represent and make sense of real-life situations and, where appropriate, to solve problems involving the four operations.	They will develop an understanding of exponential notation as a way to express repeated products, and of the inverse relationship that exists between exponents and roots.	Learners will have automatic recall of addition, subtraction, multiplication and division facts.	They will understand that fractions, decimals and percentages are ways of representing whole-part relationships and will work towards modelling, comparing, reading, writing, ordering and converting fractions, decimals and percentages.
The learners will make the connection that probability is based on experimental events and can be expressed numerically.	Learners will understand that probability can be expressed on a scale (0–1 or 0%–100%) and that the probability of an event can be predicted theoretically.			They will understand how geometric shapes and associated vocabulary are useful for representing and describing objects and events in real-world situations.		The students will continue to use their understanding of pattern and function to represent and make sense of real-life situations and to solve problems involving the four operations.	They will select, use and describe a range of strategies to solve problems involving addition, subtraction, multiplication and division, using estimation strategies to check the reasonableness of their answers.	They will use mental and written strategies to solve problems involving whole numbers, fractions and decimals in real-life situations, using a range of strategies to evaluate reasonableness of answers.

Conceptual Understanding

Data can be collected, organized, displayed and analysed in different ways.	Data can be presented effectively for valid interpretation and communication.	Objects and events have attributes that can be measured using appropriate tools.	Accuracy of measurements depends on the situation and the precision of the tool	escribe the rule for a pattern in a variety of ways	Functions are relationships or rules that uniquely associate members of one set with members of another set.	Patterns can often be generalized using algebraic expressions, equations or functions.	The base 10 place value system can be extended to represent magnitude.	The base 10 place value system extends infinitely in two directions.
Different graph forms highlight different aspects of data more efficiently	Range, mode, median and mean can be used to analyse statistical data.	Relationships exist between standard units that measure the same attributes	Conversion of units and measurements allows us to make sense of the world we live in.	identify a sequence of operations relating one set of numbers to another set.	By analysing patterns and identifying rules for patterns it is possible to make predictions.	Exponential notation is a powerful way to express repeated products of the same number.	Fractions and decimals are ways of representing whole-part relationships.	Fractions, decimal fractions and percentages are ways of representing whole-part relationships.
Probability can be based on experimental events in daily life.	Probability can be represented on a scale between 0–1 or 0% –100%.						The operations of addition, subtraction, multiplication and division are related to each other and are used to process information to solve problems.	For fractional and decimal computation, the ideas developed for whole-number computation can apply.
Probability can be expressed in numerical notations.	The probability of an event can be predicted theoretically.							Ratios are a comparison of two numbers or quantities.
							Even complex operations can be modelled in a variety of ways, for example, an algorithm is a way to represent an operation.	

PY 5(Learning Outcomes)			PY 5(Learning Outcomes)			PY 5(Learning Outcomes)			PY 5 (Learning Outcomes)			PY 5 (Learning Outcomes)		
Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding
understand that data can be collected, displayed and interpreted using simple graphs, for example, bar graphs, line graphs	collect, display and interpret data using simple graphs, for example, bar graphs, line graphs	design a survey and systematically collect, organize and display data in pictographs and bar graphs	understand the use of standard units to measure perimeter, area and volume	estimate and measure using standard units of measurement: perimeter, area and volume	use standard units of measurement to solve problems in real-life situations involving perimeter, area and volume		use the language of fractions, for example, numerator, denominator	sort, describe and model regular and irregular polygons	understand that patterns can be analysed and rules identified	represent the rule of a pattern by using a function	select appropriate methods for representing patterns, for example using words, symbols and tables	model numbers to thousands or beyond using the base 10 place value system	read, write, compare and order whole numbers up to thousands or beyond	use whole numbers up to thousands or beyond in real-life situations
understand that scale can represent different quantities in graphs	identify, read and interpret range and scale on graphs	select appropriate graph form(s) to display data	understand that measures can fall between numbers on a measurement scale, for example, 3½ kg, between 4 cm and 5 cm	describe measures that fall between numbers on a scale	select appropriate tools and units of measurement		model decimal fractions to hundredths or beyond	describe and model congruency and similarity in 2D shapes	understand that multiplication is repeated addition and that division is repeated subtraction	escribe the rule for a pattern in a variety of ways	use number patterns to make predictions and solve problems	model equivalent fractions	develop strategies for memorizing addition, subtraction, multiplication and division number facts	use fast recall of multiplication and division number facts in real-life situations
understand that the mode can be used to summarize a set of data	identify the mode of a set of data	interpret range and scale on graphs	understand relationships between units, for example, metres, centimetres and millimetres	read and write digital and analogue time on 12-hour and 24-hour clocks.	use timelines in units of inquiry and other real-life situations.		model multiplication and division of whole numbers	analyse angles by comparing and describing rotations: whole turn; half turn; quarter turn; north, south, east and west on a compass	understand the inverse relationship between multiplication and division	identify a sequence of operations relating one set of numbers to another set.	use the properties and relationships of the four operations to solve problems.	use the language of fractions, for example, numerator, denominator	read, write, compare and order fractions	use decimal fractions in real-life situations
understand that one of the purposes of a database is to answer questions and solve problems	use tree diagrams to express probability using simple fractions.	use probability to determine mathematically fair and unfair games and to explain possible outcomes	understand an angle as a measure of rotation.	develop and describe formulas for finding perimeter, area and volume	select and use appropriate units of measurement and tools to solve	The base 10 place value system can be extended to represent magnitude.	use the language of multiplication and division, for example, factor, multiple, product, quotient, prime numbers, composite numbe	locate features on a grid using coordinates	understand the associative and commutative properties of multiplication.	represent the rule of a pattern by using a function	select appropriate methods to analyse patterns and identify rules	model decimal fractions to hundredths or beyond	read and write equivalent fractions	use mental and written strategies for multiplication and division in real-life situations

