

What is it that we want our students to know, understand, do and communicate KUDCO?					
Year Level: Four	Semester: One	Subject: Maths	Team Members: Renee Johnson, Adriana Jankulovski, Erin Austin, Brad Morin		
Essential Learning What is the essential learning? Describe in student friendly vocabulary.	Example-Rigor What does proficient student work look like? Provide an example and/or description.	Prior Skills Needed What prior knowledge, skills and/or vocabulary are needed for a student to master this essential learning?	Common Assessments What assessment/s will be used to measure student mastery?	When taught? When will this essential learning be taught?	Extension Skills What will we do when students have already learned this essential learning?
I can investigate and use the properties of odd and even numbers.	- Predict, investigate and explain whether the answer to the addition, subtraction and multiplication of two whole numbers is odd or even - Use my knowledge of the relationship between odd and even numbers to check the accuracy of calculations (and explain). Addition: $E + E = E$ $E + O = O$ $O + O = E$ Subtraction: $E - E = E$ $E - O = O$ $O - O = O$ Multiplication: $E \times E = E$ $O \times O = O$	I know the difference between odd and even numbers.	CFA (Pretest) Quick checks	Term 1 Week 5-6	* Application: JUSTIFYING (partitioning).

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<p><i>(Number Sequences)</i> I can continue and describe number sequences involving multiples of single digit numbers.</p>	<p>O x E = E</p> <ul style="list-style-type: none"> <input type="checkbox"/> Continue a number sequence involving multiples of single digit numbers from any given point. <input type="checkbox"/> Identify missing parts of number sequences (involving multiples of single digit numbers) and explain my thought process. <input type="checkbox"/> Identify patterns in number sequences involving multiples of single digit numbers (odd, even, ascending, descending, place value). <input type="checkbox"/> Model and explain how I skip count by 3,4,6,7,8 and 9. 	<ul style="list-style-type: none"> <input type="checkbox"/> Can model and explain how I skip count by 2, 5, and 10. <input type="checkbox"/> Know the multiplication facts for 2's, 5's, and 10's <input type="checkbox"/> Know odd and even numbers. 	<p>Envision or CTM assessment (written and verbal). Quick Checks CFA Book work</p>	<p>Term 1: Weeks 5-9</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Know my 10x10 multiplication facts fluently (instant recall). <input type="checkbox"/> Can evaluate errors in number patterns and justify how we know this to be an error.
<p><i>(Multiplication Facts)</i> I can recall multiplication facts up to 10 x 10 and the related division facts.</p> <p>Learning Targets: I can use:</p> <ul style="list-style-type: none"> - digital technologies to check my answers - estimate to check that my answers are reasonable. 	<p>I can recall division facts using related multiplication facts. I can recall multiplication facts up to 10X10 with fluency.</p> <p>I can use mental & concrete strategies for multiplication: Repeated addition Nearest Known Facts (working forward and backwards and estimating) E.g. I can</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Know what the multiplication symbol represents. <input type="checkbox"/> Know my doubles for single digit numbers. <input type="checkbox"/> Can create and read simple arrays correctly. <input type="checkbox"/> Can skip count by single digit numbers 	<p>Pretest, CFA's and Post Test</p>	<p>ALL SEMESTER 1</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Know my 12x12 multiplication facts fluently (instant recall). <input type="checkbox"/> Can extend multiplication facts (for example 4 x 7 = 28 so 4 x 7 tens = 28 tens) by applying the rule of zero

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	<p>work out 9×7 by: $7 \times 10 = 70$ so $70 - 7 = 63$. Double doubles ($5 \times 4 = 5 \times 2 \times 2 = 20$) <i>x3: double plus one</i> <i>x4: double the double</i> <i>x6: multiply by 3 then double</i> <i>x7: learn them</i> <i>x8: double the double, double</i> <i>x9: multiply by 10 and subtract the number</i> I can use fact families (three for free).</p> <p>I understand Part, Part, Whole in relation to multiplication.</p> <p>●</p>				
<p><i>(Division & Multiplication- 2 by 1)</i> I can solve multiplication and division problems using efficient written and mental strategies. Learning Targets: I can use: - digital technologies to check my answers - estimate to check that my answers are reasonable</p>	<p>I can represent multiplication and division as part, part, whole and whole, part, part.</p> <p>I can explain and demonstrate various strategies for multiplication, which may include:</p> <ul style="list-style-type: none"> - Split strategy - Expanded form - Grid method - Partitioning 	<p>I can use repeated addition and repeated subtraction.</p> <p>I understand that division is the inverse operation of multiplication.</p> <p>I can halve numbers. Eg. $24/12 = 12$.</p> <p>I can use arrays to partition the whole.</p>	<p>Pretest, CFA's and Post Test to be determined in Term 3 (Prior to week 5).</p>	<p>Term 2: Weeks 1-4</p>	<p>What happens when you divide a number and it does not divide evenly? (Remainders) Can record the remainder in different ways, as a whole number 1, as a fraction $\frac{1}{4}$ and as a decimal .25.</p> <p>I can identify factors and products of numbers.</p>

