HANGAIA TE URUPOUNAMU MŌ TĀTOU

HAUTANGA

Taumata 2 (Tau 4)

Teacher Booklet

ODD YEARS

Rapanga 1	Whakamahia te rauemi hautanga kia hanga te kōtahi ki ngā taputapu hautanga rerekē. Tuhia me te tā to whakaturanga. Me whakamārama me te taunakihia ngā take ka hanga ngā wāhanga ki te kōtahi. Whakamahia te rauemi hautanga kia hanga tata ki te kōtahi ki ngā taputapu hautanga rerekē. Tuhia me te tā to whakaturanga. Me whakamārama me te taunakihia ngā take ka hanga ngā wāhanga e tata ana ki te kōtahi. Whakamahia te rauemi hautanga kia hanga nui ake i te kōtahi ki ngā taputapu hautanga rerekē. Tuhia me te tā to whakaturanga. Me whakamārama me te taunakihia ngā take ka hanga ngā wāhanga nui ake i te kōtahi
Whakaaro Matua Pāngarau ***Big Ideas***	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.
Hononga ki te Marau	Ka mohio ki nga hautau, pera i nga haurua, nga hautoru, nga hauwha, nga haurima me nga hautekau: - te tuhi i nga tohu hautau, te tikanga o te taurunga me te tauraro o tetahi hautau. Te raupapa hautau mama me nga hautau e orite ana te tauraro. Ka whakaoti rapanga e whai wahi mai ana te tauoti me te hautau, ka whakamarama hoki i te: • rautaki tatau; • rautaki whakaropu; • rautaki tohatoha orite; • rautaki wawahi tau tapiripiri mama. Ka marama ki te whaitakenga o te otinga o tetahi rapanga.
Hononga Marautanga ***Curriculum Links***	**NA2-1:** Use simple additive strategies with whole numbers and fractions. **NA2-5:** Know simple fractions in everyday use. **NA2-6:** Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols.
Whāinga Ako ***Learning Outcomes***	• Combine and recombine different units of fractions to make one whole. • Identify and recognise equivalent fractions.

Reo Matatini Pāngarau ***Mathematical Language***	Whole, half, halves, quarters, fourths, sixths, fraction, fractional number, whole number, eighths, equal, equivalent.
Tohatoha Whakaaro/Wā Hononga ***Sharing back/ Connect***	Select students to share who made combinations of the whole or other fractions using the same size pieces (halves, quarters, eighths) and recorded the combinations as numbers, equations, or words. Then, select students to share who made combinations of the whole using the unlike fraction pieces (e.g., $\frac{1}{2}+\frac{1}{4}+\frac{1}{4}=1$) and recorded the combinations as numbers, equations or words. If no students did this, then introduce as an alternative solution that students previously shared. **Connect:** What is $\frac{2}{2}$ the same as? What is $\frac{4}{4}$ the same as? What is $\frac{8}{8}$ the same as? What patterns and relationships do you notice? What other fractional numbers are the same as one whole? [Encourage students to record using equals sign $\frac{2}{2}=\frac{5}{5}=\frac{100}{100}$] What is a rule for fractions that equal one whole? [Record conjectures and symbolise as $\frac{n}{n}$].
Kōrero Tautoko ***Teacher Notes***	• Have fraction pieces for the whole, quarters, halves and introduce sixths and eighths at the second task. • Monitor for students using the words fractional numbers (not pieces or bits). • Notice students who make generalisations (e.g., the smaller the denominator the bigger the fraction when the numerator is one). Record these as class conjectures and have students explore and prove at a later date as a warm-up activity. • Expect students to represent materials and use appropriate notation and the equal sign ($\frac{2}{2}=1$). • For the independent task, you will need fraction tile sets.