PY 5

PY 5

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Data Handling			Measurement			Shape and space			Pattern and Function			Numbers		
understand that probability is based on experimental events.	collect, display and interpret data in circle graphs (pie charts) and line graphs	express probability using simple fractions.	understand procedures for finding area, perimeter and volume	use decimal and fraction notation in measurement, for example, 3.2 cm, 1.47 kg, 1½ miles	select and use appropriate units of measurement and tools to solve problems in real-life situations	Fractions and decimals are ways of representing whole-part relationships.	model addition and subtraction of fractions with related denominators	describe and/or represent mental images of objects, patterns, and paths.	understand that patterns can be generalized by a rule	analyse pattern and function using words, tables and graphs, and, when possible, symbolic rules.	use functions to solve problems.	model multiplication and division of whole numbers	read, write, compare and order fractions to hundredths or beyond	select an efficient method for solving a problem, for example, mental estimation, mental or written strategies, or by using a calculator
understand that different types of graphs have special purposes	identify, describe and explain the range, mode, median and mean in a set of data	design a survey and systematically collect, record, organize and display the data in a bar graph, circle graph, line graph	understand the relationships between area and perimeter, between area and volume, and between volume and capacity	read and interpret scales on a range of measuring instruments	determine and justify the level of accuracy required to solve real-life problems involving measurement	The operations of addition, subtraction, multiplication and division are related to each other and are used to process information to solve problems.	model addition and subtraction of decimals.	analyse, describe, classify and visualize 2D (including circles, triangles and quadrilaterals) and 3D shapes, using geometric vocabulary	understand exponents as repeated multiplication			use the language of multiplication and division, for example, factor, multiple, product, quotient, prime numbers, composite numbe	describe mental and written strategies for multiplication and division.	use strategies to evaluate the reasonableness of answers
understand that the mode, median, mean and range can summarize a set of data	set up a spreadsheet using simple formulas to manipulate data and to create graphs	identify, describe and explain the range, mode, median and mean in a set of data	understand unit conversions within measurement systems (metric or customary	measure and construct angles in degrees using a protractor	use decimal and fractional notation in measurement, for example, 3.2 cm, 1.47 kg, 1½ miles			describe lines and angles using geometric vocabulary	understand the inverse relationship between exponents and roots			model addition and subtraction of fractions with related denominators	read, write, compare and order whole numbers up to millions or beyond	add and subtract fractions with related denominators in real-life situations
	express probabilities using scale (0–1) or per cent (0%–100%).	create and manipulate an electronic database for their own purposes		carry out simple unit conversions within a system of measurement (metric or customary).	use timetables and schedules (12- hour and 24-hour clocks) in real-life situations	Even complex operations can be modelled in a variety of ways, for example, an algorithm is a way to represent an operation.		identify and use scale (ratios) to enlarge and reduce shapes	understand that patterns can be represented, analysed and generalized using tables, graphs, words, and, when possible, symbolic rules.			model addition and subtraction of decimals.	read and write ratios	add and subtract decimals in real-life situations, including money
		determine the theoretical probability of an event and explain why it might differ from experimental probability.			determine times worldwide			identify and use the language and notation of bearing to describe direction and position				model numbers to millions or beyond using the base 10 place value system		estimate sum, difference, product and quotient in real-life situations, including fractions and decimals.
								create and model how a 2D net converts into a 3D shape and vice versa				model ratios		use whole numbers up to millions or beyond in real-life situations
												model integers in appropriate contexts		use ratios in real-life situations
												model exponents and square roots		use integers in real-life situations
												model improper fractions and mixed numbers		convert improper fractions to mixed numbers and vice versa in real-life situations
												simplify fractions using manipulatives		simplify fractions in computation answers
														use fractions, decimals and percentages interchangeably in real- life situations
														select and use an appropriate sequence of operations to solve word problems
														select an efficient method for solving a problem: mental estimation, mental computation, written algorithms, by using a calculator
														use strategies to evaluate the reasonableness of answers
														use mental and written strategies for adding, subtracting, multiplying and dividing fractions and decimals in real-life situations
														estimate and make approximations in real-life situations involving fractions, decimals and percentages.

