KEMENTERIAN PENDIDIKAN MALAYSIA

RANCANGAN PENGAJARAN TAHUNAN

2022/2023

MATHEMATICS (DLP)
YEAR SIX

SCHOOL BAGDE

SCHOOL NAME : .....

SCHOOL ADDRESS : .....

TEACHER'S NAME : .....

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<tr><th>WEEK: 1-5</th><th>LEARNING AREA : NUMBERS AND OPERATIONS</th><th colspan="3">TOPIC: 1.0 WHOLE NUMBERS AND BASIC OPERATIONS</th></tr>
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<tr><td rowspan="2">1.1 Whole number up to 10 000 000</td><td rowspan="2">Pupils will be able to:
1.1.1 Read, say and write any numbers up to 10 000 000.
1.1.2 Represent numbers up to 10 000 000 and determine the number patterns.
1.1.3 Read, say and write any numbers up to 10 000 000 in fraction of a million with 2, 4, 5, 8 and 10 as the denominators involving daily situations.
1.1.4 Read, say and write any numbers up to 10 000 000 in decimal of a million up to three decimal places involving daily situations.
Convert numbers in decimal of a million and fraction of a million to whole number and vice versa.</td><td rowspan="2">Notes:
● Can introduce place value of billions and trillions.
● Fraction of a million in proper fractions and mixed numbers.
Suggested Activities:
● Can use various calculation tools such as calculator, MS Excel, MS Word and abacus in the process of number representation, creating and determining number patterns.</td><td>1</td><td>● State any number up to 10 000 000 involving whole numbers, fraction of a million and decimal of a million.
● Represent numbers up to 10 000 000 using calculation tools.</td></tr>
<tr><td>2</td><td>● Explain steps in solving number sentences involving basic operations and mixed operations.
● Convert numbers in fraction of a million and decimal of a million into whole numbers and vice versa.</td></tr>
<tr><td>1.2 Basic and mixed operations</td><td>1.2.1 1.2.1 Solve basic operations and mixed operations number sentences involving whole numbers, fraction of a million and decimal of a million with and without brackets including the use of unknown.</td><td>Notes :
Emphasis on calculation order of operation involving brackets and mixed operations.</td><td>3</td><td>● Classify numbers within 100 into prime numbers and composite numbers.
● Determine number patterns using calculation tools.
● Solve number sentences of basic operation and mixed operation involving whole numbers, fraction of a million and decimal of a million with and without brackets including the use of unknown and justify the answer.</td></tr>
<tr><td></td><td></td><td></td><td>4</td><td>Solve daily routine problems involving numbers up to 10 000 000.</td></tr>
<tr><td></td><td></td><td></td><td>5</td><td>Solve daily routine problems involving numbers up to 10 000 000 using various strategies.</td></tr>
<tr><td></td><td></td><td></td><td>6</td><td>Solve daily non-routine problems involving numbers up to 10 000 000 creatively and innovatively.</td></tr>
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<tr><th>CONTENT STANDARD</th><th colspan="2">LEARNING STANDARD</th><th>REMARKS</th><th colspan="2">PERFORMANCE STANDARD
PL | DESCRIPTOR</th></tr>
<tr><td rowspan="2">1.3 Prime Numbers and Composite Numbers</td><td rowspan="2">1.3.1</td><td rowspan="2">Classify numbers within 100 to prime numbers and composite numbers.</td><td rowspan="2">Notes:
● Composite numbers are numbers that can be divided by 1, itself and other numbers.
● 0 and 1 are not prime numbers or composite numbers.

Suggested Activities:
Use various strategies to identify prime numbers and composite numbers.</td><td>1</td><td>● State any number up to 10 000 000 involving whole numbers, fraction of a million and decimal of a million.
● Represent numbers up to 10 000 000 using calculation tools.</td></tr>
<tr><td>2</td><td>● Explain steps in solving number sentences involving basic operations and mixed operations.
● Convert numbers in fraction of a million and decimal of a million into whole numbers and vice versa.</td></tr>
<tr><td rowspan="5">1.4 Problem solving</td><td rowspan="5">1.4.1</td><td rowspan="5">Solve daily routine problems involving whole numbers, prime numbers, composite numbers, fraction of a million and decimal of a million for basic operations and mixed operations, with and without brackets including the use of unknown.</td><td rowspan="5">Suggested Activities:
● Use Polya Model in problem solving:
1. Understand the problem;
2. Plan a solving strategy;
3. Carry out the strategy; and
4. Check the answer.