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	<p>I can explain and demonstrate various strategies for division, which may include:</p> <ul style="list-style-type: none"> - Split strategy (2 easy to work with numbers) - Halving (with even numbers) - Partitioning (place value) <p>I know how to use calculators to check my answers.</p> <p>I can estimate and compare to check my answers. I know that $70/10=7$ so I know that $60/10$ needs to be less.</p>	<p>I can use fact families (three for free)</p>			
<p><i>(Algebra)</i> I can identify unknown quantities in number sentences involving addition and subtraction.</p>	<p>Elaboration: writing number sentences to represent and answer questions such as: 'When a number is added to 23 the answer is the same as 57 minus 19. What is the number?'</p> <p>I can balance both sides to an equation. (equal and not equal) Eg. $3 + \underline{\quad} = 15$ or $15 = 3 + \underline{\quad}$</p> <p>I can identify if collections are equal or not equal.</p>	<p>I can model simple, accurate addition and subtraction.</p> <p>I know basic number facts:</p> <ul style="list-style-type: none"> - Doubles, tens facts, near doubles, etc <p>I know part/ part/ whole and the inverse.</p>	<p>CFA, Pretest</p>	<p>Term 1: W7-8</p>	<p>I can use my knowledge of equivalent number sentences to solve unknown problems involving all 4 operations. E.g. $90 - ? = 5 \times 6$ OR $56 / 7 = ? \times 2$</p> <p>I can balance both sides to an equation.</p> <p>I can identify unknown quantities in number sentences involving two or more unknowns.</p>

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	<p>I know that the = sign is a symbol to indicate equivalence (not “and the answer is”)</p> <p>I can use a range of strategies and justify my solution:</p> <ul style="list-style-type: none"> - the inverse operation - pictures, numbers, words - calculators - known facts/basic number facts -partitioning 				<p>I can solve word problems that involve identifying unknown quantities in number sentences with the 4 operations.</p> <p>I can identify unknown quantities in number sentences involving the four operations.</p>
<p><i>(Scaled instruments)</i> I can use scaled instruments to measure length, angle, area, mass, capacity and temperature.</p>	<p>I can estimate:</p> <ul style="list-style-type: none"> - Angle - Length - Area - Mass - Capacity - Temperature <p>I can measure:</p> <ul style="list-style-type: none"> - Angle - Length - Area - Mass - Capacity - Temperature <p>I can select the appropriate instruments to measure a specific unit. eg. ruler = length</p>	<p>I can name different units of measurement: Eg. mm, cm, m, km, g, kg, ml, L.</p> <p>I can estimate using appropriate informal measuring units. eg. hands, feet, blocks, unifix groups</p>	<p>Hands on activities incorporating the use of scaled instruments.</p> <p>Example pre-CFA: Find the length of various distances within the classroom using a 30cm ruler and a 1m ruler.</p>	<p>Term 1: Weeks 5-7</p>	<p>I can convert between units of measurement and I can provide examples of how they are related.</p> <p>I can explain how I estimated my measurement.</p>

