Home Learning TV: Junior Maths

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| **Segment lesson planning details** |  | | | |
| Title for segment: | Is it fair? | | | |
| Year levels *(e.g. Yrs1 – 3)*: | Yrs1-3 | | | |
| NZC learning areas: | Maths Fractions | | | |
| Purpose of lesson:  (What learners will learn) | Learners will explore fractions in everyday life  To share equally to find:   * fractions of sets (1/2, ¼) * fraction of a region (1/2, ¼) | | | |
| Success Criteria – students will be able to:  (how they will know when they have learnt it) | Learners will be able to share items out evenly to represent equal sharing  Learners will be able to:   * justify and explain why something is fair/even using ‘because’ * explain that finding a half is sharing into 2 equal parts/sets * explain that finding a quarter is sharing into 4 equal parts/sets | | | |
| **Segment content/context details *(as appropriate)*** | | | | |
| Māori specific content i.e. the learning draws on Mātauranga Māori: |  | Pacific specific content i.e. the learning is focused on Pacific knowledge: | | Equal sharing of flowers to make Tongan Kahoa (necklace) , and dividing of fabric to make Puletaha (dress) |
| **Segment production details** | | | | |
| Equipment requirements: | Tongan Fabric  Flowers x12  Images for warm up  Images of halves and quarter | | | |
| Copyright requirements: |  | | | |
| **Segment links and attachments *(list all links to recordings or attachments, the source and confirm that copyright permissions are granted)*** | | | | |
| Links to recordings /resources | <https://commons.wikimedia.org/wiki/File:Flower_Plumeria_rubra.gif>  <https://commons.wikimedia.org/wiki/File:Flower_Hibiscus_rosa-sinensis.gif> | | | |
| Attachments | Images (flowers, and fractions of a shape) in separate doc. | | | |
| **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 introduces the concept of fairness and connects to learners’ prior knowledge.  Presenter show the image of two flowers but of different colours  Presenter gestures to =  Warm up activating prior knowledge and linking to the equals sign and need for equality.  Modelling how to make a justification  Presenter models  Presenter models another representation  Introduce challenge for later | | Presenter to greet learners and welcome to the show. Today for maths we are going to be thinking about fairness and equality. What do you think about when you hear the word fair or unfair? I know what it feels like when something is unfair. I’m sure you do too. Perhaps it might be when you’re treated differently or not the same. Let’s look now at what is fair.  Let’s see if these pictures I’ve got are the same?  Image 1  What do you think? Look at this symbol here [gesture to =].  What do you think this is? Have you seen this before?  (Pause for 5 seconds…..)  That’s right. It is the equals sign and it means that whatever is on one side needs to be the same as the other side. So is the yellow flower the same as the pink flower?  (yellow flower = pink flower). Image 1  Do you agree with this statement? Pause for 5 seconds…..)  You’re right. I disagree too because the flowers are not the same colour and they are not the same size. Hmmmmm I wonder how could we make this statement true?  What a great idea - we need two flowers that are the same.  (presenter show yellow flower = yellow flower)  This is true because the flowers are the same.  Let’s try that again with numbers.  (show sentence/ write on board)  3 = 3  Hmm how would we read that?  3 equals 3.  Is this true? Do you agree?  Ka pai, you are right! It is true because the statement is balanced with the same amount on each side. It is equal. 3 does equal 3.  Have a look at this statement. Do you agree or disagree?  (presenter to show on the board)  5 = …. [four dots]  Hmm I disagree too! There are five on one side but only four dots on the other side so it is not balanced and equal.  Tell someone in your house how we could make this statement true.  That’s right! We need another dot so there are 5 on each side. (presenter to draw extra dot)  One More:  5 = 3 + 2  Do you agree or disagree with this statement?  Tell someone in your home what you think. Can you use the word because to explain your thinking. All great mathematicians do that!  Pause for 5 seconds…..)  Awesome! I agree that it is true because each side is balanced and they both have the same total amount of 5. It is equal.  (presenter to use fingers to show how 3+2 is the same as 5).  Here’s a challenge for later. Can you make any statements using equals to test out on your whanau to see if they agree or disagree. Make sure they tell you why using the word because! | |
| **Learn**: Introducing learning  Reinforce routines, provide multiple exposure to concepts, and strategies. Scaffolding learning | Presenter shares the learning  Presenter models sharing out the flowers unequally  (10 and 2)  Presenter thinks aloud. I wonder…  Presenter models sharing one by one  Presenter records sharing equally as division, addition, multiplication and fraction of a set  Problem now moves to finding a quarter of 12  Presenter draws four kahoa on the board so learners can visualise  Modelling process of fair sharing for fractions  Recording as mathematical equations to demonstrate representations - records as division, addition, multiplication and fraction of a set | | So, today our new learning is to share equally.  We are preparing to make two traditional Tongan outfits today. We will need to make two kahoa (necklaces) and two puletaha (dresses).  Let’s make the kahoa first. To do this I need to share out these flowers into two groups - a group of flowers for each kahoa.  [presenter to split flowers and give more to one group that the other]  Let’s see how many is in each pile.  [count each pile - Presenter to have 10 on one kahoa and the other kahoa to have 2]..  Hmm I wonder is this fair and equal? What do you think?  