● Use various problem-solving strategies such as drawing diagrams, identifying patterns and trying simpler case.

● Use various teaching and learning strategies such as contextual learning and mastery learning.

● Use the calculation tools to check answer.</td><td>3</td><td>● Classify numbers within 100 into prime numbers and composite numbers.
● Determine number patterns using calculation tools.
● Solve number sentences of basic operation and mixed operation involving whole numbers, fraction of a million and decimal of a million with and without brackets including the use of unknown and justify the answer.</td></tr>
<tr><td>4</td><td>Solve daily routine problems involving numbers up to 10 000 000.</td></tr>
<tr><td>5</td><td>Solve daily routine problems involving numbers up to 10 000 000 using various strategies.</td></tr>
<tr><td>6</td><td>Solve daily non-routine problems involving numbers up to 10 000 000 creatively and innovatively.</td></tr>
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WEEK: 9-13	LEARNING AREA : NUMBERS AND OPERATIONS	TOPIC: 2.0 FRACTIONS, DECIMALS AND PERCENTAGES	
CONTENT STANDARD	**LEARNING STANDARD**	**REMARKS**	**PERFORMANCE STANDARD**

PL	DESCRIPTOR
1	Read number sentences of basic operations and mixed operations involving whole numbers, fractions, decimals and percentages.
2	• Convert decimals to percentages more than 100% and vice versa. • Explain steps in solving number sentences of basic operations and mixed operations, with and without brackets.
3	• Solve basic operations and mixed operations number sentences and justify answer. • Determine values of percentages more than 100% of a given quantity in decimals and vice versa.
4	Solve daily routine problems involving whole numbers, fractions, decimals and percentages.
5	Solve daily routine problems involving whole numbers, fractions, decimals and percentages using various strategies.
6	Solve daily non-routine problems involving whole numbers, fractions, decimals and percentages creatively and innovatively.

CONTENT STANDARD	LEARNING STANDARD	REMARKS
2.1 Fractions	Pupils will be able to: 2.1.1 Divide fractions of two numbers involving proper fractions, whole numbers and mixed numbers.	**Suggested Activities:** • Introduce depreciation while teaching assets. • Make connections between assets and insurance.
2.2 Decimals	2.2.1 Multiply decimals with decimals, the product up to three decimal places.. 2.2.2 Divide decimals by decimals, the quotient up to three decimal places	**Notes:** The functions of insurance and takaful are to protect assets and policy holders.
2.3 Percentages	2.3.1 Convert decimals to percentages more than 100% and vice versa. 2.3.2 Solve addition and subtraction number sentences involving percentages. 2.3.3 Determine value of percentages within and more than 100% of a quantity in decimals and vice versa.	**Notes:** Percentages involving mixed numbers, within and more than 100%. **Suggested Activities:** • Use hundred grid. • Use various strategies, such as contextual • learning and mastery learning

#SELEPAS MINGGU 11	CUTI PENGGAL 1, SESI 2022/2023

(KUMPULAN A: 03.06.2022 - 11.06.2022, KUMPULAN B: 04.06.2022 - 12.06.2022)

WEEK: 15-16	LEARNING AREA : NUMBERS AND OPERATIONS	TOPIC: 2.0 FRACTIONS, DECIMALS AND PERCENTAGES

CONTENT STANDARD	LEARNING STANDARD	REMARKS	PERFORMANCE STANDARD	
			PL	DESCRIPTOR
2.4 Mixed operations	2.4.1 Solve mixed operations number sentences of any two basic operations, involving whole numbers, decimals and fractions, with and without brackets.	**Notes:** Mixed operations number sentences involving any two types of basic operations. **Suggested Activities:** ● Use various strategies, such as contextual learning and mastery learning.	1	Read number sentences of basic operations and mixed operations involving whole numbers, fractions, decimals and percentages.
			2	● Convert decimals to percentages more than 100% and vice versa. ● Explain steps in solving number sentences of basic operations and mixed operations, with and without brackets.
2.5 Problem solving	2.5.1 Solve daily problems involving whole numbers, fractions, decimals and percentages.	**Suggested Activities:** ● Use Polya Model in problem solving: 1. Understand the problem; 2. Plan a solving strategy; 3. Carry out the strategy; and 4. Check the answer. Use various teaching and learning strategies, such as simulation and project-based learning.	3	● Solve basic operations and mixed operations number sentences and justify answer. ● Determine values of percentages more than 100% of a given quantity in decimals and vice versa.
			4	Solve daily routine problems involving whole numbers, fractions, decimals and percentages.
			5	Solve daily routine problems involving whole numbers, fractions, decimals and percentages using various strategies.
			6	Solve daily non-routine problems involving whole numbers, fractions, decimals and percentages creatively and innovatively.

