Home Learning TV: Junior Mathematics

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| **Segment lesson planning details** |  | | | |
| Title for segment: | Lēmani collecting | | | |
| Year levels *(e.g. Yrs1 – 3)*: | Yrs 1-3 | | | |
| NZC learning areas: | Maths - number (addition strategies) | | | |
| Purpose of lesson:  (What learners will learn) | Students will learn to   * Know that the equals sign is equality * use counting on to solve * use doubling to solve * partition numbers into tens and ones * justify their thinking | | | |
| Success Criteria – students will be able to:  (how they will know when they have learnt it) | Learners will be able to:   * explain the purpose of an equal sign * count on from a number * use doubles * partition double digit numbers into tens and ones * use the word because to justify their ideas * interpret and represent their thinking with materials or as equations. | | | |
| **Segment content/context details *(as appropriate)*** | | | | |
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| Māori specific content i.e. the learning draws on Mātauranga Māori: | bk | Pacific specific content i.e. the learning is focused on Pacific knowledge: | | Links to Tongan Language; lēmani (lemon) , numbers and praises. Greetings. |
| **Segment production details** | | | | |
| Equipment requirements: | whiteboard  counters or pictures of lemons to use as materials  2 containers | | | |
| Copyright requirements:  Please be specific: Source(*Seven Sizzling Sausages* by Sam Smith –url link to the source), intended use (to demonstrate alliteration), and length (timings for video clips) |  | | | |
| **Segment links and attachments *(list all links to recordings or attachments, the source and confirm that copyright permissions are granted)*** | | | | |
| Links to recordings /resources |  | | | |
| Attachments |  | | | |
| **Segment plan content** | | | | |
|  | Teaching and learning activities linked to purpose | | High level script (key points/questions) | |
| **Activate**: Activating prior learning, knowledge of contexts and relationships | Presenter to greet students for the day  Introduction for the session.  Presenter to explain Warm up  Question for warm up  Student discussion to solve  Presenter to explain mathematical justification  Another warm up question.  Students to discuss  Presenter to explain solving  Showing creativity in maths. Multiple ways to find a solution. | | Mālō e lelei (Hello)  Fēfē hake? How are you? (Wait time)  Sai pè, màlò. (sigh-peh-mar-lo) , I’m well thank you.  If you have a pen and paper you might like to go and get them, as we will be using them later on. Today we are going to explore numbers and how we can partition numbers to solve tricky equations.  Before we do that let’s have a look at some mathematical statements.  We are going to look at a true or false statement.  Your job is to agree or disagree with the statements and justify your thinking using the word because.  [show slide 2]  This statement reads 4 + 1 = 5 (4 plus 1 equals 5). Have a think to yourself or turn and talk with your whānau do you agree or disagree with this statement? [wait time and show slide 2 again]  Ka rawe!  I think it is true because this statement reads 4 + 1 = 5 (4 plus 1 equals 5) or 4 + 1 is the same as 5. Which means that the equation is balanced or the same on both sides.  [show slide 3] and give wait time  Can you see how the scales are balanced because the numbers are the same on both sides?  Let’s have a look at another statement. [show slide 4]. This statement reads 3 + 3 = 7 (3 plus 3 equals 7). Turn and talk with your whānau do you agree or disagree with this statement? [wait time and show slide 4 again]  I disagree with this statement, what do you think? Can you use because to justify your answer?  I disagree because the sentence is unbalanced. 3 and 3 more makes 6. Which means that the statement reads 6 is the same as 7. We know that isn’t true because 7 is bigger than 6. [show slide 5].  How could we make this statement true so that the scales are balanced?  Tumeke! There are two ways we could change this statement.  We could change it so it reads 3 + 3 = 6 three plus three is the same as six.  Or we could change the statement to read 3 + 4 = 7 three plus four is the same as seven.  Now these statements are true, which means our scales would balance. | |
| **Learn**: Introducing learning  Reinforce routines, provide multiple exposure to concepts, and strategies. Scaffolding learning | Introduce learning theme  Activate prior knowledge  Show pictures to focus for the session  Linking to home context  Question for students at home  Launch of task  Role play context  Resources: counters/lemons pictures, 2 x containers)  Presenter models how to solve  Presenter poses question to solve  Presenter introduces counting on strategy  Presenter to solve  Introducing students to doubling (new strategy)  What do we know from our first problem?  Connection to earlier problem  Recap of how to solve | | What type of fruit do you like to eat? (wait time)  Maybe you have some fruit trees at home?  Do these fruits look familiar? (slide 7)  These are all fo’iakau (for-ee-are-cow) fruit. We can see moli (mall-eee) orange, situloapeli (see-too-law-pe-lee) strawberry and mangoes (mah-ngo.  Do you ever pick fruit with your *fāmili*?(far-me-lee) What do you pick?  Do you know what this fruit is? (slide 8) (wait time)  That’s right, they are lemons. In te reo Māori we call them rēmana. In Tongan we call them (lēmani), what do you and your *fāmili*?(far-me-lee) call them? (wait time).  Do you have a lēmani (le-muh-nee) tree at home?  Today we’re going to collect some lēmani for our ‘ota ika (or-tah-ee-kah) (tongan - raw fish). Who loves to eat ‘ota ika? I do. Lēmani can be used to help flavour our ‘ota ika. Lēmani (le-muh-nee) can be picked from the ground or from the tree.  Let’s collect some together. (Presenter to act out picking up the fruit).  