No, I don't think it is fair either because one kahoa will have more flowers than the other.  I wonder how we could share the flowers so it is fair and equal?  Ka Pai what a good idea - they each need the same number of flowers.  There are 12 flowers all together - I wonder how many we would need in each pile? What could we do to make sure each kahoa has an equal amount of flowers?  We could share them out evenly one by one. Watch me.  [presenter to share out the flowers counting each time]  1,1,2,2,3,3,4,4,5,5,6,6  How many flowers are in each pile now? Ka Pai there are 6 flowers for each kahoa.  Is this fair and equal?  Yes it is because both kahoa have the **same amount** of flowers.  They each have **half** of the flowers which are **two equal groups**.  We can write this as 12 ÷ 2 = 6 (record on board). We also know that know that 6+6=12 or 2 x 6 = 12 (write on board) which means that ½ of 12 = 6.  Here’s another challenge for you. I wonder how many flowers there would be for each kahoa if we were making four kahoa?  Have a think!  Ka Pai ! You are right - there would be 3 flowers for each kahoa!  They each have one quarter of the flowers which are four equal groups  We know that 12 ÷ 4 = 3. We could also write 3 + 3 + 3 + 3 = 12, 4 x 3 = 12 or ¼ of 12= 3 (write all equations on board as talking).  Have a think now - has there been a time at home when you have had to share things out with your brothers, sisters or friends.  How would it make you feel if someone got more than you? | |
| **Respond**: Providing opportunities to use and practice | Teacher shares new learning that builds on the learning-Focus moves to finding a fraction of a region  Demonstrate with material showing unfair sharing with half  Modelling how to engage in a mathematical argument  Presenter to write fraction on the board  Activity to focus students on different ways to show half  Share image 3  Demonstrate different ways a representation can show half  Presenter engages prior knowledge.  Reiterates the concept of same/equal/even  Presenter to record fraction on the board  Ask students to show representations of quarters  Presenter reinforces the criteria | | Now we have learners about sharing groups equally so that it’s fair we are now going to find a fraction of a region.  We have our flowers to make the kahoa and now we are going to make the puletaha. The puletaha is a dress that Tongan females wear for special occasions.  I have this piece of fabric here [hold fabric up]. I need to share this fabric between two people so that each puletaha has the same amount.  Hmm I wonder how we could do this?  I’ll give you some time to find something you can fold like a piece of paper or a towel (presenter be folding while they wait). Ka Pai.  Hmm I am going to fold my fabric in half like this: (presenter to fold fabric in two parts that aren’t equal).  Is that fair? I’ll give you some time to think about why it is or isn't fair. You could talk with someone in your whanau about this.  Pause for 5 seconds…..)  I agree! It is not fair. One person would have more fabric than the other which means that it is not folded equally in half.  We know that when we are **halving** something the two parts must be the same - which means that it is equal and fair. We can write this as ½ (record on board)  Let's have a think - with your piece of equipment take some time, to see if you can fold it in half. I wonder how many ways you could do that so both the pieces are the **same size**/they are equal?  Pause for 20 seconds…..) Presenter to start folding in ways that show a half  Wow! Who would have thought there would be so many ways to fold something in half!  Amazing - Let’s have a look at all these different ways.  (show image 3 on screen).  What do you notice about them all? Målie! (Well done in Tongan). I agree - when folded in half like this [gesture to the image on screen] both the parts are equal sizes. Each puletaha would have the same amount of fabric which is fair. Two halves make a whole.  If we were using this fabric to make 4 puletaha. What would we need to cut it into? Think about when we shared our flowers to make four kahoa.  Målie! That is right -we would need four **even** pieces, four pieces that are the same or equal size. Do you remember what they are called? That’s right, they are called quarters. (presenter to write ¼)  With your equipment see how many ways you could fold it into quarters. Make sure they are equal and fair!  Pause for 20 seconds…..)  Wow! There are also so many ways to fold something into quarters!  Amazing - Let’s have a look at all these different ways. Look we can see that four quarters make a whole.  (show image 4 on screen).  Did you notice that all of the pieces are equal in size?  That is super important with fractions and when sharing things out that **each of the pieces or groups are equal - the same size.**  Remember when you thought about sharing something with your whanau and friends. To make it fair, you need to make sure everyone gets the **same**! | |
| **Share**: Learner and parent reflection on learning and engagement and what they can do next | Summarises lesson focus and encourages students to explore half and quarter more  Challenge with extension to thirds. | | Wowee tamariki - we have learnt so many ways to share items out in halves and in quarters. You might want to explore how you can divide things into halves or quarters with other things around your house.  Next time you are sharing something out with a friend, or your family see if you can make it equal and fair!  Here is a challenge that I am going to leave you with today! With your piece of equipment. How many ways can you fold it into **thirds**? That means there needs to be **three even sized** pieces. Share this with your whanau.  Don’t forget to get in touch, too. I’d love to hear about what you’ve done with your Maths learning. Remember to [on screen: text 5811 or email [info@hltv.co.nz](mailto:info@hltv.co.nz) - keyword: Suzy  Ofa atu, see you next time. | |