

HANGAIA  
TE URUPOUNAMU  
MŌ TĀTOU

HAUTANGA

Taumata 1 (Tau 2)

Teacher Booklet

ODD YEARS

<p><b>Rapanga 1</b></p>	<p>Me maha ake ngā takai rerekē kōrua ko tō hoa i tētahi pepa kia hauruatia. Me mātua mōhio kōrua ki te whakamārama ngā momo hauruatanga.</p>
<p><b>Whakaaro Matua Pāngarau</b></p> <p><i>Big Ideas</i></p>	<p>Numbers can be described in many different ways including as fractions. The whole is important in naming fractions. A fraction is relative to the size of the whole or unit. A comparison of a part to the whole can be represented using a fraction. A fraction describes the division of a whole (region, set, segment) into equal parts. The bottom number in a fraction tells how many equal parts the whole or unit is divided into. The top number tells how many equal parts are indicated.</p>
<p><b>Hononga ki te Marau</b></p>	<p>Ka mōhio ki ngā hautau māmā, pērā i ngā haurua me ngā hauwhā:</p> <ul style="list-style-type: none"> <li>○ te tuhi i ngā tohu hautau</li> <li>○ te tikanga o te taurunga me te tauraro o tētahi hautau māmā</li> <li>○ te raupapa hautau māmā</li> <li>○ te whakatauiria i te hautau (pērā i te hurihanga 3/2)</li> </ul>
<p><b>Hononga Marautanga</b></p> <p><i>Curriculum Links</i></p>	<p><b>NA1-1:</b> Use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions. <b>NA1-4:</b> Communicate and explain counting, grouping, and equal sharing strategies, using words, numbers, and pictures. <b>NA2-1:</b> Use simple additive strategies with whole numbers and fractions. <b>NA2-5:</b> Know simple fractions in everyday use. <b>NA2-6:</b> Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols</p>
<p><b>Whāinga Ako</b></p> <p><i>Learning Outcomes</i></p>	<ul style="list-style-type: none"> <li>• Share a whole into equal parts.</li> <li>• Put equal parts (units) together to make one whole.</li> <li>• Count or add fractional parts to make one whole.</li> </ul>
<p><b>Reo Matatini Pāngarau</b></p> <p><i>Mathematical Language</i></p>	<p>Whole, half, halves, fraction, share, fair, divide, same as, equal, more than, less than, because, compare</p>

<p><b>Tohatoha Whakaaro/Wā Hononga</b></p> <p><i>Sharing back/ Connect</i></p>	<p>Select students to share who have shown different ways of showing halves and can explain and show how each pair of halves is equal.</p> <p><b>Connect:</b> Provide students with the different size pieces of paper and ask them to show different ways of showing halves. Discuss and explore what is a half</p>
<p><b>Kōrero Tautoko</b></p> <p><i>Teacher Notes</i></p>	<ul style="list-style-type: none"> <li>• Have A4 pieces of paper, pens, other different size pieces of paper including postage stamp size and larger than A4 paper.</li> <li>• Facilitate the students to notice that two halves of one whole have to be equal.</li> <li>• Monitor for students using two bits of pieces and revoice as two halves of one whole.</li> <li>• Notice students who use many different representations to explain all the different ways a whole can be shown as two halves equally. 3 Level 1 - Year 2: Fractions</li> <li>• For the independent task, you will need different sized and shaped containers and water.</li> </ul>
<p><b>Ngohe whakaharatau</b></p> <p><i>Independent Tasks</i></p>	<p>Whirihia tētahi ipu, whakakī mā te wai. Riringihia hawhe o te wai. He aha te wai e toe ana?</p> <p>Kowhirihia tētahi atu ipu rerekē me te riringi hawhe anō. He aha tō kitenga?</p> <p>Tāngia he pikitia hei whakaatu ou mahi. Tohua te hawhe ki ia ipu.</p>
<p><b>Ngā matapae</b></p> <p><i>Anticipations</i></p>	

--	--

<p><b>Rapanga 2</b></p>	<p>Ka taea te takai tētahi pepa roa kia hauruatia? Tāngia he tauira. Me whakamārama e hia ngā momo takai kia orite.</p> <p>Ka taea te takai tētahi pepa roa kia hautorutia? Tāngia he tauira. Me whakamārama e hia ngā momo takai kia orite</p>
<p><b>Whakaaro Matua Pāngarau</b></p> <p><i>Big Ideas</i></p>	<p>Numbers can be described in many different ways including as fractions. The whole is important in naming fractions. A fraction is relative to the size of the whole or unit A comparison of a part to the whole can be represented using a fraction. A fraction describes the division of a whole (region, set, segment) into equal parts. The bottom number in a fraction tells how many equal parts the whole or unit is divided into. The top number tells how many equal parts are indicated.</p>
<p><b>Hononga ki te Marau</b></p>	<p>Ka mōhio ki ngā hautau māmā, pērā i ngā haurua me ngā hauwhā:</p> <ul style="list-style-type: none"> <li>○ te tuhi i ngā tohu hautau</li> <li>○ te tikanga o te taurunga me te tauraro o tētahi hautau māmā</li> <li>○ te raupapa hautau māmā</li> <li>○ te whakatauiria i te hautau (pērā i te hurihanga 3/2)</li> </ul>
<p><b>Hononga Marautanga</b></p> <p><i>Curriculum Links</i></p>	<p><b>NA1-1:</b> Use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions. <b>NA1-4:</b> Communicate and explain counting, grouping, and equal sharing strategies, using words, numbers, and pictures. <b>NA2-1:</b> Use simple additive strategies with whole numbers and fractions. <b>NA2-5:</b> Know simple fractions in everyday use. <b>NA2-6:</b> Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols</p>
<p><b>Whāinga Ako</b></p> <p><i>Learning Outcomes</i></p>	<ul style="list-style-type: none"> <li>• Share a whole into equal parts.</li> <li>• Put equal parts (units) together to make one whole.</li> <li>• Count or add fractional parts to make one whole.</li> </ul>
<p><b>Reo Matatini Pāngarau</b></p> <p><i>Mathematical Language</i></p>	<p>Whole, half, halves, thirds, fraction, share, fair, divide, same as, equal, more than, less than.</p>

<p><b>Tohatoha Whakaaro/Wā Hononga</b></p> <p><i>Sharing back/ Connect</i></p>	<p>Select students to share who have represented halves and thirds accurately and can explain and show how each section in the fold is equal to the others.</p> <p><b>Connect:</b> Ask students to draw two long thin rectangles to represent their paper strips. Ask them to represent halves on the first strip and thirds on the second strip. Record the symbol for half and third.</p>
<p><b>Kōrero Tautoko</b></p> <p><i>Teacher Notes</i></p>	<ul style="list-style-type: none"> <li>• During the launch, ask students to discuss how you would share a chocolate bar fairly. Make links to the ways they used a number-line to show their mass/capacity scales and in number.</li> <li>• Have available strips of 2cm wide paper and concrete material to use to measure pieces (not rulers).             <ul style="list-style-type: none"> <li>• Facilitate the students to notice the way in which different students have used measures to ensure equal parts including using concrete materials and their fingers.</li> </ul> </li> <li>• During the activity, support students to recognise that folding a strip of paper into equal parts is using partitioning as they did in number. Here, instead of dividing a group of objects into equal groups as they did in number activities using folding, they are illustrating dividing a length into equal parts. Link to the use of the number line as divided into equal parts (usually as whole parts but this lays foundations for them to see fractions between whole numbers).</li> <li>• Model notating for students in both words and numbers what they show with their representations. Emphasise the whole and that the bottom number represents how many parts the whole has been divided into and the top number represents how many parts of the whole they have.</li> <li>• Monitor and affirm students using vocabulary which emphasises fair and equal and halves and thirds and sharing or dividing into equal parts.</li> <li>• Notice students who use different ways to ensure equal parts including using concrete materials and their fingers and use the language of fractions.             <ul style="list-style-type: none"> <li>• Expect students to represent using the folds and strips of paper but re-represent as drawings and equal sections or parts.</li> <li>• For the independent task, you will need containers that are the same size and shape and water. .</li> </ul> </li> </ul>
<p><b>Ngohe whakaharatau</b></p> <p><i>Independent Tasks</i></p>	<p>Whirihia tētahi ipu, whakakī mā te wai. Riringihia tētahi hautoru o te wai. He aha te wai e toe ana?</p> <p>Kowhirihia tētahi atu ipu rerekē me te riringi hautoru anō anō. He aha tō kitenga?</p> <p>Tāngia he pikitia hei whakaatu ou mahi. Tohua te hautoru ki ia ipu.</p>

