3rd Grade Lesson Plan

2011. June, 13 (Mon) 5th period
3rd grade class1 Total 40students
Teacher Erabu Satuki

1. Unit name Division

2. Goals for the Unit

- To understand the meaning of division and to be able to use it
  - To try to capture the meaning and way of calculation of division through connections between multiplication and operations of concrete materials.
  - can capture division as determining the unit rate and determining which number is multiplied by the unit rate, and can express the way of calculating it using concrete material, diagrams and equations.
  - Can calculate division for sure.
  - Understands when division is used, the relation between division and multiplication, and the meaning of division.

3. Evaluation standard

interest • will • attitude	Mathematical way of thinking	skill	knowledge • understanding
Is trying to think of the method and meaning of division relating it to multiplication and subtraction.	Is thinking about the method of division about easy cases when the divisor is a single digit number and the answer is a 2 digit number.	Can calculate division when the divisor and the answer are both 1digit number for sure.	Understands the meaning of division of integers such as determining the unit rate and determining which number is multiplied by the unit rate。 Understands the relationships between division and multiplication or subtraction. Understands the meaning of the remainders of division and that the remainders are always smaller than the divisor.

4. About the unit

Even thought the children experience a lot of scenes which use division determining the unit rate in everyday life, this unit is the first time they are actually going to think about division. For this unit, by putting in the operation of equally distributing, I would like to have the children be able to understand the meaning of "division" and the relationship between "distributing" and "division.

I would like to first go over the meaning, equation, and the way to figure out the answer to division determining the unit rate, then go on to determining which number is multiplied by the unit rate, then go on to relating the two, and finally go on to unifying the equation and way of solving for the two. The object is to have them be able to calculate, understanding the meaning of division that uses the multiplication table once including cases using 1 or 0.

In "division", we go on to understanding the definition of division by finding out how many each person will get and learning division determining the unit rate. We should look at the difference between "distributing" and "distributing equally" and carefully confirm that the answer we got is the number for one person.

Determining which number is multiplied by the unit rate is to determine how many one specific size is included in a specific quantity. I would like to have them understand this by having them experience operations "distributing equally" and "distributing Oeach" using concrete materials such as blocks. For this unit, we are going to use operation boards to have children be able to work with the concrete materials with affection and deepen the understanding by having fun.

5, actual condition of the children

Many children can say the multiplication table at a fair speed since they have been learning it since 2nd Grade but there are still 5or6children who gets stuck, makes mistakes, and takes a lot of time to say them.

Many children are starting to get used to studying by solving problems and can write their thoughts on their notebooks as records but there are few children who still can't figure out how to write their thoughts down and are waiting for other's to say their thoughts. Also, there are many children who are passive on saying their thoughts even though they have it written on their notebooks. For children who do say their thoughts out loud actively, there are times when they seem to have trouble expressing their thoughts and without telling them that they are explaining to the whole class, be satisfied if their thoughts are understood by the teacher. For this unit, I would like those children who cannot have the confidence to say their thoughts out loud be able to express their thoughts to their friends by putting in creative activities to build confidence within the children and have them understand the calculation of division firmly.

