St. Joseph Rayong School
Course Outline

2nd Semester grade 4 Curriculum - Math (2018-19)

Unit Name and Number	Week No.	Content Headings	Key Sub-Topics / Context / Vocabulary	Projects / Graded Assignments	Question Style for Exam	Justification for Exam Content: Bloom's Taxonomy	Government Objectives
Unit 1. Numbers and Algebra	1	Fractions	A. Proper and Improper fraction B. Mixed numbers	Textbook: pages 4-6, 10-11	(i) Writing fractions in words and numbers. (ii) Fill in the balnks.	**Understand**	MA 1.1/3 Interpret, read and write fractions and mixed numbers representing the amount of objects. Show the amount of objects according to the given fractions and mixed numbers.
		Activities: Find online videos that describe how to express parts of a group as fractions through animations.	Vocabulary: fraction, proper fraction, improper fraction, mixed number, numerator, denominator, smaller than, greater than	Additional activity: -Spelling test -Worksheet	n/a	Students will be able to correctly express groups of objects as fractions of the total number of groups.	
Unit 1. Numbers and Algebra	2	Fractions	C. Equilavent fraction D. Simplifying fraction	Textbook: pages 15-17, 20-21, 26-29	Find the equivalent of the given fraction and simplify the answers.	**Analyse**	MA 1.1/3 Interpret, read and write fractions and mixed numbers representing the amount of objects. Show the amount of objects according to the given fractions and mixed numbers.
		Activities: Work in pairs. Check if your partner has folded the strip of paper correctly. Step 1. Each student folds a strip of paper into halves. Step 2. Use the same folded strip of paper. Fold each half into 2 equal parts. What fraction do the colored parts represent? Step 3. Fold each quarter into 2 equal parts. What fraction do the colored parts represent?	Vocabulary: equivalent fraction, halves, fourths, 1 whole, equal parts, quarter, multiply, simplifying fraction, simplest form, smaller, divide	Additional activity: -Spelling test -Worksheet	n/a	Students will able to analyse the fraction well before doing the equaivalent and simplest form.	

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Unit 1. Numbers and Algebra	3	Fractions	E. Conversion of fractions F. Comparing and ordering fractions	Textbook: pages 33-37, 42-44	(i) Convert the improper fraction to mixed number and vice versa. (ii) Compare the following given fractions. (iii) Arrange the following fraction into increasing and decreasing order.	**Apply**	MA 1.1/4 Convert, compare and order fractions and mixed numbers whose denominator is a multiple of another denominator.
		Activities: Play in pairs. Place the stack of fraction cards face down. Give out the stack of fraction picture cards equally. Take turns to turn over a fraction card. Shout"Match" if you have a fraction picture card that matches the fraction card. Then collect the two cards. The student with more cards at the end wins.	Vocabulary: convert, mixed number, improper fraction, comparing fractions, like fractions, greatest, smallest, increasing, decreasing, smaller, greater	Additional activity: -Spelling test -Worksheet	Additional activity: Performance Task pages 45-48	Students will be able to apply the steps in ordering fractions and how to compare fractions well.	
Unit 1. Numbers and Algebra	4	Addition and Subtraction of Fractions	A. Adding and subtracting fraction B. Word problem	Textbook: pages 55-58, 63-66	(i) Add and subtract the given fractions. (ii) Solve the word problem.	**Understand**	MA 1.1/13 Find the answer to addition and subtraction of fractions and mixed numbers whose denominator is a multiple of another denominator.
		Activities: Work in groups. Write word problems involving addition and subtraction of fractionss for other groups to solve. Share with the class how you solve the word problems.	Vocabulary: add, subtract, altogether, left, simplest form, word problem, understand, question, given information, plan, solve, number sentence answer the question	Additional activity: -Spelling test -Worksheet	Additional activity: Performance Task pages 68-72	Students will be able to add and subtract fractions with the same denominators and solve the word problem carefully.	MA 1.1/14 Solve addition and subtraction word problems of fractions and mixed numbers whose denominator is a multiple of another denominator.