**Ngā matapae**

*Anticipations*

<p><b>Rapanga 3</b></p>	<p>Whakamahia te rauemi hautanga kia hanga te kōtahi ki ngā taputapu hautanga rerekē. Tuhi me te tā to whakaturanga. Me whakamārama me te taunakihia ngā take ka hanga ngā wāhanga ki te kōtahi.</p>
<p><b>Whakaaro Matua Pāngarau</b></p> <p><i>Big Ideas</i></p>	<p>Numbers can be described in many different ways including as fractions. The whole is important in naming fractions. A fraction is relative to the size of the whole or unit. A comparison of a part to the whole can be represented using a fraction. A fraction describes the division of a whole (region, set, segment) into equal parts. The bottom number in a fraction tells how many equal parts the whole or unit is divided into. The top number tells how many equal parts are indicated.</p>
<p><b>Hononga ki te Marau</b></p>	<p>Ka mōhio ki ngā hautau māmā, pērā i ngā haurua me ngā hauwhā:</p> <ul style="list-style-type: none"> <li>○ te tuhi i ngā tohu hautau</li> <li>○ te tikanga o te taurunga me te tauraro o tētahi hautau māmā</li> <li>○ te raupapa hautau māmā</li> <li>○ te whakatauiria i te hautau (pērā i te hurihanga <math>\frac{3}{2}</math>)</li> </ul>
<p><b>Hononga Marautanga</b></p> <p><i>Curriculum Links</i></p>	<p><b>NA1-1:</b> Use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions.</p> <p><b>NA1-4:</b> Communicate and explain counting, grouping, and equal sharing strategies, using words, numbers, and pictures.</p> <p><b>NA2-1:</b> Use simple additive strategies with whole numbers and fractions.</p> <p><b>NA2-5:</b> Know simple fractions in everyday use.</p> <p><b>NA2-6:</b> Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols</p>
<p><b>Whāinga Ako</b></p> <p><i>Learning Outcomes</i></p>	<ul style="list-style-type: none"> <li>• Share a whole into different parts.</li> <li>• Combine and recombine different units of fractions to make one whole.</li> <li>• Identify and recognise equivalent fractions.</li> </ul>
<p><b>Reo Matatini Pāngarau</b></p> <p><i>Mathematical Language</i></p>	<p>Whole, half, halves, thirds, quarters, fraction, share, fair, divide, same as, equal.</p>



<p><b>Tohatoha Whakaaro/Wā Hononga</b></p> <p><i>Sharing back/ Connect</i></p>	<p>Select students to share who made combinations of the whole using the same size pieces (halves, thirds, quarters) and recorded the combinations as numbers or words.</p> <p><b>Connect:</b> Select students who were able to represent and explain using the fraction tiles and different combinations which make one whole. (e.g., one half and two quarters). If no students did this, then introduce as an alternative solution. Ask students to discuss why these make one whole and any patterns or relationships that they notice.</p>
<p><b>Kōrero Tautoko</b></p> <p><i>Teacher Notes</i></p>	<ul style="list-style-type: none"> <li>• During the launch, provide all students with a paper strip (the same length as they used in the previous lesson) and ask them to fold it into four equal parts. Link back and make comparisons to their paper strips from the previous lesson and the need for equal parts of the one whole. Name and record these as quarters.</li> <li>• Provide students with fraction tiles for one whole, halves, quarters, and thirds.             <ul style="list-style-type: none"> <li>• Teachers notate for students in both words and numbers what they show with their representations. Emphasise the whole and that the bottom number represents how many parts the whole has been divided into and the top number represents how many parts of the whole they have.</li> <li>• Facilitate the students to notice the connection between the concrete representation and their recording in words and numbers.</li> <li>• Notice students who notice equivalence in the fractional parts. Record these as number sentences using the equal sign.</li> </ul> </li> <li>• For the independent task, have available fraction tiles for whole, halves, thirds, and quarters. Have the words: halves, half, thirds, quarters, fourths, whole and their equivalent in numbers available as cards for students to use as they record their combinations to make one whole.</li> </ul>
<p><b>Ngohe whakaharatau</b></p> <p><i>Independent Tasks</i></p>	<p>Whakamahia te rauemi hautau kia whakaatu ngā momo huinga rerekē ki te kōtahi.</p> <p>Tāngia ou momo hei nama, hei kupu hoki e whakaatu ana te kōtahi.</p>
<p><b>Ngā matapae</b></p> <p><i>Anticipations</i></p>	

--	--

<p><b>Rapanga 4</b></p>	<p>Whakamahia te rauemi hautanga kia hanga te kōtahi iti iho ki ngā taputapu hautanga rerekē. Tuhia me te tā to whakaaturanga. Me whakamārama me te taunakihia ngā take ka hanga ngā wāhanga ki te kōtahi iti iho.</p> <p>Whakamahia te rauemi hautanga kia hanga he mea nui ake i te kōtahi ki ngā taputapu hautanga rerekē. Tuhia me te tā to whakaaturanga. Me whakamārama me te taunakihia ngā take ka hanga ngā wāhanga ki te kōtahi nui ake.</p>
<p><b>Whakaaro Matua Pāngarau</b></p> <p><i>Big Ideas</i></p>	<p>Numbers can be described in many different ways including as fractions. The whole is important in naming fractions. A fraction is relative to the size of the whole or unit. A comparison of a part to the whole can be represented using a fraction. A fraction describes the division of a whole (region, set, segment) into equal parts. The bottom number in a fraction tells how many equal parts the whole or unit is divided into. The top number tells how many equal parts are indicated.</p>
<p><b>Hononga ki te Marau</b></p>	<p>Ka mōhio ki ngā hautau māmā, pērā i ngā haurua me ngā hauwhā:</p> <ul style="list-style-type: none"> <li>○ te tuhi i ngā tohu hautau</li> <li>○ te tikanga o te taurunga me te tauraro o tētahi hautau māmā</li> <li>○ te raupapa hautau māmā</li> <li>○ te whakatauiria i te hautau (pērā i te hurihanga <math>\frac{3}{2}</math>)</li> </ul>
<p><b>Hononga Marautanga</b></p> <p><i>Curriculum Links</i></p>	<p><b>NA1-1:</b> Use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions.</p> <p><b>NA1-4:</b> Communicate and explain counting, grouping, and equal sharing strategies, using words, numbers, and pictures.</p> <p><b>NA2-1:</b> Use simple additive strategies with whole numbers and fractions.</p> <p><b>NA2-5:</b> Know simple fractions in everyday use.</p> <p><b>NA2-6:</b> Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols</p>
<p><b>Whāinga Ako</b></p> <p><i>Learning Outcomes</i></p>	<ul style="list-style-type: none"> <li>• Share a whole into different parts.</li> <li>• Count or add fractional units.</li> <li>• Identify and recognise equivalent fractions.</li> </ul>
<p><b>Reo Matatini Pāngarau</b></p> <p><i>Mathematical Language</i></p>	<p>Whole, half, halves, thirds, fourths, quarters, fraction, share, fair, divide, same as, equal, more than, less than.</p>