Ngohe whakaharatau ***Independent Tasks***	E hia ngā momo tapahinga o ēnei tapawhā kia haurutia? ☐ ☐ ☐ ☐ E hia ngā momo tapahinga o ēnei tapawhā ki hauwhatia? ☐ ☐ ☐ ☐
Ngā matapae ***Anticipations***	

Rapanga 2	Whakamahia te rauemi hautanga kia hanga te kōtahi iti iho ki ngā taputapu hautanga rerekē. Tuhia me te tā tō whakaaturanga. Me whakamārama me te taunakihia ngā take ka hanga ngā wāhanga ki te kōtahi iti iho. Whakamahia te rauemi hautanga kia hanga he mea e orite ana ki te haurua 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. Whakamahia te rauemi hautanga kia hanga ngā hautanga nui ake ite haurua ki ngā taputapu hautanga rerekē. Tuhia me te tā tō whakaaturanga. Me whakamārama me te taunakihia ngā take ka hanga ngā hautanga nui ake i te haurua. Whakamahia te rauemi hautanga kia hanga he mea nui ake i te haurua engari he iti iho i te kōtahi mā ngā taputapu hautanga rerekē. Tuhia me te tā to whakaaturanga. Me whakamārama me te taunakihia ngā take ka hanga ngā hautau nui ake ite haurua engari he iti iho i te kōtahi. Whakamahia te rauemi hautanga kia hanga nui ake ite kōtahi engari he iti iho i te rua mā ngā taputapu hautanga rerekē. Tuhia me te tā tō whakaaturanga. Me whakamārama me te taunakihia ngā take ka hanga ngā wāhanga ki te kōtahi iti iho.
Whakaaro Matua Pāngarau ***Big Ideas***	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.
Hononga ki te Marau	Ka mohio ki nga hautau, pera i nga haurua, nga hautoru, nga hauwha, nga haurima me nga hautekau: - te tuhi i nga tohu hautau, te tikanga o te taurunga me te tauraro o tetahi hautau. Te raupapa hautau mama me nga hautau e orite ana te tauraro. Ka whakaoti rapanga e whai wahi mai ana te tauoti me te hautau, ka whakamarama hoki i te: • rautaki tatau; • rautaki whakaropu; • rautaki tohatoha orite; • rautaki wawahi tau tapiripiri mama. Ka marama ki te whaitakenga o te otinga o tetahi rapanga.

Hononga Marautanga ***Curriculum Links***	**NA2-1:** Use simple additive strategies with whole numbers and fractions. **NA2-5:** Know simple fractions in everyday use. **NA2-6:** Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols.
Whāinga Ako ***Learning Outcomes***	• Combine and recombine different units of fractions to make one whole.
Reo Matatini Pāngarau ***Mathematical Language***	Whole, half, halves, quarters, fourths, thirds, sixths, fraction, fractional number, whole number, eighths, equal, equivalent, numerator, denominator.
Tohatoha Whakaaro/Wā Hononga ***Sharing back/ Connect***	Select students to share who made combinations of fractions using the same size pieces (halves, thirds, quarters, sixths, eighths) and recorded the combinations as numbers, equations, or words. Then, select students to share who made combinations using the unlike fraction pieces (e.g., $\frac{1}{2}$ and $\frac{1}{3}$ is more than $\frac{1}{2}$ but less than one whole) and recorded the combinations as numbers, equations or words. If no students did this, then introduce as an alternative solution that students previously shared. **Connect:** Use your fraction tiles to find and record fractions that are the same as one half. What other fractions do you know that are the same as one half? What patterns and relationships do you notice? What is a rule for fractions that are equivalent to one half? [e.g., the numerator has to be half of the denominator]
Kōrero Tautoko ***Teacher Notes***	• Have fraction pieces for the whole, quarters, halves, sixths, eighths and thirds. • Facilitate the students to notice that the numerator names the numbers of pieces of the whole and the denominator names the number of pieces the whole has been divided into. • Monitor for students using the words fractional numbers (not pieces or bits) and justifying their statements using fraction pieces and notation. • For the independent activity, have fraction tiles for whole, halves, quarters, and thirds available.
Ngohe whakaharatau ***Independent Tasks***	Whakamahia te rauemi hautau kia hanga ētahi huinga hautau ki te kōtahi. Tā me te tuhi kia toru ngā momo tauira. Whakamahia te rauemi hautau kia hanga ētahi huinga hautau e tata ana ki te kōtahi. Tā me te tuhi kia toru ngā momo tauira. Whakamahia te rauemi hautau kia hanga ētahi huinga hautau nui ake i te kōtahi. Tā me te tuhi kia toru ngā momo tauira.