Can you do that too? …. (Continue acting out picking lemons)  Let’s put them in our kato alu (car-tor-are-loo), basket.  (Presenter to picking imaginary fruit and placing into container)  I wonder how many we have. (Presenter starts counting materials from one container e.g. counters or pictures of lemons)  I have taha, ua, tolu, fa, nima, ono, fitu. That’s fitu, 7 lēmani (le-muh-nee) in this kato alu (car-tor-are-loo), basket  And how many do you have? (presenter takes other container and counts out materials)  I have taha, ua, tolu, fa, nima, ono, fitu, valu That’s valu, 8 lēmani (le-muh-nee) in this kato alu (car-tor-are-loo), basket.  How many do you think we have altogether?  There are 7 in our first kato alu and 8 in our second kato alu.  (Presenter to write equation on the whiteboard 7+8=)  Turn to your fāmili (far-me-lee) and talk about how you could solve this or have a think to yourself. Remember to use ‘because’ to justify your thinking. (Wait time)  How did you solve this problem?  Here’s one way we could solve it  We know there are 7 lēmani (le-muh-nee) here (gesture to first group basket) and we need to add on 8 more lēmani (le-muh-nee) to find out how many there are altogether.  So let’s count on from 7 by adding on 8.  Shall we try it together and check? (Use materials to track counting or draw the 8 lemons on the whiteboard)  valu, hiva, hongofulu, taha taha, taha ua, taha tolu, taha fā, taha nima.  We have taha nima , 15 lēmani (le-muh-nee) altogether.  Did you get 15 lēmani (le-muh-nee) ?  *mālie (mar-lee-eh)!*  (Presenter completes equation on whiteboard 7+8=15.)  I wonder if there is another way we could solve this?  Hmmmm. Let’s look at our numbers again….. 7 lēmani (le-muh-nee) and 8 lēmani (le-muh-nee) …..  Did you notice that 7 and 8 are numbers that are close together? [wait time]  Sometimes it is easier to double a number.  What number could we double in this equation?  That's right, we can double 7 because we can break that 8 llēmani (le-muh-nee) into a group of 7 and 1. [show slide 9]  So 7+7=14 (demonstrate with materials)  We have one left over from the number 8.  So 14 + 1 = 15.  (Write the equations on the whiteboard 7+7=14, 14+1=15 or use slide 9)  Let’s try some other numbers.  What if we have 17 lēmani in one kato alu (car-tor-are-loo), basket and 8 lēmani in the other kato alu (car-tor-are-loo), basket.  (Write 17 + 8 = on the whiteboard).  How many lēmani do we have altogether, I wonder how we could use doubling again? Why don’t you try it first? Have you got a pen and paper handy?  Turn and talk to your *fāmili* (far-me-lee) or have a think to yourself and use the word ‘because’ to explain your thinking. (wait time)  Tōtōatu (tor-tor-are-too)  What do you notice about the numbers?  They are similar to the numbers in our first problem.  How can we use that to help us? (Think time)  That’s right!  We can take the 7 from 17 and add it to the 8 by doubling like we did before. (7+7+1 = 15) [presenter to write or use slide 10]  We know that 7+8=15 from our first problem. (slide 10)  We have added 7 lēmani and 8 lēmani together, what else do we need to do? [wait time]  That's right we need to add on ten from the 17 lēmani.  So 15 lēmani + 10 lēmani = ua nima, 25 lēmani (le-muh-nee) altogether.  15+10=25 [show slide 10 again]  We used our doubling knowledge and place value knowledge by splitting up the 17 to solve that equation. | |
| **Respond**: Providing opportunities to use and practice | Introducing next tier in problem  Recapping early knowledge to support solving.  Introducing new problem.  Students to solve  Praise in Tongan  Presenter to model how to solve  Exposure to place value.  Link to home context | | This next problem is a little bit trickier.  Let’s recap what we’ve already learnt to help us out….  We’ve learnt we can use doubles to and use place value to solve problems.  So let’s try this trickier problem. What if we have 47 lēmani in one kato alu (car-tor-are-loo) and 38 lemani in our other kato alu (car-tor-are-loo), how many will we have altogether? 47+38=. (Slide 11)  How could you solve it?  Discuss with your fāmili or have a think to yourself how doubling and place value could help [wait time]  *sai ‘aupito (sigh-ow-pee-tor)*  First, let’s break these numbers down so they are easier to use.  Do you notice that the 47 is made up of 4 tens and 7 ones (slide 12)  and 38 is made up of 3 tens and 8 ones.  First let’s add our ones, 7 and 8. (slide 13 or represent on a whiteboard)  We know already that 7 + 8 = 15 from our earlier problems  What else do you see? (wait time)  That’s right, there are 4 tens and 3 tens to add together.  40+30 is 70, because we know that 4+3=7,  What’s left for us to do? (wait time)  that’s right, we need to add together 70 and 15.  70+15=85.  valu nima, 85 lēmani ! That’s a lot of lēmani we can use to make some ota ika for our fāmili (far-mee-lee) | |
| **Share**: Learner and parent reflection on learning and engagement and what they can do next | Recap of the whole lesson      Discussion of learning                Recap of learning intentions      Connection to multiple ways of solving and creativity in  maths    Challenge for home - what to do next        Farewell | | What fabulous mathematicians you’ve been today.  First we looked at true and false statements and we used agree and disagree to make statements about our thinking. We also used the word ‘because’ to justify our thinking.  Then we collected some delicious lēmani and used counting on and doubling to find out how many we had altogether.  We also used our place value knowledge to solve an equation using bigger numbers, by splitting the tens and the ones.  There are many ways to solve addition problems.  Challenge for home.  How many different ways could you solve 57+ 48? [slide 14 ] Can you use some of the skills that we practiced today? Like breaking it down into tens and ones.  Share your ideas with your whānau.  nofo ã (naw-for-are) (Good bye ) | |