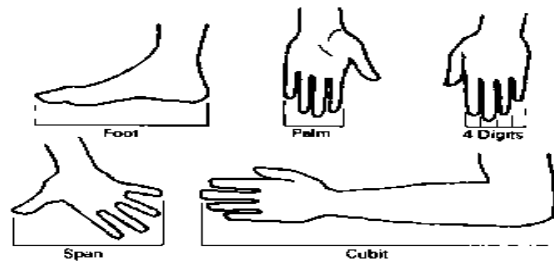


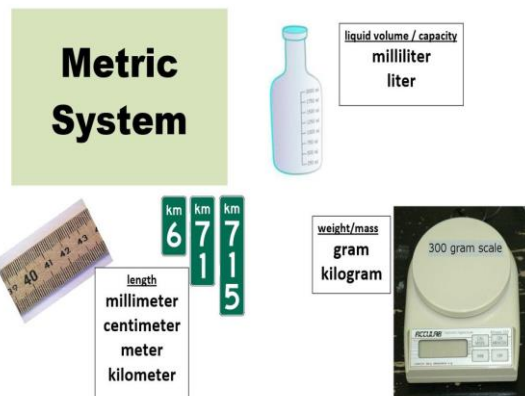
Lesson Plan/ Learning Plan	
Topic- METRIC SYSTEM	Grade: IV
Concept (If Applicable)	Measurement of Length (cm, m, km)
<u>Mapping of skills/competencies/attitudes :</u> <i>(Skills/competencies/attitudes that a teacher plans to develop through the learning engagements)</i>	Skills: Thinking skills, Communication skills, Social Skills, Research skills Attitudes: Confidence, Independence, Curiosity, Creativity Competencies: Critical Thinking (reasons effectively) Communication (communicates clearly, accesses and evaluates information) Collaboration (collaborates with others) Creativity (Generates ideas) Character (Zest, Grit)
Lesson Plan Duration: <i>(flexible based on the requirements of the topic)</i>	8 days
Learning Engagements for Active Learning:	Find Someone Who.....,
Questioning Technique/s to be Used :	DEAL (Describe, Explain, Analyze, Link), Probing questions, Pose-Pause-Pounce & Bounce
Learning objectives: By the end of the topic, the learners would be able to: - Recall the standard units of measuring length, weight and capacity. - Express the bigger units into smaller units and vice-versa. - Apply the conversions of units in story problems. - Calculate the sum, difference, product and quotient of length, weight and capacity measures given in mixed units. - Construct the story problems involving the conversions of length, weight and capacity. - Measure and record the length, weight and capacity of different objects using measuring tape, beam balance and measuring jars respectively.	
Annexure 1 (Kolb's Model)	
Connecting to Prior knowledge	Day 1. (Basics of Measurement)

(How do you check what learners already know?)

Traditionally distances were measured in terms of human body parts such as hand span, cubit, arm span, foot span etc. They were measured as follows:



The most standard system of measurement that is most commonly used currently is the metric system.



	Students will be asked few questions related to facts of addition, subtraction, multiplication and division as they are already aware of above mentioned basic operations. Learning Engagement: Find Someone Who: Facilitator will make the students sit in groups of 4 and will ask following questions: Q) Find someone who is taller than you. Q. Find someone who is shorter than you. Q. Find someone who is standing near to you amongst your friends. Resources required: Measuring Tape (available in school math lab)		
Resources Required:	Blackboard, pencils, erasers, ruler, measuring tape, beam balance, measuring jars, etc.		
Implementation of lesson plan -			
	MEASUREMENT OF LENGTH Day 1: (Learning engagement 1) Facilitator will explain the use and relevance of measurements to the students. Facilitator will ask the students to write the answers of following questions based on measurement of length (DEAL) and students will write the examples in their notebook. <table><tr><td>D</td><td>Describe the measuring units of length as m, cm, km.</td></tr></table>	D	Describe the measuring units of length as m, cm, km.
D	Describe the measuring units of length as m, cm, km.		