<p><b>Tohatoha Whakaaro/Wā Hononga</b></p> <p><i>Sharing back/ Connect</i></p>	<p>Select students to share who represented and explained using fraction tiles and other representations. Begin with those students who made combinations of less than the whole and more than a whole using the same size pieces (halves, thirds, quarters).</p> <p><b>Connect:</b> Select students who were able to represent and explain using unlike fractions and different combinations to make less than or more than a whole. Record the solutions as addition for the students. Ask the students whether they notice any patterns or relationships (focus on equivalence). .</p>
<p><b>Kōrero Tautoko</b></p> <p><i>Teacher Notes</i></p>	<ul style="list-style-type: none"> <li>• During the launch, revisit all the combinations they made for one whole in the previous lesson and independent task.</li> <li>• Provide fraction tiles for one whole, halves, quarters, and thirds.</li> <li>• Teachers notate for students and/or support students to record in both words and numbers what they show with their representations. Re-emphasise the whole and that the bottom number represents how many parts the whole has been divided into and the top number represents how many parts of the whole they have.</li> <li>• Facilitate the students to connect to the concept of fractional numbers as less than one whole and more than one whole and record as using greater than, less than symbols and as addition equations with the equals sign.</li> </ul>
<p><b>Ngohe whakaharatau</b></p> <p><i>Independent Tasks</i></p>	<p>Ko ēhea ngā whārite tika, whārite hē rānei?</p> <p><math>30 = 30</math></p> <p><math>\frac{1}{2} + \frac{1}{2} = 1</math></p> <p><math>9 + 5 = 12 + 3</math></p> <p><math>6 = 3 + 3</math></p> <p><math>1 = \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3}</math></p> <p><math>\frac{1}{2} = \frac{1}{4} + \frac{1}{4}</math></p> <p>Whakamāramahia ou whakaaro tika, ou whakaaro hē rānei.</p>

**Ngā matapae**

*Anticipations*

<p><b>Rapanga 5</b></p>	<p>I tunu panikeke tetahi Māmā me tana tamāhine. I kai te Māmā i tētahi panikeke, ā, i toha tana tamāhine e 5 ngā panikeke me āna tuahine e toru. E hia ngā panikeke i kai tana tamāhine me āna tuahine? Mēnā ka toha tētahi panikeke ki tana tūngane, e hia ngā panikeke ka kai rātou?</p>
<p><b>Whakaaro Matua Pāngarau</b>  <i>Big Ideas</i></p>	<p>Numbers can be described in many different ways including as fractions. The whole is important in naming fractions. A fraction is relative to the size of the whole or unit A comparison of a part to the whole can be represented using a fraction. A fraction describes the division of a whole (region, set, segment) into equal parts. The bottom number in a fraction tells how many equal parts the whole or unit is divided into. The top number tells how many equal parts are indicated. The real-world actions for addition and subtraction of whole numbers are the same for operations with fractions and decimals.</p>
<p><b>Hononga ki te Marau</b></p>	<p>Ka mōhio ki ngā hautau māmā, pērā i ngā haurua me ngā hauwhā:</p> <ul style="list-style-type: none"> <li>○ te tuhi i ngā tohu hautau</li> <li>○ te tikanga o te taurunga me te tauraro o tētahi hautau māmā</li> <li>○ te raupapa hautau māmā</li> <li>○ te whakatauiria i te hautau (pērā i te hurihanga <math>\frac{3}{2}</math>)</li> </ul>
<p><b>Hononga Marautanga</b>  <i>Curriculum Links</i></p>	<p><b>NA1-1:</b> Use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions. <b>NA1-4:</b> Communicate and explain counting, grouping, and equal sharing strategies, using words, numbers, and pictures. <b>NA2-1:</b> Use simple additive strategies with whole numbers and fractions. <b>NA2-5:</b> Know simple fractions in everyday use. <b>NA2-6:</b> Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols <b>NA3-1:</b> Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals and percentages</p>
<p><b>Whāinga Ako</b>  <i>Learning Outcomes</i></p>	<ul style="list-style-type: none"> <li>• Share whole parts equally</li> <li>• Solve problems that involve dividing a whole number into a fraction</li> </ul>
<p><b>Reo Matatini Pāngarau</b> <i>Mathematical Language</i></p>	<p>Whole, half, fourths, quarters, fraction, share, fair, divide.</p>

<p><b>Tohatoha Whakaaro/Wā Hononga</b></p> <p><i>Sharing back/ Connect</i></p>	<p>Select students to share who develop representations to justify their reasoning and either split all the panipopo in quarters or share as a whole and fractional amount. If the second solution is not used, then model as another way the teacher has seen used previously.</p> <p><b>Connect:</b></p> <p>Record the matching equations and solutions for each problem.</p> $1 \div 4 = \frac{1}{4}$ $3 \div 4 = \frac{3}{4}$ $5 \div 4 = 1 \frac{1}{4} \text{ or } \frac{5}{4}$ <p>Ask students to discuss the pattern that they notice. Ask them to use the pattern to solve: Rebekah had to share 7 panipopo with her four sisters. Rebekah had to share 9 panipopo with her four sisters.</p>
<p><b>Kōrero Tautoko</b></p> <p><i>Teacher Notes</i></p>	<ul style="list-style-type: none"> <li>• Have concrete material available if needed for students to select (e.g., fraction tiles, playdough).</li> <li>• Facilitate the students to notice that fair sharing of a whole into quarters means four equal size pieces of the one whole.</li> <li>• Monitor for students using vocabulary of fractions (e.g., one whole panipopo and quarters of one panipopo).</li> <li>• Expect students to represent using drawings and as needed re-represent using materials. Notate for the students the solutions as addition using either numbers or words, • Notice students who draw on multiplicative thinking (i.e., means they immediately see <math>1 \div 4 =</math> so each person gets either 1 or five quarters).</li> <li>• For the independent task have fraction tiles for the whole, quarters, thirds, halves and add in eighths and sixths and paper and pen</li> </ul>
<p><b>Ngohe whakaharatau</b></p> <p><i>Independent Tasks</i></p>	<p>I tunu pāraoa tētahi Pāpā. Pehea te nui o tau pāraoa mēnā ka toha:</p> <p>E rua ngā kotinga ki ngā tangata e wha.</p> <p>E wha ngā kotinga ki ngā tangata e waru.</p> <p>E ono ngā kotinga ki ngā tangata e wha.</p> <p>E ono ngā kotinga ki ngā tangata e waru.</p> <p>Tā me te tuhi au whakautu.</p>

