





Review Using what you already knew on the past 8 lessons!				
TOPIC 1: INTRODUCTION	L1: Introductive discussion to develop mathematical thinking			
TOPIC 2: NUMBERS	L2: How to introduce number		L3: What is number	
TOPIC 3: ADDITION AND SUBSTRACTION	L4: How to Introduce addition		L5: What is addition	
	L6: How to introduce subtraction		L7: What is subtraction	
TOPIC 4: EXTEND NUMBER WITH ADDITION AND SUBTRACTION USING COLUMN FORM	L8: How to extend number to more than 10	L9: How to extend addition		L10: How to extend subtraction
	L11: How to extend number to more than 100	L12: How to introduce column addition		L13: How to introduce column subtraction
Participants need to consider what's new.	Participants of this program are able to imagine the ways of learning from the past process of learning.			

What is the representa	ition/model for the base ten place valu	ue system
How children shift	Review Which number is really L	base ten place value system?
new way of counting?	Numbers Larger than 10	2 How many are there? Grouping for 10
Terminology!		
Idea of Set and Unit,	Numbers up to 20	
Number, Arabic digit, Numeral, Concrete object,	7	Carlos a a a cers
Denominated number, Base ten system, Base ten place value system		
	dragonfiles	persimmons



Mathematical Values, Attitudes and Habits for Human Character				
Mathematical Attitude attempting Hi to: RR See and think mathematically an Pose question and develop Ai explanation such as why and when ha Generalize and extend Ju Appreciate others'idea and change Fr representation to conceptualize lift	Habits of mind for Citizen to live: Reasonably and citically with respecting Autonomospic others harmony Judiciously using tools such as ICT Empowerly in imaging the future through lifelong learning			
Mathematical Thinking and Proc	Cesses Leaving Structure (22-42)			
Mathematical Thinking: Generalization and Specialization Extension and Integration Inductive, Analogical and Deductive reasoning Abstracting, Concretizing and Embodiment Objectifying by representing and symbolizing Relational and Functional thinking Thinking forward and backward	Mathematical Activities for: Problem Solving Exploration and Inquiry Anthematical Modeling Concentring, Jural Ming and Proving Concentring, Jural Ming and Proving Concentring, Jural Ming and Proving and Proceduralization Representation and Sharing			
Extension of Number and Operations Measurement & Relations Plane Figures & Space Solids Data Handling & Graphs	Number & Algebra Space & Geometry Relationship & Functions Statistics & Probability			
	se, Attitudes and Habits for Hum Mathematical Mutuke attempting H to: See and think mathematically and People audition and develop Repeated on the second second Appreciate others' idea and change representation to conceptualize Generalize and Specialization Extension and Integration Automatical Thinking: Generalization and Specialization Extension and Integration Abstracting, Concretizing and Embodiment Abstracting, Concretizing and Embodiment Relational and Functional thinking Thinking Groward and backward Operations Measurement & Relations - Paner Figures & Space Solids - Obst Handing & Conference - Obst Handing & Conference - Data Hand			





By using what Task sequen	at children learned! ce for preparation o	f future
Number • Existence and necessity • Order Larger or Smaller Greater or Less • Operations	In Japan: Make sense (understand meaning) Think about how to calculate/operate/fin' the easier way to answer Acquisition of proficien. Try to teach how to extend the number	Contents Undersuber 10 How Many? How Many? Kaneficial Grean Addition Addit
Story Problems Altogether Situation A, B, C, Concrete Object manipulative Explanation by words	Mathematical Modeline Addition: operation Addition: operation Math sentence addition	Addition27



Addition situation Altogether	Counting by using BTPVS. Mathematical	Make 10 by de- composite of augend. And then, composite.	Make 10 by de- composite of addend. And then, composite.
Addition is composite of numbers	Sentence is given. Think about how to calculate/operate	De-composite- augend method Why this order: 9+-	Composite-addend method 4→3+9→8+6?
Construction C	Addition (2) Adition (2) Adition (2) Addition (2) Addition (2) Adi		Left to addition. 3-2 3-5 6-4 3-7 6-5 6-6 3-2 3-2 3-5 6-6 3-7 6-6 3-2 3-2 3-5 6-6 3-7 6-6 3-2 3-7 3-7 6-7 3-7 6-7 3-2 3-7 3-7 3-7 3-7 6-7 6-7 3-2 3-7 3-7 3-7 6-7 6-7 6-7 6-7





References Masami Isoda, Raimundo Olfos edited (2020), *Aeaching Multiplication with Lesson Study: Japanese Masami Isoda, Raimundo Olfos edited (2020), <i>Aeaching Multiplication with Lesson Study: Japanese Masami Isoda, Aki Murata, Aida Yag (2015), Study with your riends: Mathematics for Elementary School (20 <i>School (2004), Jobos, Japane: Cakko Costu Masami Isoda, Aki Murata, Aida Yag (2015), Study with your riends: Mathematics for Elementary School (20 <i>School (2004), Jobos, Japane: Cakko Costu Masami Isoda, David Tall (2019), Mathematics for Junior High School (20 vol.), J. Foty, Japanese Raimanese*, *Malayaia, Schuber Mathematics for Junior High School (20 vol.), J. Foty, Japane School (2004), Japanese*, *Nu Jahan Ahmad, Masami Isoda edited (2011), Schuber Japanese*, *education Schuber Alex Multo-Mathematics for Lesson Schuber Balayaia, Schuber Alex Mathematics for Murine High School (20 vol.), Schuber Schuber Alex Multo-Mathematics for Lesson Schuber Balayaia, Schuber Alex Mathematics for Murine High Yang (2014), Schuber Alex Multo-Mathematics Balayaia, Schuber Alex Mathematics for National Schuber Karter Schuber Alex Multo-Mathematics Balayaia, Schuber Alex Mathematics for National Schuber Karter Schuber Alex Multo-Mathematics Balayaia, Schuber Alex Multo-Mathematics Balayaia,*