WEEK: 17-20	LEARNING AREA : NUMBERS AND OPERATIONS	TOPIC: 3.0 MONEY		
CONTENT STANDARD	**LEARNING STANDARD**	**REMARKS**	**PERFORMANCE STANDARD**	
			PL	**DESCRIPTOR**
3.1 Financial Management	Pupils will be able to: 3.1.1 Recognise cost price, selling price, profit, loss, discount, rebate, voucher, bill, receipt, invoice, asset, liability, interest, dividend and service tax. 3.1.2 Determine cost price, selling price, profit, loss, discount, rebate, interest, dividend and service tax.	**Suggested Activities:** ● Introduce depreciation while teaching assets. ● Make connections between assets and insurance.	1	Recognise cost price, selling price, profit, loss, discount, rebate, voucher, bill, receipt, invoice, asset, liability, interest, dividend and service tax.
3.2 Insurance and Takaful	2.3.4 Recognise insurance and takaful. 2.3.5 Explain purpose and importance of insurance and takaful protection.	**Notes:** The functions of insurance and takaful are to protect assets and policy holders.	2	● Explain cost price, selling price, profit, loss, discount, voucher, rebate, bill, receipt, invoice, asset, liability, interest, dividend and service tax. ● State importance of insurance and takaful.
3.3 Problem solving	2.3.6 Solve daily problems involving cost price, selling price, profit, loss, discount, rebate, voucher, bill, receipt, invoice, asset, liability, interest, dividend and service tax, financial management and risks in daily situation.	**Suggested Activities:** ● Use Polya Model in problem solving: 1. Understand problem; 2. Plan a solving strategy; 3. Carry out the strategy;and 4. Check the answers. ● Use various problem solving strategies such as trying simpler case and trial and error. ● Use various teaching and learning strategies such as	3	● Determine value of profit, loss, discount, rebate, interest, dividend and service tax and justify the answer.
			4	Solve daily routine problems involving financial knowledge and skills.
			5	Solve daily routine problems involving financial knowledge and skills using various strategies.

		simulation, mastery learning, contextual learning and project-based learning.	6	Solve daily non-routine problems involving financial knowledge and skills creatively and innovatively.

WEEK: 21-25	LEARNING AREA : MEASUREMENT AND GEOMETRY	TOPIC: 4.O TIME		
CONTENT STANDARD	**LEARNING STANDARD**	**REMARKS**	**PERFORMANCE STANDARD**	
			PL	**DESCRIPTOR**
4.1 Time zone	Pupils will be able to: 4.1.1 Recognise time zone. 4.1.2 Determine time difference between two cities located in different time zones.	**Notes:** ● Some countries such as Australia and Indonesia have more than one time zone.	1	● Recognise time zone.
			2	● Explain time difference between two cities located in different time zones.
			3	● Determine time between two cities located in different time zones.
4.2 Problem solving	4.2.1 Solve daily problems involving time zone.	**Notes:** Calculation strategy including the usage of number line.	4	Solve daily routine problems involving time.
			5	Solve daily routine problems involving time using various strategies.
			6	Solve daily non-routine problems involving time creatively and innovatively.
#SELEPAS MINGGU 23	**CUTI PENGGAL 2, SESI 2022/2023** **(KUMPULAN A: 02.09.2022 - 10.09.2022, KUMPULAN B: 03.09.2022 - 11.09.2022)**			