6. Steps of teaching for today's unit and period

☆creativeness for the operation activity

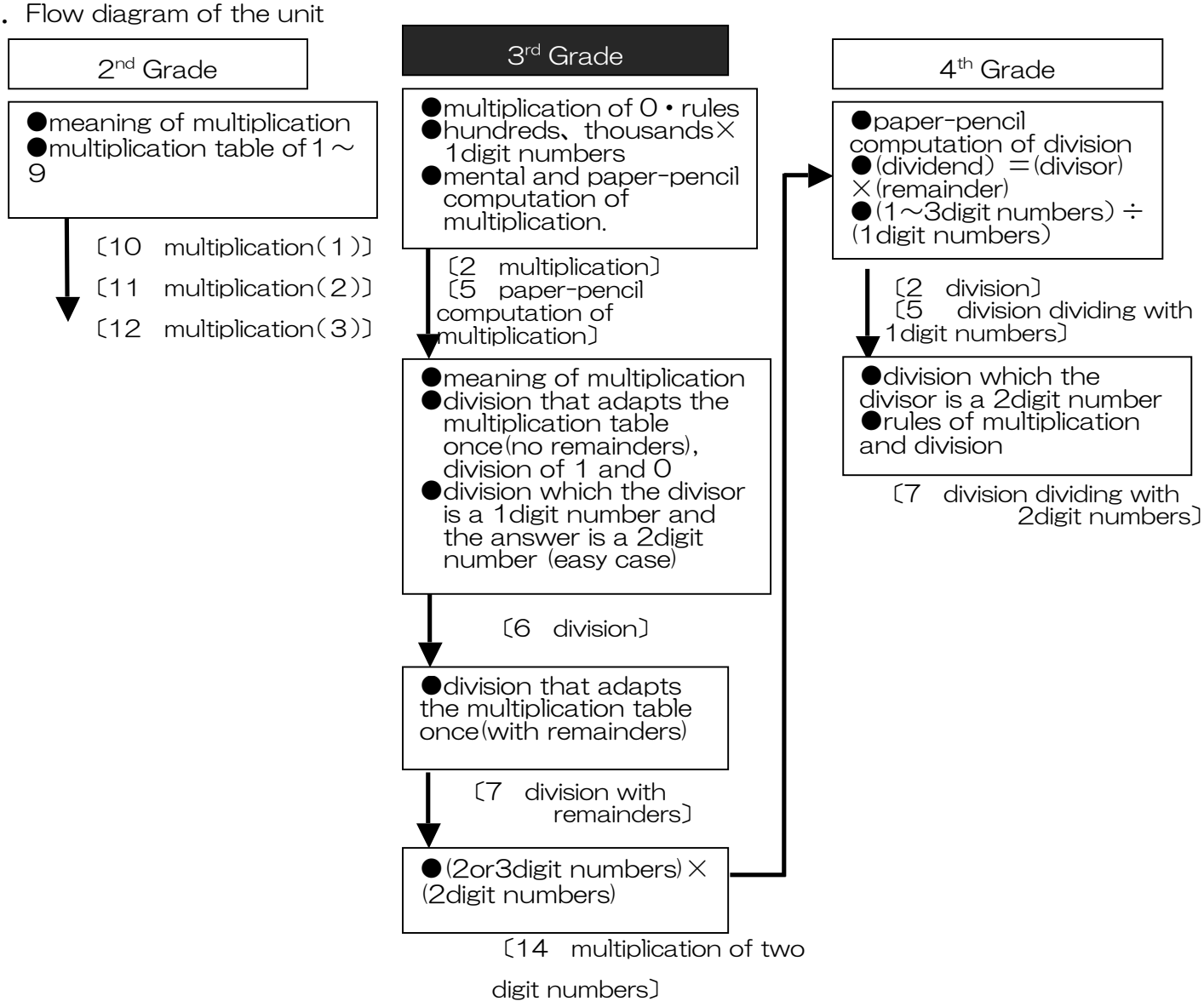
・Have the children use a board to put the taws on when doing the operation so they can handle them easily.

☆creative points for the examination scene

・Have the children explain their thoughts with their neighbors to gain confidence.

・Take in the activity of having another children explain the words, equations, and operations another child shared(explanation relay), to widen the children's thoughts.

7. Flow diagram of the unit



8. teaching・evaluation plan（13hours）

Unit	Hour	Studying content	interest・will・attitude	Way of thinking	skill	knowledge・understanding
1 Division（7）	1 Today	●think of the meaning of dividing evenly by using a work sheet. ●check using half concrete materials how many one person will get when you divide 12chocolates evenly to 3 people. ●Finds out that they can express the operation results written above as12÷3=4.	◎is trying to capture the meaning of division determining the unit rate through operations of concrete materials.			◎understands to express cases where we want how many one person will get when dividing equally in division.

	2	●think about an easy way to solve 15÷3. ●think about the relation between the answer of a division and the multiplicand of a multiplication. ●find the answer to division throu gh the multiplication table. Find out that even if the dividend i s a continuous quality, it can be t hought in the same way as discr ete quality.		◎is thinking about the how to find the answer of division using concrete materials, diagrams and already learned multiplicatio n.		
	3	●Make problems looking at pictures and visualizing the problem scene of division. ● make various problems and equations from one division and share with each other. ●make division problems freely and solve them with each other.	◎Notices the goodness of using division equations, that you can express the problem simply, and is trying to make problems voluntarily.			
	4	●solve practice problems of division. ●make a division book.	◎Is trying to have a good time making the division book by finding scenes in which division is used from daily life scenes.			
	5	●read the problem and talk about the difference between the way to divide that they have already learned. ●find out how many people it will be divided with and explain to each other by actually working with it ● Learn that this operation is expressed as division as well. ● Think about the equation of problem8.				◎Understands to express in division even when thinking about division determining which number is multiplied by the unit rate.

	6	●think about the way how to find out how many people it can be divided to. ● connect the operation of using blocks with the multiplication equation and explain the reason why the answer can be found on the 3rd line of the multiplication table. ●think of a problem using quantities about division determining which number is multiplied by the unit rate and find out the equation and answer. ●make a division book		◎understands that the answer to division determining which number is multiplied by the unit rate can be found using the multiplication table based on cases of division determining the unit rate.		
	7	● make 2problems for 2 different kinds which the equation is 10÷5 by looking at the picture and solve it with each other. ●think of the difference between the 2problems and share it with each other. ● summarize about the 2tyoes of division. ● make 2kinds of division problem which the equation is 32÷8and solve it with each other.			◎can make problems of division determining the unit rate and determining which number is multiplied by the unit rate from 1equation.	
2 division of 1 and 0 (1)	8	●think of the equation and answer of cases when dividing 12, 4, 0 cookies equally to 4people. ●announce to each other about the equation they thought of and the answers. ● gather together cases when the answer becomes 1 and 0. ●understands division cases where the equation becomes 6÷1 and finds out the answer.		◎captures the meaning of division that becomes 1 or 0 and division that divides with 1 based on the meaning of division that they already learned.		