**Ngā matapae**

*Anticipations*



<p><b>Rapanga 6</b></p>	<p>He aha kei waenganui i te 0 me te 1?</p> <p>Tohua te hawhe i te papa mā te tēpa whakapiri. Me whakamārama, ā, me taunakihia.</p> <p>Whakawehe te tēpa whakapiri kia hautorutia. Me whakamārama, me taunakihia.</p> <p>Titiro ki te rārangi tau 0-10 He aha kei roto i te 1-2? He aha kei roto i te 2-3?</p> <p>Ka taea te tohua ētahi nama ka uru ki waenga i ngā tau?</p>
<p><b>Whakaaro Matua Pāngarau</b></p> <p><i>Big Ideas</i></p>	<p>Numbers can be described in many different ways including as fractions.</p> <p>The whole is important in naming fractions. A fraction is relative to the size of the whole or unit</p> <p>A comparison of a part to the whole can be represented using a fraction.</p> <p>A fraction describes the division of a whole (region, set, segment) into equal parts.</p> <p>The bottom number in a fraction tells how many equal parts the whole or unit is divided into. The top number tells how many equal parts are indicated.</p> <p>A fraction describes division (<math>\frac{a}{b} = a \div b</math>, a &amp; b are integers &amp; b - 0), and it can be interpreted on the number line in two ways. For example, <math>\frac{2}{3} = 2 \div 3</math>. On the number line, <math>2 \div 3</math> can be interpreted as 2 segments where each is <math>\frac{1}{3}</math> of a unit (<math>2 \times \frac{1}{3}</math>) or <math>\frac{1}{3}</math> of 2 whole units (<math>\frac{1}{3} \times 2</math>); each is associated with the same point on the number line</p> <p>Each fraction can be associated with a unique point on a numberline.</p> <p>There is no least or greatest fraction on the number line.</p>
<p><b>Hononga ki te Marau</b></p>	<p>Ka mōhio ki ngā hautau māmā, pērā i ngā haurua me ngā hauwhā:</p> <ul style="list-style-type: none"> <li>○ te tuhi i ngā tohu hautau</li> <li>○ te tikanga o te taurunga me te tauraro o tētahi hautau māmā</li> <li>○ te raupapa hautau māmā</li> <li>○ te whakatauiria i te hautau (pērā i te hurihanga 3/2)</li> </ul>

<p><b>Hononga Marautanga</b></p> <p><i>Curriculum Links</i></p>	<p><b>NA1-1:</b> Use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions.</p> <p><b>NA1-4:</b> Communicate and explain counting, grouping, and equal sharing strategies, using words, numbers, and pictures.</p> <p><b>NA2-1:</b> Use simple additive strategies with whole numbers and fractions.</p> <p><b>NA2-5:</b> Know simple fractions in everyday use.</p> <p><b>NA2-6:</b> Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols.</p> <p><b>NA3-1:</b> Use a range of additive and simple multiplicative</p>
<p><b>Whāinga Ako</b></p> <p><i>Learning Outcomes</i></p>	<ul style="list-style-type: none"> <li>• Show fractions on a number-line.</li> </ul>
<p><b>Reo Matatini Pāngarau</b></p> <p><i>Mathematical Language</i></p>	<p>Whole, half, halves, thirds, fraction, divide, mixed numbers.</p>
<p><b>Tohatoha Whakaaro/Wā Hononga</b></p> <p><i>Sharing back/ Connect</i></p>	<p>Select students to share who can mark the fractions onto the number-lines with some accuracy and justification.</p> <p><b>Connect:</b> Put as many numbers that would come between other numbers onto the number-line..</p>
<p><b>Kōrero Tautoko</b></p> <p><i>Teacher Notes</i></p>	<ul style="list-style-type: none"> <li>• Have an unmarked number-line on the whiteboard to use during the lesson and two lengths of paper tape to lay on the floor and large marked fraction cards with words and notation and a number-line marked 0-10.</li> <li>• Facilitate the students to notice that previously the number line they have used only contained whole numbers (numbers that resulted from counting). The fractions they are talking about now (numbers resulting from equal splitting or partitioning) can be represented on the number line. This shows that fractions may also be thought of as numbers. In the connection refer to the fractions (e.g., <math>3 \frac{1}{2}</math>) as a mixed number.</li> <li>• Notice students who find the concept of fractions as numbers between numbers counter intuitive. Allow them to struggle and construct reasoning through mathematical talk and using agreeing mathematically and disagreeing mathematically (e.g., I agree because...)</li> <li>• For the independent task, have on A3 a series of number lines marked with whole numbers from 0 to 20. Have available fraction cards which students can use to select the fractional number</li> </ul>

<p><b>Ngohe whakaharatau</b></p> <p><i>Independent Tasks</i></p>	<p>Tohua i te rārangi tau kei hea ēnei tau hanumi.</p> <p><math>3\frac{1}{2}</math>, <math>19\frac{1}{2}</math>, <math>1\frac{1}{2}</math>, <math>10\frac{1}{2}</math>, <math>15\frac{1}{2}</math>, <math>5\frac{1}{2}</math>,</p> <p>Tāngia tō ake rārangi tau 0 - 10. Tohua ngā nama 0 - 10.</p> <p><u>Tohua ngā tau hanumi <math>\frac{1}{2}</math></u>, ki te <math>9\frac{1}{2}</math> i tō rārangi tau.</p>
<p><b>Ngā matapae</b></p> <p><i>Anticipations</i></p>	

<p><b>Rapanga 7</b></p>	<p>Whakawehe te tēpa whakapiri kia hauwha. Waihotia ngā kāri pere ki ia hauwha meng kāri hautanga.</p> <p>Me whakamārama, me taunakihia ou kāri pere.</p> <p>he pikitia rārangi tau 0-1.</p> <p>Tohua <math>\frac{1}{4}</math> i te rārangi tau.</p> <p>Tohua <math>\frac{2}{4}</math> i te rārangi tau.</p> <p>Tohua <math>\frac{4}{4}</math> i te rārangi tau.</p> <p>Tāngia he pikitia rārangi tau 0-10.</p> <p>Tohua <math>2\frac{1}{2}</math> i te rārangi tau.</p> <p>Tohua <math>5\frac{1}{3}</math> i te rārangi tau.</p> <p>Tohua <math>3\frac{1}{4}</math> i te rārangi tau.</p>
<p><b>Whakaaro Matua Pāngarau</b></p> <p><i>Big Ideas</i></p>	<p>Numbers can be described in many different ways including as fractions.</p> <p>The whole is important in naming fractions. A fraction is relative to the size of the whole or unit</p> <p>A comparison of a part to the whole can be represented using a fraction.</p> <p>A fraction describes the division of a whole (region, set, segment) into equal parts.</p> <p>The bottom number in a fraction tells how many equal parts the whole or unit is divided into. The top number tells how many equal parts are indicated.</p> <p>A fraction describes division (<math>\frac{a}{b} = a \div b</math>, a &amp; b are integers &amp; b - 0), and it can be interpreted on the number line in two ways. For example, <math>\frac{2}{3} = 2 \div 3</math>. On the number line, <math>2 \div 3</math> can be interpreted as 2 segments where each is <math>\frac{1}{3}</math> of a unit (<math>2 \times \frac{1}{3}</math>) or <math>\frac{1}{3}</math> of 2 whole units (<math>\frac{1}{3} \times 2</math>); each is associated with the same point on the number line</p> <p>Each fraction can be associated with a unique point on a numberline.</p> <p>There is no least or greatest fraction on the number line.</p>
<p><b>Hononga ki te Marau</b></p>	<p>Ka mōhio ki ngā hautau māmā, pērā i ngā haurua me ngā hauwhā:</p> <ul style="list-style-type: none"> <li>○ te tuhi i ngā tohu hautau</li> <li>○ te tikanga o te taurunga me te tauraro o tētahi hautau māmā</li> <li>○ te raupapa hautau māmā</li> <li>○ te whakatauiria i te hautau (pērā i te hurihanga <math>3/2</math>)</li> </ul>