WEEK: 26-29	LEARNING AREA : MEASUREMENT AND GEOMETRY	TOPIC: 5.0 MEASUREMENT		
CONTENT STANDARD	**LEARNING STANDARD**	**REMARKS**	**PERFORMANCE STANDARD**	
			PL	**DESCRIPTOR**
5.1 Problem Solving	Pupils will be able to: 5.1.1 Solve daily problems involving the relationship between length, mass and volume of liquid: (i) Length and mass (ii) Length and volume of liquid (iii) Mass and volume of liquid.	**Suggested Activities:** ● Use Polya Model in problem solving: 1. Understand the problem;. 2. Plan a solving strategy;. 3. Carry out the strategy;.and 4. Check the answer. ● Use various problem solving strategies to solve problems such as making tables systematically, identifying patterns and logical reasoning. ● Use various teaching and learning strategies such as simulation, contextual learning and project-based learning.	1	● State quantity of any measurement.
			2	● Explain relationship between two quantities involving measurement.
			3	● Construct number sentences based on word problems involving measurement and justify the answer.
			4	Solve daily routine problems involving measurement.
			5	Solve daily routine problems involving measurement using various strategies.
			6	Solve daily non-routine problems involving measurement creatively and innovatively.

WEEK: 30-34	LEARNING AREA : MEASUREMENT AND GEOMETRY	TOPIC: 6.0 SPACE	
CONTENT STANDARD	**LEARNING STANDARD**	**REMARKS**	**PERFORMANCE STANDARD**

PL	DESCRIPTOR
1	Recognise and label centre, diameter, radius and interior angles.
2	● Explain centre, diameter, radius and interior angles of a circle.
3	● Draw regular polygons up to eight sides and measure the interior angles. ● Form given angles. ● Draw circle.

CONTENT STANDARD	LEARNING STANDARD	REMARKS
6.1 Angles	Pupils will be able to: 6.1.1 Draw regular polygons up to eight sides on square grid, triangular grid or using computer software and measure the interior angles formed. 3.1.3 Form angles based on given degrees.	**Notes:** ● Use protractor and ruler. ● The angles given are up to 180° only. **Suggested Activities:** ● Can use Microsoft Word, Excel and Geometer's Sketchpad (GSP).
6.2 Circles	6.2.1 Recognise centre, diameter and radius of a circle. 2.3.7 Draw a circle based on given radius then label centre, radius and diameter.	**Notes:** A complete rotation is 360°. **Suggested Activities:** Draw circles with aid of creative and innovative materials.

6.3 Problem solving	2.3.8 6.3.1 Solve daily routine problems involving space.	**Suggested Activities:** ● Use Polya Model in problem solving: 1. Understand the problem; 2. Plan a solving strategy; 3. Carry out the strategy; and 4. Check the answer. ● Use various teaching and learning strategies such as simulation, contextual learning and project-based learning.	4	Solve daily routine problems involving space.
			5	Solve daily routine problems involving space using various strategies.
			6	Solve daily non-routine problems involving space creatively and innovatively.

WEEK: 35-36	**LEARNING AREA : RELATIONSHIP AND ALGEBRA**		**TOPIC: 7.0 COORDINATES, RATIO AND PROPORTION**	
CONTENT STANDARD	**LEARNING STANDARD**	**REMARKS**	**PERFORMANCE STANDARD**	
			PL	**DESCRIPTOR**

7.1 Coordinates in first quadrant	Pupils will be able to: 4.1.3 7.1.1 Determine horizontal and vertical distance between two locations based on given scale.	**Note:** ● Location is represented by coordinates. ● Use scale, such as: a. 1 cm represents 1 km b. 1 : 100 000 c. 0 1 2 3 4 5 km ● Emphasise on reading the scale correctly.	1 • Read scales. • State ratio between two quantities. 2 Explain steps: • Represent ratio between two quantities. • Determine quantity based on ratio. • Determine horizontal and vertical distance between two locations. 3 • Represent ratio of two quantities in the simplest form. • Determine propotionate quantity based on given ratio. • Determine horizontal and vertical distance between two locations based on given scale.
7.2 Ratio	4.2.2 7.2.1 Represent ratio of two quantities in the simplest form.	**Note:** Ratio involves whole numbers only.	4 Solve daily routine problems involving coordinates, ratio and proportion. 5 Solve daily routine problems involving coordinates, ratio and proportion using various strategies. 6 Solve daily non-routine problems involving coordinates, ratio and proportion creatively and innovatively.