③using the rules of calculation（③）	9	●think of the answer to 36÷3. ● find the rules that can be concluded from the relations of multiplication and division which the answers are fixed and make and share it with the class.		◎thinking about the way to find the answer to divisions using concrete materials, diagrams, and knowledge already learned.		
	10	●think of the answer to 80÷4 ●think of the rest of the problem from the diagram and solve the problem. ● think of the way how to do paper-pencil computation of division.	◎thinks of the way of thinking about the diagram and tries to think out the answer to the calculation.			
	11	● solve practical use problems relating to everyday life. ●solve based on the diagram, by having an image of solving the problem.				
practice（1）	12	●deepen the understanding matters of already learned knowledge.			◎can think of how many pictures can be pasted vertically and horizontally all together by writing a diagram.	
challenge（1）	13	●confirm matters of already learned knowledge.				
		● read the sentences and make problems of multiplication and division. ●make a square using matches and think of how many squares can be made by 28 matches.				◎understands the relation of quantities that are used in division scenes.

9. Teaching plan of today's lesson（1/13）

（1）aim ・to understand the scene of division determining the unit rate and the way how to express division in equation

（2）development

	■studying activity effective questions（T）and anticipated student response（C）	●points to consider【】point of view for evaluation★steps
Capturing the problem (insight)	■ understand that the contents we are studying is about dividing same numbers of chocolates to each person. C1 How many chocolates are there. C2 It will be unfair if it's not equally distributed. ■ read the problem and capture the theme of the lesson There are 12chocolates. If we distribute is to 3people equally, how many would each person get? T1 how should we calculate this? C3 Isn't it multiplication because it says same number each? C4 It does say same number each but it doesn't say how many each so we can't write the equation. C5 We're going to distribute it so that means it gets less. So isn't it subtraction? T2 This is today's object.	●remind them of experiences of 「dividing」 in everyday life and connect it with 「dividing it equally」 ★explain how to use the taws when presenting the problem ●Have them capture the problem by marking important parts and reading it out loud with everybody.
	Let's think about how to calculate how many 1person will get when	
Solving independently	■solve independently T4 Let's think using taws. C let's find out how many one person will get by using taws	★give out taws and worksheets(distributing family). 【interest】trying to capture the meaning of determining the unit rate using concrete materials.

Group examination	■explain ①explain with neighbors and friends about each other's thoughts. ②explain in front of the class. T５　I'm going to have someone explain. C６　distribute 1each.　１２－３＝９ We can still distribute　９－３＝６ Can still distribute　６－３＝３ Can still distribute　３－３＝０ We distributed 1to each 4times so the answer is 4each C７　distribute 3each　１２－９＝３ Can still distribute　３－３＝０ We distributed 3each and 1each so　３＋１＝４　so 4each C８　□×３＝　１２ I thought in multiplication □＝　４ ４×３＝１２　　４ each	●confirm the children's operation by teaching walking around. ★for children who need support, work on it with the teacher 1on1. ★do the explanation relay. （put in activities explaining other's operation into equation and explaining with words.） ★make them notice the differences and similarities between each other's thoughts. ★make them notice the goodness of being able to find the answer easily by thinking in multiplication.
Summary	■learn to express it in an equation as １２÷３＝４ If we divide 12chocolates with 3people equally, each person will get 4each.　If we write it in an equation we get<u>１２÷３＝４</u>. We call this <u>**division**</u>. ■work on practice problems ①　How many would one person get when dividing　１２ chocolates to 4 people equally. C　equation１２÷４　→　operation→１２÷４＝３　→answer 3each ②　How many would one person get when dividing　１２ chocolates to 6 people equally. C　equation１２÷６　→　operation→１２÷６＝２　→answer 2each Summarize what they studied. When figuring out how many one person will get when dividing equally, we express it in a division equation. ■Write one's impression	★go over the stroke order of　÷ 【knowledge】understands that when figuring out how many one person will get when dividing equally, we express it in a division equation. ★the keyword is「division」

10. Evaluation

• If they could figure out how many one person will get, through the operation, when dividing equally.

• If they understood the scene determining the unit rate and the way how to express division in equation.

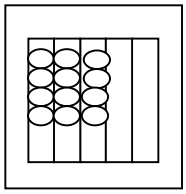
11. Board writing plan

6／13〈〉

object

Let's think about how to figure out how many one person will get when dividing equally.

〈own ideas〉（friends ideas）



Give out 1each
12－3＝9
9－3＝6
6－3＝3
3－3＝0

Give out 3each
12－9＝3
のこりを一つずつ分ける

Use multiplication
□×3＝12
□＝4

If we divide 12chocolates with 3people equally, each person will get 4each. If we write it in an equation we get **12÷3＝4**.
We call this **division**.
We call this kind of calculation **division** という。

summary

Use division when we want to know how much each person will get when we divide equally.

One's impression

Problem

There are 12chocolates. How many would each person get if we give 3 person the same number each?

What method should we use to calculate?
Is it addition?Is it subtraction?
Is it division?