<p><b>Hononga Marautanga</b></p> <p><i>Curriculum Links</i></p>	<p><b>NA1-1:</b> Use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions.</p> <p><b>NA1-4:</b> Communicate and explain counting, grouping, and equalsharing strategies, using words, numbers, and pictures.</p> <p><b>NA2-1:</b> Use simple additive strategies with whole numbers and fractions.</p> <p><b>NA2-5:</b> Know simple fractions in everyday use.</p> <p><b>NA2-6:</b> Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols.</p> <p><b>NA3-1:</b> Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages.</p>
<p><b>Whāinga Ako</b></p> <p><i>Learning Outcomes</i></p>	<ul style="list-style-type: none"> <li>• Show fractions on a number-line.</li> </ul>
<p><b>Reo Matatini Pāngarau</b></p> <p><i>Mathematical Language</i></p>	<p>Whole, half, halves, thirds, fourths, quarters, mixed numbers.</p>
<p><b>Tohatoha Whakaaro/Wā Hononga</b></p> <p><i>Sharing back/ Connect</i></p>	<p>Select students to share who can visualise and draw the number lines and mark the positions of the fractions.</p> <p><b>Connect:</b> Looking at our number-line can you make some mathematical statements that are true. I will start you off by saying 5 is greater than <math>4 \frac{1}{2}</math>.</p>
<p><b>Kōrero Tautoko</b></p> <p><i>Teacher Notes</i></p>	<ul style="list-style-type: none"> <li>• During the launch revisit the patterns with choral counting in halves, quarters, thirds from 0 to 5.</li> <li>• Have an unmarked length of paper tape to lay on the floor, large fraction cards with words and a number-line marked 0-10. For the connect, draw a number-line from 0 to 5 and mark on whole numbers and mixed numbers for halves, quarters and thirds.</li> <li>• Facilitate the students to notice that there are numbers between whole numbers and that there is a pattern to these numbers. Also, facilitate students to count the sections inside the number-line and not the markers.</li> <li>• In this activity, most students will draw a number line from 0-10, mark all the whole numbers and then find the positions of the mixed numbers by partitioning. Some students may estimate the positions of the mixed numbers on the empty number line. Both strategies are acceptable as long as the students can justify what they have done.</li> </ul>

<p><b>Ngohe whakaharatau</b></p> <p><i>Independent Tasks</i></p>	<p>Tāngia ētahi āhua. Menā ka tapahi te āhua kia haurua, he aha te āhua o aua haurua? Tāngia ngā ahua haurua rerekē.</p> <p>E hia ngā momo tapahinga o ēnei tapawha kia hauwhatia?</p> <p><input type="checkbox"/>   <input type="checkbox"/>   <input type="checkbox"/>   <input type="checkbox"/></p>
<p><b>Ngā matapae</b></p> <p><i>Anticipations</i></p>	

<p><b>Rapanga 8</b></p>	<p>He tiakereti a Hone rāua ko Rangi. I kai a Hone <math>\frac{3}{4}</math>, ā, i kai a Rangi <math>\frac{1}{2}</math>. Ko wai i kai te maha o te tiakereti?</p> <p>He tiakereti a Hone rāua ko Rangi. I kai a Hone <math>\frac{1}{4}</math>, ā, i kai a Rangi <math>\frac{1}{3}</math>. Ko wai i kai te maha o te tiakereti?</p> <p>He tiakereti a Hone rāua ko Rangi. I kai a Hone <math>\frac{3}{4}</math>, ā, i kai a Rangi <math>\frac{2}{3}</math>. Ko wai i kai te maha o te tiakereti?</p>
<p><b>Whakaaro Matua Pāngarau</b></p> <p><i>Big Ideas</i></p>	<p>Numbers can be described in many different ways including as fractions. The whole is important in naming fractions. A fraction is relative to the size of the whole or unit A comparison of a part to the whole can be represented using a fraction. A fraction describes the division of a whole (region, set, segment) into equal parts. The bottom number in a fraction tells how many equal parts the whole or unit is divided into. The top number tells how many equal parts are indicated. A fraction describes division (<math>\frac{a}{b} = a \div b</math>, a &amp; b are integers &amp; b - 0), and it can be interpreted on the number line in two ways. For example, <math>\frac{2}{3} = 2 \div 3</math>. On the number line, <math>2 \div 3</math> can be interpreted as 2 segments where each is <math>\frac{1}{3}</math> of a unit (<math>2 \times \frac{1}{3}</math>) or <math>\frac{1}{3}</math> of 2 whole units (<math>\frac{1}{3} \times 2</math>); each is associated with the same point on the number line Each fraction can be associated with a unique point on a numberline. There is no least or greatest fraction on the number line.</p>
<p><b>Hononga ki te Marau</b></p>	<p>Ka mōhio ki ngā hautau māmā, pērā i ngā haurua me ngā hauwhā:</p> <ul style="list-style-type: none"> <li>○ te tuhi i ngā tohu hautau</li> <li>○ te tikanga o te taurunga me te tauraro o tētahi hautau māmā</li> <li>○ te raupapa hautau māmā</li> <li>○ te whakatauiria i te hautau (pērā i te hurihanga 3/2)</li> </ul>

<p><b>Hononga Marautanga</b></p> <p><i>Curriculum Links</i></p>	<p><b>NA1-1:</b> Use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions.</p> <p><b>NA1-4:</b> Communicate and explain counting, grouping, and equal sharing strategies, using words, numbers, and pictures.</p> <p><b>NA2-1:</b> Use simple additive strategies with whole numbers and fractions.</p> <p><b>NA2-5:</b> Know simple fractions in everyday use</p> <p><b>NA2-6:</b> Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols.</p> <p><b>NA3-1:</b> Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages.</p>
<p><b>Whāinga Ako</b></p> <p><i>Learning Outcomes</i></p>	<ul style="list-style-type: none"> <li>• Identify and compare different unit fractions.</li> <li>• Recognise equivalent fractions.</li> </ul>
<p><b>Reo Matatini Pāngarau</b></p> <p><i>Mathematical Language</i></p>	<p>Whole, half, halves, thirds, fourths, quarters, fraction, same as, equal, more than, less than.</p>
<p><b>Tohatoha Whakaaro/Wā Hononga</b></p> <p><i>Sharing back/ Connect</i></p>	<p>Select students to share who are able to develop representations (drawings of two identical length chocolate bars marked as fractions, or two identical number lines with the fractional markings) to explain how and why each fractional number is bigger or smaller than another fractional number.</p> <p><b>Connect:</b> Bigger, smaller or the same?</p> <p><math>\frac{3}{4}</math> or <math>\frac{2}{2}</math></p> <p><math>\frac{4}{4}</math> or <math>\frac{5}{4}</math></p> <p><math>\frac{3}{3}</math> or <math>\frac{2}{2}</math></p> <p><math>\frac{1}{3}</math> or <math>\frac{1}{2}</math></p> <p><math>1\frac{1}{2}</math> or <math>1\frac{3}{4}</math></p>
<p><b>Kōrero Tautoko</b></p> <p><i>Teacher Notes</i></p>	<ul style="list-style-type: none"> <li>• Facilitate the students to notice that the denominator represents the number of pieces the whole has been divided into and the smaller the denominator the greater the piece. Reinforce that the chocolate bars should be the same size and need to be identical lengths if they draw it.</li> </ul>



<p><b>Ngohe whakaharatau</b></p> <p><i>Independent Tasks</i></p>	<p>Titiro ki ēnei hautanga i raro nei. Tāngia he tauira o ia hautanga.</p> <p>Nā, tā ngā tohu &gt; ( nui ake), &lt; (iti iho), = kia tika ngā whārite.</p> <p><math>\frac{1}{2}</math> me <math>\frac{2}{3}</math></p> <p><math>\frac{5}{4}</math> me <math>\frac{2}{2}</math></p> <p><math>1\frac{1}{2}</math> me <math>1\frac{2}{3}</math></p> <p><math>\frac{4}{4}</math> me <math>\frac{3}{3}</math></p> <p> </p> <p><math>\frac{3}{3}</math>, <math>\frac{3}{2}</math> rānei</p> <p><math>\frac{3}{2}</math>, <math>1\frac{2}{4}</math> rānei</p>
<p><b>Ngā matapae</b></p> <p><i>Anticipations</i></p>	