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	thermometer = temperature Protractor = angles				
<i>(Area of shapes)</i> I can compare the areas of regular and irregular shapes using informal units.	<p>I can explain what regular and irregular shapes are and give examples.</p> <p>I can compare the area of regular shapes (square, rectangle, triangle) using informal units.</p> <p>I can compare the area of irregular shapes using informal units.</p>	<p>Know what regular shapes are and give examples.</p> <p>I have a simple understanding of what area is.</p>	2 shapes - justify which one has the greater area and by how much, using informal units of measurement as evidence.	Term 2: Weeks 8-9	<p>I can use regular shapes to find the area of irregular shapes.</p> <p>I can find the area of regular shapes using formal units.</p> <p>I can compare the areas of regular and irregular shapes using formal units.</p> <p>I can find shapes within other shapes eg. 2 triangles = 1 square/ 5 triangles = 1 pentagon trapezium = 1 rectangle + 2 triangles/ 1 square + 2 triangles.</p> 
<i>(Mapping)</i> I can interpret information contained in maps.	<p>I can interpret information on a map such as scales, keys, compass points, grid references, legends and major features.</p> <p>I can identify where I am on a map.</p> <p>I can navigate between two locations on a map.</p>	<p>I can identify some of the basic features of a map (e.g. key, compass, points of interest, symbols).</p> <p>I know my left and right.</p>	<p>CFA- Show how you get from point A to point B on a map.</p> <p>CFA-Provide map, students to follow directions to a certain location and to work out the distance travelled.</p>	Term 1 Week 9	I can transfer my knowledge between maps e.g. world maps, atlases, globes, melways, google maps, gps.

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<p><i>(Angles)</i> I can compare angles in relation to a right angle</p>	<p>I know greater than, less than and equal to symbols. TEACH THIS! NOT TO GO ON PROFICIENCY SCALE.</p> <p>I can compare angles as: greater than, less than, and equal to a right angle. Eg. acute, obtuse, straight, reflex and revolution.</p> <p>I understand that the size of an object is not relevant to the size of an angle.</p>	<p>I can recognise a right angle.</p> <p>I know right angles and how many degrees of turn it is.</p> <p>I can recognise where an angle is because there is a vertex.</p>	<p>CFA - Compare and name angles using greater than, less than and equal to right angles.</p>	<p>Term 2: Weeks 8-9</p>	<p>I understand the difference between a straight line and a Revolution.</p> <p>To understand how angles combine and add up to become a new/different angle and how they fit inside shapes.</p> <p>I can identify the measurement of angles.</p> <p>I can identify complementary angles and explain what they are.</p> <p>I know greater than, less than and equal to symbols.</p>
<p><i>(Chance and Probability)</i> I can describe and compare everyday events as being less, equally or more likely to happen.</p>	<p>I can describe possible everyday events and order their chances of occurring (eg. How likely is it that you will eat lunch today?)</p> <p>I can compare the chance of familiar everyday events and order them from 'least</p>	<p>Understands terms of chance (likely, possible, certain, etc) Can order events using a probability line.</p>	<p>Provide students a scenario of a chance event. Students explain possible outcome using the appropriate vocabulary related to unit.</p>	<p>Term 2: Weeks 10-11</p>	<p>To use percentages or fractions related to chance (50%, 25%) to describe the likelihood of an event occurring.</p>

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<p>Learning Targets: I can:</p> <ul style="list-style-type: none"> - identify the chance of an event occurring - order events (likely to least likely) - compare the likelihood of events 	<p>likely' to 'most likely' to occur.</p>				
<p><i>(Data Representation and Interpretation)</i> I can use data to construct data displays with and without digital technology.</p> <p>Learning Targets: I can:</p> <ul style="list-style-type: none"> - Collect data - Use given data - Construct data displays without technology - Create data displays with technology - Interpret data to create displays 	<p>Ask targeted questions to gather specific data.</p> <p>I can collect data using tallies, feedback, surveys.</p> <p>I can create a data display with and without technology.</p> <p>I can read my data and choose the most appropriate display for it.</p>	<p>Understand how to tally</p> <p>Read tables, bar graphs, column graphs, tallies</p> <p>Understand how to survey a group</p> <p>Understand that questions can be used to gather data</p> <p>I can construct data display with appropriate features: title, labeled x/y-axis, key, scale.</p>	<p>Creating a survey to effectively collect data and representing this in a variety of methods.</p> <p>A graph or table that is not labeled and they create question and title to match the provided data.</p>	<p>Term 2: Weeks 8-9</p>	<p>I can ask and answer questions about the data.</p> <p>I can draw conclusions about the data.</p> <p>I can analyse data (from media sources) and ask and answer questions from the data.</p>

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