Ngā matapae ***Anticipations***	

Rapanga 3	He aha kei waenganui i te 0 me te 1? Tohua ngā tau i te papa mā te tēpa whakapiri. Me whakamārama, ā, me taunakihia. Tāngia i tau rarangi tau me te tohu ngā nama. Whakaatuhia e whā ngā nama i waenga i te 1-2. Tohua ēnei nama.
Whakaaro Matua Pāngarau ***Big Ideas***	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 ($\frac{a}{b}$ = a ÷ b, a & b are integers & b - 0), and it can be interpreted on the number line in two ways. For example, $\frac{2}{3} = 2 \div 3$. On the number line, $2 \div 3$ can be interpreted as 2 segments where each is $\frac{1}{3}$ of a unit ($2 \times \frac{1}{3}$) or $\frac{1}{3}$ of 2 whole units ($\frac{1}{3} \times 2$); each is associated with the same point on the number line. Each fraction can be associated with a unique point on a number-line. There are an infinite number of fractions between any two fractions on the number line.
Hononga ki te Marau	Ka mohio ki nga hautau, pera i nga haurua, nga hautoru, nga hauwha, nga haurima me nga hautekau: - te tuhi i nga tohu hautau, te tikanga o te taurunga me te tauraro o tetahi hautau. Te raupapa hautau mama me nga hautau e orite ana te tauraro. Ka whakaoti rapanga e whai wahi mai ana te tauoti me te hautau, ka whakamarama hoki i te: • rautaki tatau; • rautaki whakaropu; • rautaki tohatoha orite; • rautaki wawahi tau tapiripiri mama. Ka marama ki te whaitakenga o te otinga o tetahi rapanga.

Hononga Marautanga ***Curriculum Links***	**NA2-1:** Use simple additive strategies with whole numbers and fractions. **NA2-5:** Know simple fractions in everyday use. **NA2-6:** Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols.
Whāinga Ako ***Learning Outcomes***	• Show fractions on a number-line.
Reo Matatini Pāngarau ***Mathematical Language***	Whole, half, halves, quarters, fourths, thirds, sixths, eighths, counting numbers, mixed numbers.
Tohatoha Whakaaro/Wā Hononga ***Sharing back/ Connect***	Select students to share who are able to show in multiple ways equal parts which represent a range of different fractional numbers on the large number-line and then students who can visualise and draw number-lines and mark the positions of fractions between 0 and 1 and 1 and 2. **Connect:** What mathematical statements using mixed numbers can you make using the number-line for numbers between 3 and 4? Use the equals sign (=) or greater than or less than (> and <) signs. I will give you an example to start: $3\frac{1}{2}$ is less than $3\frac{3}{4}$ [record as $3\frac{1}{2} < 3\frac{3}{4}$].
Kōrero Tautoko ***Teacher Notes***	• During the launch ask the students whether there are numbers between whole numbers? Lead into a discussion of situations where they have met a half (e.g., a baby before they are one, halfway between their own birthdays, half hour on a clock, half an apple). Extend discussion to other situations using other fractions. • Have an unmarked number line on the whiteboard to use during the lesson. Use this during the launch to estimate where the fraction is that they describe. • Have an unmarked length of paper tape across the floor and large marked fraction cards with whole number words and fraction words and symbols. • Facilitate the students to notice that earlier in the year, the number lines 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., 3 ½) as mixed numbers. • Monitor for students using vocabulary which emphasises dividing or splitting equally or portioning into equal parts. • 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…)

	• For the independent task, have on A3 a series of number lines marked with whole numbers from 0 to 10.
Ngohe whakaharatau ***Independent Tasks***	Tohua i te rārangi tau kei hea ēnei tau hanumi. $\frac{1}{2}$ $\frac{1}{4}$ $9\frac{1}{8}$ $5\frac{2}{4}$ $4\frac{1}{2}$ $4\frac{3}{4}$ $7\frac{2}{4}$ $8\frac{1}{2}$ $\frac{6}{8}$ $3\frac{4}{8}$ $9\frac{1}{2}$ $2\frac{1}{4}$ Tohua ētahi atu nama i te rārangi tau.
Ngā matapae ***Anticipations***	