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Unit 1. Numbers and Algebra	5	Decimals	A. Tenths B. Hundredths C. Thousandths	Textbook: pages 79-83, 89-93, 99-101	(i) Write the decimals in words and vice versa. (ii) Write the place and value of each underlined digits.	**Understand**	MA 1.1/5 Read and write decimals up to 3 decimal places to represent
		Activities: Work in groups. Take turns to measure the weight and height od each student. Use a measuring tape and a digital body scale to help you. Record the measurements in decimals.	Vocabulary: decimal place, ones place, tenths place, hundredths place, thousandths place, fraction, mixed number, shaded, unshaded	Additional activity: -Spelling test -Worksheet	n/a	Students will be able to read and write decimals in numbers and words. Be able to write place and digit value of each decimal place correctly.	
Unit 1. Numbers and Algebra	6	Decimals	D. Comparing and ordering decimals up to thousandths	Textbook: pages 104-105, 109-112	(i) Comparing decimals. (ii) Arrange the decimals in increasing and decreasing order	**Apply**	MA 1.1/6 Compare and order decimals up to 3 decimal places in given situations.
		Activities: Work in groups. Take turns to pick 4 numeral cards from 0 to 9. Then form a decimal with 3 decimal places. Use number discs to show a decimal that is (i) 0.1 more than or less than. (ii) 0.01 more than or less than. (iii) 0.001 more than or less than.	Vocabulary: compared, less than, more than, add, subtract, ordered, increasing, decreasing, arranged,	Additional activity: -Spelling test -Worksheet	Additiona activity: Performance task: pages 113-115	Students will be able to express decimals up to thousandths and they can apply decimals in everyday life.	

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Unit 1. Numbers and Algebra	7	Addition and Subtraction of Decimals	A. Adding decimals B. Subtracting decimals	Textbook: pages 121-123, 127-129	Add and subtract the following given decimals	**Understand**	MA 1.1/15 Find the answers to addition and subtraction of decimals up to 3 decimal places.
		Activities: (i) Work in groups. Share with the class how you add and subtract these decimals mentally. (ii) Bring advertisements in a newspaper or brocchure. Pick two or three items to buy and use these in addition and subtraction.	Vocabulary: adding decimals, ones, tenths, hundredths, subtract, total, difference, brackets, regroup	Additional activity: -Spelling test -Worksheet	n/a	Students will be able to	
Unit 1. Numbers and Algebra	8	Addition and Subtraction of Decimals	C. Word problem	Textbook: pages 133-136	Solve the following word problem.	**Apply**	MA 1.1/16 Solve 2 step word problems involving addition and subtraction of decimals up to 3 decimal places.
		Activities: Work in pairs. Student A will write a decimals word problem involving addition and another decimals word problem involving subtraction. Student B will work out the answers and check them if they are reasonable.	Vocabulary: word problem, understand, question, given information, plan, solve, number sentence, answer the question, check	Additional activity: -Spelling test -Worksheet	Additional activity: Performance Task pages 138-141	Students will be able to solve word problem and they can apply decimals in everyday life.	

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Midterm Test	9	A. Fractions B. Addition and subtraction of fraction C. Decimals D. Addition and subtraction of decimals **Activities:**					
Christmas holiday	10	**Activities:**					
Unit 3. Statistics and Probability	11 12	Bar Graphs and Tables **Activities: Work in groups. Look for examples of bar graphs in newspapers, magazines or websites. Discuss how these data are collected and shown in graphical form.**	A. Bar graphs Vocabulary: bar graph, understand, vertical bar graph, horizontal bar graph, scale, collect data, multiple bar graph, data set	Textbook: pages 149-152, 157-160 Additional activity: -Spelling test -Worksheet	Answer the questions using multiple bar graph. Additional activity: Individual work: Survey and collect numbers of students about sports they like and make a multiple bar graph.	**Understand** Students will be able to undestand the graph and they can apply in their everyday life.	MA 3.1/1 Use the information from bar charts and two-way tables to solve problems.
Unit 3. Statistics and Probability	13	Bar Graphs and Tables **Activities: Do the hands on activity in the textbook page 170.**	B. Reading Two-way tables C. Drawing Bar graphs Vocabulary: two-way table, categorized, draw vertical axis, draw horizotal axis, survey, collect	Textbook: pages 163-166, 171-174 Additional activity: -Spelling test -Worksheet	(i) Read and study the table carefully and answer the questions. (ii) Draw a multiple bar graph to show the data. Additional activity: Performance Task pages 176-180	**Create** Students will be able to undestand the data and create a multiple bar graph.	MA 3.1/1 Use the information from bar charts and two-way tables to solve problems.