--	--

<p><b>Rapanga 9</b></p>	<p>Ka rākei koe tō kēkē huritau ki ngā rare tiakereti M&amp;M 16. Ka tapahi te kēkē kia rua ngā wāhanga me te toha ngā rare tiakereti M&amp;M.</p> <p>He aha te hautanga o ngā rare M&amp;M?</p> <p>E hia ngā M&amp;M ki ia wāhanga?</p> <p>Ka rākei koe tō kēkē huritau ki ngā rare tiakereti M&amp;M 16. Ka tapahi te kēkē kia whā ngā wāhanga me te toha ngā rare tiakereti M&amp;M.</p> <p>He aha te hautanga o ngā rare M&amp;M?</p> <p>E hia ngā M&amp;M ki ia wāhanga?</p> <p>Ka rākei koe tō kēkē huritau ki ngā rare tiakereti M&amp;M 16. Ka tapahi te kēkē kia waru ngā wāhanga me te toha ngā rare tiakereti M&amp;M.</p> <p>He aha te hautanga o ngā rare M&amp;M?</p> <p>E hia ngā M&amp;M ki ia wāhanga?</p>
<p><b>Whakaaro Matua Pāngarau</b></p> <p><i>Big Ideas</i></p>	<p>Numbers can be described in many different ways including as fractions.</p> <p>The whole is important in naming fractions. A fraction is relative to the size of the whole or unit</p> <p>A comparison of a part to the whole can be represented using a fraction.</p> <p>A fraction describes the division of a whole (region, set, segment) into equal parts.</p> <p>The bottom number in a fraction tells how many equal parts the whole or unit is divided into. The top number tells how many equal parts are indicated.</p> <p>A fraction describes division (<math>\frac{a}{b} = a \div b</math>, a &amp; b are integers &amp; b - 0), and it can be interpreted on the number line in two ways. For example, <math>\frac{2}{3} = 2 \div 3</math>. On the number line, <math>2 \div 3</math> can be interpreted as 2 segments where each is <math>\frac{1}{3}</math> of a unit (<math>2 \times \frac{1}{3}</math>) or <math>\frac{1}{3}</math> of 2 whole units (<math>\frac{1}{3} \times 2</math>); each is associated with the same point on the number line</p> <p>Each fraction can be associated with a unique point on a numberline.</p> <p>There is no least or greatest fraction on the number line.</p>

<p><b>Hononga ki te Marau</b></p>	<p>Ka mōhio ki ngā hautau māmā, pērā i ngā haurua me ngā hauwhā:</p> <ul style="list-style-type: none"> <li>○ te tuhi i ngā tohu hautau</li> <li>○ te tikanga o te taurunga me te tauraro o tētahi hautau māmā</li> <li>○ te raupapa hautau māmā</li> <li>○ te whakatauiria i te hautau (pērā i te hurihanga 3/2)</li> </ul>
<p><b>Hononga Marautanga</b></p> <p><i>Curriculum Links</i></p>	<p><b>NA1-1:</b> Use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions.</p> <p><b>NA1-4:</b> Communicate and explain counting, grouping, and equal sharing strategies, using words, numbers, and pictures.</p> <p><b>NA2-1:</b> Use simple additive strategies with whole numbers and fractions.</p> <p><b>NA2-5:</b> Know simple fractions in everyday use.</p> <p><b>NA2-6:</b> Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols.</p> <p><b>NA3-1:</b> Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages.</p>
<p><b>Whāinga Ako</b></p> <p><i>Learning Outcomes</i></p>	<ul style="list-style-type: none"> <li>• Find fractions of a set.</li> </ul>
<p><b>Reo Matatini Pāngarau</b></p> <p><i>Mathematical Language</i></p>	<p>Whole, half, halves, fourths, quarters, eighths, fraction, share, fair, divide.</p>
<p><b>Tohatoha Whakaaro/Wā Hononga</b></p> <p><i>Sharing back/ Connect</i></p>	<p>Select students who develop a representation and share the M &amp; Ms equally in chunks or by using division. If no students use division, then model as another way the teacher has seen used previously.</p> <p><b>Connect:</b> You have a bag of lollies, and you share them equally with your friend. If you have 8 lollies in the bag how many do you each get?</p> <p>Record as:  <math>\frac{1}{2}</math> of 8 = 4  <math>8 \div 2 = 4</math></p> <p>You have a bag of lollies, and you share them equally with your friend. If you have 20 lollies in the bag how many do you each get?</p> <p>Record as:  <math>\frac{1}{2}</math> of 20 = 10  <math>20 \div 2 = 10</math></p> <p>What do you notice?</p>

<p><b>Kōrero Tautoko</b></p> <p><i>Teacher Notes</i></p>	<ul style="list-style-type: none"> <li>• During the launch, ensure that you reinforce that the set of M and Ms are one whole as part of developing the context. Model the representation of the cake as a rectangle.</li> <li>• Have counters available to represent the M &amp; Ms or facilitate the students to draw these.</li> <li>• Facilitate the students to notice that they are finding a fraction of a whole even when there are a number of items in that set. Also, draw attention to the denominator as naming what the whole is divided into.</li> </ul>
<p><b>Ngohe whakaharatau</b></p> <p><i>Independent Tasks</i></p>	<p>10 ngā māpere i tētahi pēke. He kahurangi tētahi hawhe. E hia ngā māpere kahurangi?</p> <p>24 ngā māpere i tētahi pēke. He kahurangi tētahi hawhe. E hia ngā māpere kahurangi?</p> <p>30 ngā māpere i tētahi pēke. He kahurangi tētahi hawhe. E hia ngā māpere kahurangi?</p> <p>12 ngā māpere i tētahi pēke. He whero i tētahi hauwha. E hia ngā māpere whero?</p> <p>20 ngā māpere i tētahi pēke. He whero i tētahi hauwha. E hia ngā māpere whero?</p> <p>28 ngā māpere i tētahi pēke. He whero i tētahi hauwha. E hia ngā māpere whero?</p>
<p><b>Ngā matapae</b></p> <p><i>Anticipations</i></p>	

--	--

<p><b>Rapanga 10</b></p>	<p>Kei te tākaro tahi a mere rāua ko Harmony i ā rāua motoka. I whakarite e toru ngā whare motoka. 12 ngā motoka. Ka whakawehe ngā motoka ki ngā whare e 3. He aha te hautanga o ngā motoka i ngā whare motoka? E hia ngā motoka ki ia whare motoka?</p> <p>Kei te tākaro tahi a mere rāua ko Harmony i ā rāua motoka. I whakarite e toru ngā whare motoka. 16 ngā motoka. Ka whakawehe ngā motoka ki ngā whare e 4. He aha te hautanga o ngā motoka i ngā whare motoka? E hia ngā motoka ki ia whare motoka?</p> <p>Kei te tākaro tahi a mere rāua ko Harmony i ā rāua motoka. I whakarite e toru ngā whare motoka. 30 ngā motoka. Ka whakawehe ngā motoka ki ngā whare e 3. He aha te hautanga o ngā motoka i ngā whare motoka? E hia ngā motoka ki ia whare motoka?</p>
<p><b>Whakaaro Matua Pāngarau</b></p> <p><i>Big Ideas</i></p>	<p>Numbers can be described in many different ways including as fractions. The whole is important in naming fractions. A fraction is relative to the size of the whole or unit A comparison of a part to the whole can be represented using a fraction. A fraction describes the division of a whole (region, set, segment) into equal parts. The bottom number in a fraction tells how many equal parts the whole or unit is divided into. The top number tells how many equal parts are indicated. A fraction describes division (<math>\frac{a}{b} = a \div b</math>, a &amp; b are integers &amp; b - 0), and it can be interpreted on the number line in two ways. For example, <math>\frac{2}{3} = 2 \div 3</math>. On the number line, <math>2 \div 3</math> can be interpreted as 2 segments where each is <math>\frac{1}{3}</math> of a unit (<math>2 \times \frac{1}{3}</math>) or <math>\frac{1}{3}</math> of 2 whole units (<math>\frac{1}{3} \times 2</math>); each is associated with the same point on the number line Each fraction can be associated with a unique point on a numberline. There is no least or greatest fraction on the number line.</p>