CUTI PENGGAL 3, SESI 2022/2023
(KUMPULAN A: 09.12.2022 - 31.12.2022, KUMPULAN B: 10.12.2022 - 31.12.2022)

WEEK: 37-38	**LEARNING AREA : RELATIONSHIP AND ALGEBRA**	**TOPIC: 7.0 COORDINATES, RATIO AND PROPORTION**

<table>
<tr><th rowspan="2">CONTENT STANDARD</th><th rowspan="2">LEARNING STANDARD</th><th rowspan="2">REMARKS</th><th colspan="2">PERFORMANCE STANDARD</th></tr>
<tr><th>PL</th><th>DESCRIPTOR</th></tr>
<tr><td rowspan="6">7.3 Proportion</td><td rowspan="6">4.1.4 7.3.1 Determine the proportionate quantity based on given ratio.</td><td rowspan="6">Suggested Activities:
● Can determine one or both the quantities based on given ratio.</td><td></td><td></td></tr>
<tr><td>1</td><td>• Read scales.
• State ratio between two quantities.</td></tr>
<tr><td>2</td><td>Explain steps:
• Represent ratio between two quantities.
• Determine quantity based on ratio.
• Determine horizontal and vertical distance between two locations.</td></tr>
<tr><td>3</td><td>• Represent ratio of two quantities in the simplest form.
• Determine propotionate quantity based on given ratio.
• Determine horizontal and vertical distance between two locations based on given scale.</td></tr>
<tr><td>4</td><td>Solve daily routine problems involving coordinates, ratio and proportion.</td></tr>
<tr><td></td><td></td></tr>
<tr><td rowspan="4">7.4 Problem solving</td><td rowspan="4">4.2.3 7.4.1 Solve daily problems involving coordinates, ratio and proportion.</td><td rowspan="4">Suggested Activities:
● Use Polya Model in problem solving:
1. Understand the problem;
2. Plan a solving strategy;
3. Carry out the strategy; and
4. Check the answer.

Use various teaching and learning strategies, such as simulation, contextual learning and project-based learning.</td><td>5</td><td>Solve daily routine problems involving coordinates, ratio and proportion using various strategies.</td></tr>
<tr><td>6</td><td>Solve daily non-routine problems involving coordinates, ratio and proportion creatively and innovatively.</td></tr>
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WEEK: 39-40	LEARNING AREA : STATISTIC AND PROBABILITY	TOPIC: 8.0 DATA HANDLING AND LIKELIHOOD 6.0 SPACE

CONTENT STANDARD	LEARNING STANDARD	REMARKS	PERFORMANCE STANDARD	
			PL	DESCRIPTOR
8.1 Pie chart	Pupils will be able to: 8.1.1 Complete pie chart with 45^0, 90^0 and 180^0 based on given quantities and interpret data.	**Suggested Activities:** ● Provide a circle with centre.	1	State whether an event is likely or unlikely to occur.
8.2 Likelihood	8.2.1 State whether an event is likely or unlikely to occur and give plausible reason. 8.2.2 State likelihood of occurrence of an event as impossible, less likely, equally likely, more likely or certain and give plausible reason.	**Suggested Activities:** ● Use events in students' daily life ● Use various teaching and learning strategies, such as simulation, contextual learning and project-based learning.	2	● State likelihood of the occurrence of an event as impossible, less likely, equally likely, more likely or certain and give plausible reason.
8.3 Problem solving	8.3.1 Solve problems involving data handling and likelihood in daily situation.	**Suggested Activities:** ● Use Polya Model in problem solving: 1. Understand the problem; 2. Plan a solving strategy; 3. Carry out the strategy; and 4. Check the answer. ● Use various problem solving strategies, such as drawing tables systematically, identifying patterns and logical reasoning. ● Use various teaching and learning strategies such as simulation, contextual learning and project-based learning.	3	● Complete pie chart with degrees based on given quantities and interpret data.
			4	Solve daily routine problems involving data handling and likelihood.
			5	Solve daily routine problems involving data handling and likelihood using various strategies.
			6	Solve daily non routine problems involving data handling and likelihood creatively and innovatively.

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43	PENGURUSAN AKHIR TAHUN
CUTI AKHIR PERSEKOLAHAN SESI 2022/ 2023 (KUMPULAN A: 17.02.2023 - 11.03.2023, KUMPULAN B: 18.02.2023 - 12.03.2023)	