	E	Explain the relationship between m, cm and km. 1m = 100 cm 1km = 1000m
	A	Analyze the relationship and give examples.
	L	Link the relationship with the questions given by the facilitator.
(Brainstorming) Facilitator will start giving questions based on conversions: Q1. Convert the m to cm: 18m Q2. Convert cm to m and cm: 2800cm		

	Q3. Convert km to m: 9km Q4. Convert m to km and m: 7000m
Proceeding further <i>(What strategies will be used in the class to achieve the lesson objectives?)</i>	Day2(Learning engagement 1) LE: Concentric circles Facilitator will divide the class into two groups. Both the group will stand in two concentric circles facing towards each other. Students will start asking questions based on oral conversions from the partner in front, like: 1. 1m = _____ cm 2. 10km = _____ m 3. 1000m = _____ km 4. 100cm = _____ m All the students enjoy playing game and guess the answer of the questions based on various facts of addition. (Ahaa Moment) Critical thinking (reasons effectively) Rubrics: • Have a positive Outlook and enthusiastic. • Look forward to participate and learn. Based on the activity done in 2 days facilitator help the students to understand the terms related to measurement of length. Facilitator will repeat the questions in different ways so that students can understand the conversions. Day 3: Learning engagement (Mystery Box- Addition of measurement of length) Facilitator will place chits of different lengths

	with mixed units. Students in pair will pick the chits and will add the given values. Note: Basic operations can only be used on similar units. So to add the given values, add similar unit values together or convert the values in similar units. Facilitator will repeat the process until all the chits are picked up and added to give sum. All these addition sums will be done in math notebook as: Q5. Add the following: a. 251m 52cm and 88m 8cm b. 92m 70cm and 18m c. 8Km 55m and 670m Day 4: Learning engagement (Mystery Box- Subtraction of measurement of length) Facilitator will place chits of different lengths with mixed units. Students in pair will pick the chits and will add the given values. Note: Basic operations can only be used on similar units. So, to subtract the given values, sub similar unit values together or convert the values in similar units. Facilitator will repeat the process until all the chits are picked up and subtracted to give the difference. All these Subtraction sums will be done in math notebook as: Q6. Subtract: a. 64m 63cm - 43m 23cm b. 74m 51cm - 33m 18cm
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c. 762 Km - 46 Km 346m

Day5: LE: Times table Bingo in Concentric circles

Facilitator will divide the class into two groups. Both the group will stand in two concentric circles facing towards each other. Students will start asking questions based on Dodging tables (2-20) so that students can revise the tables that can make the multiplication easier.

1. 12×5

2. 250×10

In continuation students will learn to multiply the given values of measurement of length.

Facilitator will repeat that only similar units can be solved using different basic operations.

Q7. Multiply:

(a) $46\text{Km } 245\text{m} \times 9$

(b) $321\text{m } 10\text{cm} \times 7$

Solution:

$$\begin{aligned} \text{a) } 46\text{km } 245\text{m} &= 46000\text{m} + 245\text{m} = 46245\text{m} \\ 46245 \times 9 &= 4,16,205\text{m} \\ &= 416\text{km } 205\text{m} \end{aligned}$$

Day 6: LE: Concentric circles

Facilitator will divide the class into two groups. Both the group will stand in two concentric circles facing towards each other. Students will start asking questions based on oral division so as to find the quotient and remainder orally.

1. $24567\text{m} \div 100 = 245\text{m } 67\text{cm}$

In continuation students will learn to divide the given values of measurement of length.

Facilitator will repeat that only similar units can be solved using different basic operations.

Q8. Divide:

a) $28\text{Km } 350\text{m} \div 7$

b) $256\text{Km } 800\text{m} \div 16$

Solution:

a) $28\text{km}350\text{m} = 28350\text{m}$

	$28350 \div 7 = 4,050$ $= 4\text{km } 050\text{m}$ Day7: (induction – Deduction) Facilitator will explain the way to understand word stories of measurement of length using induction-deduction method. Students will follow the given steps to understand the given word story, identify the basic operation and find the solution: Read the word stories and understand it's meaning in given three steps: 1. What is given 2. What is to be calculated 3. Which basic operation is to be used. Note: Students will recall the activities done from day1 to day6 so as to revise the facts of using similar units of measurement with basic operations.
Learning Logs <i>(How learners keep a track of what they are learning, includes reflections)</i>	Day8: ACTIVITY Resources required: Measuring Tape (Available in school math lab)<i>Race:</i> This is a 100 meters race. Arundhati is nearest to the finishing line. She is about 6 metres from it. Behind her is Rihana. Konkana and Uma are running behind Rihana. Look at the picture. To answer the questions below: (choose from these distances) – 3 metres – 6 metres

	– 10 metres – 15 metres  Q. How far is Rehana from Arundhati? Q. How far are Konkana and Uma from finishing line? Q. In a 1500 metres race people run _____km. Q. 10 rounds of a stadium track of 400m is ____km.
Extending the Lesson Further <i>(Creating through Active experimentation)</i>	
Summative Assessment <i>(How will the facilitator check that learning objectives have been achieved?)</i>	
: Pen paper test Assessment sheet based on METRIC SYSTEM that includes basic operations i.e.measurement of length,.	