<p><b>Hononga ki te Marau</b></p>	<p>Ka mōhio ki ngā hautau māmā, pērā i ngā haurua me ngā hauwhā:</p> <ul style="list-style-type: none"> <li>○ te tuhi i ngā tohu hautau</li> <li>○ te tikanga o te taurunga me te tauraro o tētahi hautau māmā</li> <li>○ te raupapa hautau māmā</li> <li>○ te whakatauiria i te hautau (pērā i te hurihanga 3/2)</li> </ul>
<p><b>Hononga Marautanga</b></p> <p><i>Curriculum Links</i></p>	<p><b>NA1-1:</b> Use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions.</p> <p><b>NA1-4:</b> Communicate and explain counting, grouping, and equal sharing strategies, using words, numbers, and pictures.</p> <p><b>NA2-1:</b> Use simple additive strategies with whole numbers and fractions.</p> <p><b>NA2-5:</b> Know simple fractions in everyday use.</p> <p><b>NA2-6:</b> Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols.</p> <p><b>NA3-1:</b> Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages.</p>
<p><b>Whāinga Ako</b></p> <p><i>Learning Outcomes</i></p>	<ul style="list-style-type: none"> <li>• Find fractions of a set.</li> <li>• Make links between finding a fraction of a set and division.</li> </ul>
<p><b>Reo Matatini Pāngarau</b></p> <p><i>Mathematical Language</i></p>	<p>Whole, thirds, fourths, quarters, divide.</p>
<p><b>Tohatoha Whakaaro/Wā Hononga</b></p> <p><i>Sharing back/ Connect</i></p>	<p>Select students who develop a representation and:</p> <p>Share the cars equally in chunks or by using division. If no students use division, then model as another way the teacher has seen used previously.</p> <p><b>Connect:</b>          What is a third of 9?          Record as:  <math>\frac{1}{3}</math> of 9 = 3  <math>9 \div 3 = 3</math></p> <p>What is a third of 90?          Record as:  <math>\frac{1}{3}</math> of 90 = 30  <math>90 \div 3 = 30</math></p> <p>What is a quarter of 20?          Record as:  <math>\frac{1}{4}</math> of 20 = 5  <math>20 \div 4 = 5</math></p>



	<p>What is a quarter of 200?  Record as:  <math>\frac{1}{4}</math> of 200 = 50  <math>200 \div 4 = 50</math></p> <p>What patterns and relationships do you notice?</p>
<p><b>Kōrero Tautoko</b>   <i>Teacher Notes</i></p>	<ul style="list-style-type: none"> <li>• During the launch, ensure that you reinforce that the set of cars are one whole as part of developing the context.</li> <li>• Have counters available to represent the cars.</li> <li>• Facilitate the students to notice that they are finding a fraction of a whole even when there are a number of items in that set. Also, draw attention to the denominator as naming what the whole is divided into.</li> </ul>
<p><b>Ngohe whakaharatau</b>   <i>Independent Tasks</i></p>	<p>Hangaia e toru ngā pāraoa mā te pāraoa pokepoke. Tohaina ngā pāraoa ki ngā tangata e 5.</p> <p>He aha ou kitenga?</p> <p>Tuhia ou whakaaro me te whakamārama e hia ngā wāhanga ka whiwhi ia tangata.</p> <p>Hangaia e 4 ngā pāraoa mā te pāraoa pokepoke. Tohaina ngā pāraoa ki ngā tangata e 5.</p> <p>He aha ou kitenga?</p> <p>Tuhia ou whakaaro me te whakamārama e hia ngā wāhanga ka whiwhi ia tangata.</p> <p>Hangaia e 6 ngā pāraoa mā te pāraoa pokepoke. Tohaina ngā pāraoa ki ngā tangata e 5.</p> <p>He aha ou kitenga?</p> <p>Tuhia ou whakaaro me te whakamārama e hia ngā wāhanga ka whiwhi ia tangata.</p>
<p><b>Ngā matapae</b>   <i>Anticipations</i></p>	

--	--

<p><b>Rapanga 11</b> <b>(Optional task)</b></p>	<p>Titiro ki ēnei hautanga. Tohua ko tehea te hautanga nui ake me te hautanga iti iho. Me taunakihia ou whakaaro kia rua ngā whakaaro (tā, rārangi tau hoki).</p> $\frac{1}{2} \quad \frac{1}{4} \qquad \qquad \frac{1}{8} \quad \frac{1}{4}$ $\frac{1}{3} \quad \frac{1}{2} \qquad \qquad \frac{1}{2} \quad \frac{3}{4}$ $\frac{3}{4} \quad \frac{2}{2} \qquad \qquad \frac{4}{4} \quad \frac{4}{3}$ $\frac{2}{4} \quad \frac{3}{3} \qquad \qquad \frac{3}{2} \quad \frac{3}{4}$ $1\frac{1}{2} \quad 1\frac{1}{4} \qquad \qquad 2\frac{3}{4} \quad 2\frac{7}{8}$
<p><b>Whakaaro Matua Pāngarau</b>  <i>Big Ideas</i></p>	<p>Numbers can be described in many different ways including as fractions.</p> <p>The whole is important in naming fractions. A fraction is relative to the size of the whole or unit</p> <p>A comparison of a part to the whole can be represented using a fraction.</p> <p>A fraction describes the division of a whole (region, set, segment) into equal parts.</p> <p>The bottom number in a fraction tells how many equal parts the whole or unit is divided into. The top number tells how many equal parts are indicated.</p> <p>A fraction describes division (<math>\frac{a}{b} = a \div b</math>, a &amp; b are integers &amp; b - 0), and it can be interpreted on the number line in two ways. For example, <math>\frac{2}{3} = 2 \div 3</math>. On the number line, <math>2 \div 3</math> can be interpreted as 2 segments where each is <math>\frac{1}{3}</math> of a unit (<math>2 \times \frac{1}{3}</math>) or <math>\frac{1}{3}</math> of 2 whole units (<math>\frac{1}{3} \times 2</math>); each is associated with the same point on the number line</p> <p>Each fraction can be associated with a unique point on a numberline.</p> <p>There is no least or greatest fraction on the number line.</p>