Data Handling	Measurement	Shape and space	Pattern and Function	Numbers

Shape and space			Shape and space		
Learners will understand that **shapes have characteristics that can be described and compared**.	Learners will continue to work with 2D and 3D shapes, developing the understanding that **shapes are classified and named according to their properties.**		Learners will understand that **shapes have characteristics that can be described and compared**.	Learners will continue to work with 2D and 3D shapes, developing the understanding that **shapes are classified and named according to their properties.**	
They will understand and use **common language to describe paths, regions and boundaries** of their immediate environment.	They will understand that **examples of symmetry and transformations can be found in their immediate environment.**		They will understand and use **common language to describe paths, regions and boundaries** of their immediate environment.	They will understand that **examples of symmetry and transformations can be found in their immediate environment.**	
	Learners will **interpret, create and use simple directions and specific vocabulary to describe paths, regions, positions and boundaries** of their immediate environment.			Learners will **interpret, create and use simple directions and specific vocabulary to describe paths, regions, positions and boundaries** of their immediate environment.	

PY 1 (Learning Outcomes)			PY 1 (Learning Outcomes)		
Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding

Data Handling	Measurement	Shape and space	Pattern and Function	Numbers

Shape and space			Shape and space		
Learners will understand that **shapes have characteristics that can be described and compared**.	Learners will continue to work with 2D and 3D shapes, developing the understanding that **shapes are classified and named according to their properties.**		Learners will understand that **shapes have characteristics that can be described and compared**.	Learners will continue to work with 2D and 3D shapes, developing the understanding that **shapes are classified and named according to their properties.**	
They will understand and use **common language to describe paths, regions and boundaries** of their immediate environment.	They will understand that **examples of symmetry and transformations can be found in their immediate environment.**		They will understand and use **common language to describe paths, regions and boundaries** of their immediate environment.	They will understand that **examples of symmetry and transformations can be found in their immediate environment.**	
	Learners will **interpret, create and use simple directions and specific vocabulary to describe paths, regions, positions and boundaries** of their immediate environment.			Learners will **interpret, create and use simple directions and specific vocabulary to describe paths, regions, positions and boundaries** of their immediate environment.	

PY 1 (Learning Outcomes)			PY 1 (Learning Outcomes)		
Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding

Data Handling	Measurement	Shape and space	Pattern and Function	Numbers

Shape and space			Shape and space		
Learners will understand that **shapes have characteristics that can be described and compared**.	Learners will continue to work with 2D and 3D shapes, developing the understanding that **shapes are classified and named according to their properties.**		Learners will understand that **shapes have characteristics that can be described and compared**.	Learners will continue to work with 2D and 3D shapes, developing the understanding that **shapes are classified and named according to their properties.**	
They will understand and use **common language to describe paths, regions and boundaries** of their immediate environment.	They will understand that **examples of symmetry and transformations can be found in their immediate environment.**		They will understand and use **common language to describe paths, regions and boundaries** of their immediate environment.	They will understand that **examples of symmetry and transformations can be found in their immediate environment.**	
	Learners will **interpret, create and use simple directions and specific vocabulary to describe paths, regions, positions and boundaries** of their immediate environment.			Learners will **interpret, create and use simple directions and specific vocabulary to describe paths, regions, positions and boundaries** of their immediate environment.	

PY 1 (Learning Outcomes)			PY 1 (Learning Outcomes)		
Constructing Meaning	Transfering Meaning	Applying with understanding	Constructing Meaning	Transfering Meaning	Applying with understanding

Shape and space			Shape and space		
Learners will understand that **shapes have characteristics that can be described and compared**.	Learners will continue to work with 2D and 3D shapes, developing the understanding that **shapes are classified and named according to their properties.**		Learners will understand that **shapes have characteristics that can be described and compared**.	Learners will continue to work with 2D and 3D shapes, developing the understanding that **shapes are classified and named according to their properties.**	

Data Handling	Measurement	Shape and space	Pattern and Function			Numbers		
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