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Unit 2. Measurement and Geometry	14	Time	A. Measuring time B. Comparing time using different units of time	Textbook: pages 190-191, 196-198	(i) Fill in the blanks. (ii) Draw the hour hand and minute hand, write the time duration shown by each clock.	**Understand**	MA 2.1/1 Solve word problems involving times
		Activities: (i) Have volunteers find an online videos that explain the use of different time-recording systems in everyday life. (ii) Let the students make a clock using cardboard.	Vocabulary: time, clock, hour hand, minute hand, second hand, a.m, p.m, days, weeks, months, seconds, minutes, convert,	Additional activity: -Spelling test -Worksheet	n/a	Students will be able to read and write time with appropriate notations (a.m. and p.m.) and they can compare the time using different units of time.	
Unit 2. Measurement and Geometry	15	Time	C. Time schedule D. Solving word problems	Textbook: pages 203-205, 210-212	Read and study the table carefully and answer the questions.	**Understand**	MA 2.1/1 Solve word problems involving times
		Activities: Work in groups. Each member will think of a few everyday events and write down the likely start time and finish time. Find the duration of each event as well. (refer in the book page 202)	Vocabulary: event, time schedule, start, finish, duration, departure, arrival, compare, convert	Additional activity: -Spelling test -Worksheet	Additional activity: Performance task: pages 214-218	Students will be able to read time schedules and event schedules and apply the lesson to real-life situations.	

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Unit 1. Numbers and Algebra	16	Numbers and algebra	A. Mixed operations	Textbook: pages 224-227	Solve the mixed operation problem	**Apply**	MA 1.1/10 Find the answes to multi-step calculations involving addition, subtraction, multiplication and division of whole numbers and 0.
		Activities: Work in pairs. Discuss with your partneer to complete the number sentences with correct math symbols (+, -, x or ÷)	Vocabulary: order of operation, bracket, calculate, add, subtract, divide, multiply, left to right, product, difference, sum, estimate	Additional activity: -Spelling test -Worksheet	n/a	Students will be able to apply the steps to solving mixed-operation questions	
Unit 1. Numbers and Algebra	17	Numbers and algebra	B. Understanding average	Textbook: pages231-235	Find the average of the following groups of values.	**Apply**	MA 1.1/10 Find the answes to multi-step calculations involving addition, subtraction, multiplication and division of whole numbers and 0.
		Activities: Put students into groups to create their own questions an average by using the examples in the book. Exchange the questions created and solve them. Explain the solutions to the class.	Vocabulary: average, total value, equal distribution, calculate, divide, mean, amount, number of data	Additional activity: -Spelling test -Worksheet	Additional activity: Hands on activity (textbook page 230)	Students will be able to apply the steps to solving mixed-operation questions and create their own question using averages.	

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Unit 1. Numbers and Algebra	18	Numbers and algebra	C. Solving mixed-operation word problems D. Creating mixed-operation word problem	Textbook: pages 238-241, 244-247	(i) Solve the following word problems. (ii) Create mixed-operation questions with the number sentences given.	**Create**	MA 1.1/10 Find the answes to multi-step calculations involving addition, subtraction, multiplication and division of whole numbers and 0.
		Activities: Each groups braimstrom a real-life situations which can be used to write mixed-operation word problems. Then create a word problem based on their ideas using steps presented on this topic. Each group will solve and present to the class.	Vocabulary: understand, plan, solve, addition, subtraction, multiplication, division, remainder, create, given numbers	Additional activity: -Spelling test -Worksheet	Additional activity: Performance task: pages 248-252	Students will be able to create feasible mixed-operation word problems involving the four operations.	
Final Test	19	A. Bar graphs and tables B. Time C. Mixed operation **Activities:**					
	20	**Activities:**					