<p><b>Hononga ki te Marau</b></p>	<p>Ka mōhio ki ngā hautau māmā, pērā i ngā haurua me ngā hauwhā:</p> <ul style="list-style-type: none"> <li>○ te tuhi i ngā tohu hautau</li> <li>○ te tikanga o te taurunga me te tauraro o tētahi hautau māmā</li> <li>○ te raupapa hautau māmā</li> <li>○ te whakatauiria i te hautau (pērā i te hurihanga 3/2)</li> </ul>
<p><b>Hononga Marautanga</b></p> <p><i>Curriculum Links</i></p>	<p><b>NA1-1:</b> Use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions.</p> <p><b>NA1-4:</b> Communicate and explain counting, grouping, and equal sharing strategies, using words, numbers, and pictures.</p> <p><b>NA2-1:</b> Use simple additive strategies with whole numbers and fractions.</p> <p><b>NA2-5:</b> Know simple fractions in everyday use.</p> <p><b>NA2-6:</b> Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols.</p> <p><b>NA3-1:</b> Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages.</p>
<p><b>Whāinga Ako</b></p> <p><i>Learning Outcomes</i></p>	<ul style="list-style-type: none"> <li>• Recognise unit fractions.</li> <li>• Compare unit fractions.</li> <li>• Identify equivalent fractions.</li> </ul>
<p><b>Reo Matatini Pāngarau</b></p> <p><i>Mathematical Language</i></p>	<p>Whole, half, halves, thirds, fourths, quarters, eighths, fraction, same as, equal, more than, less than, numerator, denominator</p>
<p><b>Tohatoha Whakaaro/Wā Hononga</b></p> <p><i>Sharing back/ Connect</i></p>	<p>Select students to share who have used two different representations to justify their reasoning.</p> <p><b>Connect:</b> Put these numbers in order from smallest to biggest</p> $\frac{1}{2}, \frac{3}{3}, \frac{1}{3}, \frac{1}{4}, \frac{2}{3}, \frac{3}{4}$
<p><b>Kōrero Tautoko</b></p> <p><i>Teacher Notes</i></p>	<ul style="list-style-type: none"> <li>• Facilitate the students to notice the relationship between the numerator and denominator.</li> <li>• Notice students who use the language of justification and draw on equal lengths as representations of the whole as justification.</li> <li>• Expect students to represent using concrete means including both drawings and a number-line.</li> </ul>

<p><b>Ngohe whakaharatau</b></p> <p><i>Independent Tasks</i></p>	<p>I kai a Mere i tētahi hauwha o tētahi rare, i kai a Mara e rua hauwaru o taua rare. Ko wai i kai te nuinga? He aha ai?</p> <p>I kai a Mere i tētahi haurua o tētahi rare, i kai a Mara e toru hauwaru o taua rare. Ko wai i kai te nuinga? He aha ai?</p> <p>I kai a Moana i tētahi haurua o tētahi rare, i kai a Mara e whā hauwaru o taua rare. Ko wai i kai te nuinga? He aha ai?</p> <p>Nā, tuhia tau ake rapanga hautanga , ā, pātai atu ki tētahi hoa ki te whakautu.</p>
<p><b>Ngā matapae</b></p> <p><i>Anticipations</i></p>	

<p><b>Rapanga 12</b> <b>(Optional task)</b></p>	<p>Tokorua ngā tamariki i te whānau o Teremoana. Ka hoatu te Māmā he hawhe panana ki a rāua. E hia ngā panana ka hoatu te Māmā?</p> <p>Tokowhā ngā tamariki i te whānau o Teremoana. Ka hoatu te Māmā he hawhe panana ki a rāua. E hia ngā panana ka hoatu te Māmā?</p> <p>Tokoono ngā tamariki i te whānau o Teremoana. Ka hoatu te Māmā he hawhe panana ki a rāua. E hia ngā panana ka hoatu te Māmā?</p> <p>Tokowhitu ngā tamariki i te whānau o Teremoana. Ka hoatu te Māmā he hawhe panana ki a rāua. E hia ngā panana ka hoatu te Māmā?</p>
<p><b>Whakaaro</b> <b>Matua</b> <b>Pāngarau</b></p> <p><i>Big Ideas</i></p>	<p>Numbers can be described in many different ways including as fractions.</p> <p>The whole is important in naming fractions. A fraction is relative to the size of the whole or unit</p> <p>A comparison of a part to the whole can be represented using a fraction.</p> <p>A fraction describes the division of a whole (region, set, segment) into equal parts.</p> <p>The bottom number in a fraction tells how many equal parts the whole or unit is divided into. The top number tells how many equal parts are indicated.</p> <p>A fraction describes division (<math>\frac{a}{b} = a \div b</math>, a &amp; b are integers &amp; b - 0), and it can be interpreted on the number line in two ways. For example, <math>\frac{2}{3} = 2 \div 3</math>. On the number line, <math>2 \div 3</math> can be interpreted as 2 segments where each is <math>\frac{1}{3}</math> of a unit (<math>2 \times \frac{1}{3}</math>) or <math>\frac{1}{3}</math> of 2 whole units (<math>\frac{1}{3} \times 2</math>); each is associated with the same point on the number line</p> <p>Each fraction can be associated with a unique point on a numberline.</p> <p>There is no least or greatest fraction on the number line.</p>
<p><b>Hononga ki te Marau</b></p>	<p>Ka mōhio ki ngā hautau māmā, pērā i ngā haurua me ngā hauwhā:</p> <ul style="list-style-type: none"> <li>○ te tuhi i ngā tohu hautau</li> <li>○ te tikanga o te taurunga me te tauraro o tētahi hautau māmā</li> <li>○ te raupapa hautau māmā</li> <li>○ te whakatauiria i te hautau (pērā i te hurihanga 3/2)</li> </ul>

<p><b>Hononga Marautanga</b></p> <p><i>Curriculum Links</i></p>	<p><b>NA1-1:</b> Use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions.</p> <p><b>NA1-4:</b> Communicate and explain counting, grouping, and equal sharing strategies, using words, numbers, and pictures.</p> <p><b>NA2-1:</b> Use simple additive strategies with whole numbers and fractions.</p> <p><b>NA2-5:</b> Know simple fractions in everyday use.</p> <p><b>NA2-6:</b> Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols.</p> <p><b>NA3-1:</b> Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages.</p>
<p><b>Whāinga Ako</b></p> <p><i>Learning Outcomes</i></p>	<ul style="list-style-type: none"> <li>• Identify how many halves make one whole.</li> <li>• Add or count fractional parts.</li> <li>• Multiply a fraction by a whole number.</li> </ul>
<p><b>Reo Matatini Pāngarau</b></p> <p><i>Mathematical Language</i></p>	<p>Whole, half, halves, equal.</p>
<p><b>Tohatoha Whakaaro/Wā Hononga</b></p> <p><i>Sharing back/ Connect</i></p>	<p>Select students to share who either add all the halves and get four halves and change this to two whole bananas (<math>\frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} = \frac{4}{2} = 2</math>) or add the halves to one whole (<math>\frac{1}{2} + \frac{1}{2} = 1, \frac{1}{2} + \frac{1}{2} = 1, 1 + 1 = 2</math>) or multiply (<math>4 \times \frac{1}{2} = 2</math>). If either of the addition solutions is not used, then model as another way the teacher has seen used previously.</p> <p><b>Connect:</b></p> <p>What if Monica’s mother had given the two children <math>1\frac{1}{2}</math> bananas each?</p> <p>What if Monica’s mother had given the two children <math>\frac{2}{4}</math> bananas each?</p>
<p><b>Kōrero Tautoko</b></p> <p><i>Teacher Notes</i></p>	<ul style="list-style-type: none"> <li>• Facilitate the students to notice that there are multiples of the fractional number which they can add or multiply.</li> <li>• Expect students to represent using drawings or fraction pieces to represent parts of the whole.</li> <li>• For the independent task, you will need the worksheet.</li> </ul>
<p><b>Ngohe whakaharatau</b></p> <p><i>Independent Tasks</i></p>	<p>Tokowhā ngā tamariki i te whānau o Teremoana. Ka hoatu te Māmā he hauwhā panana ki a rāua. E hia ngā panana ka hoatu te Māmā?</p> <p>Tokowaru ngā tamariki i te whānau o Teremoana. Ka hoatu te Māmā he hauwhā panana ki a rāua. E hia ngā panana ka hoatu te Māmā?</p> <p>Tekau ngā tamariki i te whānau o Teremoana. Ka hoatu te Māmā he hauwhā panana ki a rāua. E hia ngā panana ka hoatu te Māmā?</p>

**Ngā matapae**

*Anticipations*