Rapanga 4	I tētahi mākete e āhei ana koe ki te hoko tētahi pouaka poke panana he tapawhāroa te āhua o te pouaka. He orite te āhua o ngā pouaka katoa. Tokotoru ngā tamariki i te whānau o Nooroa e toha ana i tētahi pouaka poke panana. Tokowaru ngā tamariki ei te whānau o Hone e toha ana i tētahi pouaka poke panana. Tokoono ngā tamariki i te whānau o Rangi e toha ana i tētahi pouaka poke panana. Tokowhā ngā tamariki i te whānau o Matene e toha ana i tētahi pouaka poke panana. Tokorima ngā tamariki i te whānau o Pihama e toha ana i tētahi pouaka poke panana. Kei a wai te maha o te poke panana? Taunakihia me te whakamārama ou whakautu mā ngā tauira e toru pēnei i te rarangi tau, i te pikitia, i te tauira hautanga hoki.
Whakaaro Matua Pāngarau ***Big Ideas***	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 ($\frac{a}{b}$ = a ÷ b, a & b are integers & b - 0), and it can be interpreted on the number line in two ways. For example, $\frac{2}{3} = 2 \div 3$. On the number line, 2 ÷ 3 can be interpreted as 2 segments where each is $\frac{1}{3}$ of a unit (2 x $\frac{1}{3}$) or $\frac{1}{3}$ of 2 whole units ($\frac{1}{3}$ x 2); each is associated with the same point on the number line. Each fraction can be associated with a unique point on a number-line. There are an infinite number of fractions between any two fractions on the number line.

Hononga ki te Marau	Ka mohio ki nga hautau, pera i nga haurua, nga hautoru, nga hauwha, nga haurima me nga hautekau: - te tuhi i nga tohu hautau, te tikanga o te taurunga me te tauraro o tetahi hautau. Te raupapa hautau mama me nga hautau e orite ana te tauraro. Ka whakaoti rapanga e whai wahi mai ana te tauoti me te hautau, ka whakamarama hoki i te: • rautaki tatau; • rautaki whakaropu; • rautaki tohatoha orite; • rautaki wawahi tau tapiripiri mama. Ka marama ki te whaitakenga o te otinga o tetahi rapanga.
Hononga Marautanga ***Curriculum Links***	**NA2-1**: Use simple additive strategies with whole numbers and fractions. **NA2-5:** Know simple fractions in everyday use. **NA2-6:** Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols.
Whāinga Ako ***Learning Outcomes***	• Divide wholes into equal parts. • Divide a whole number into fractions. • Compare and order unit fractions.
Reo Matatini Pāngarau ***Mathematical Language***	Whole, half, halves, quarters, fourths, thirds, sixths, equal, equivalent, fair share, denominator, numerator.
Tohatoha Whakaaro/Wā Hononga ***Sharing back/ Connect***	Select students to share who have developed multiple representations including numbers, number-line, and drawings and use these to show comparisons between the different fractions. **Connect:** Record the solutions for the task: $1 \div 3 = \frac{1}{3}$ $1 \div 8 = \frac{1}{8}$ $1 \div 2 = \frac{1}{2}$ $1 \div 4 = \frac{1}{4}$ What patterns and relationships do you notice? What do you think would be the solution for? $1 \div 6 =$ $1 \div 20 =$ $1 \div A =$

Kōrero Tautoko ***Teacher Notes***	• During the launch, model the cake as a rectangular representation to ensure that the students use this as the representation. • Facilitate the students to notice that the denominator represents the number of pieces the whole has been divided into and the numerator shows the number of pieces that you have of the total. • Expect students to represent using number lines and identical rectangular representations
Ngohe whakaharatau ***Independent Tasks***	Raupapahia ēnei hautanga. 1. $\frac{1}{3}, \frac{1}{2}, \frac{1}{6}$ 2. $\frac{1}{10}, \frac{1}{5}, \frac{1}{2}, \frac{1}{20}$ 3. $\frac{1}{4}, \frac{1}{2}, \frac{1}{8}, \frac{1}{16}$ 4. $\frac{1}{4}, \frac{1}{10}, \frac{1}{3}, \frac{1}{2}, \frac{1}{8}, \frac{1}{20}$ Whakamahia ngā rauemi hautanga ki te tā tauira me te tuhi he rārangi tau kia whakamārama tō raupapatanga.
Ngā matapae ***Anticipations***	

Rapanga 5	Kei te tunu panikeke te Māmā o Mireka. Ka whakaaro a Mireka ko wai ngā tamaiti ka whiwhi te nuinga o ngā panikeke. Tokowaru ngā tamaiti e toha ana 10 ngā panikeke. Tokorua ngā tamaiti e toha ana e 3 ngā panikeke. Tokowhā ngā tamaiti e toha ana e 9 ngā panikeke. Tokorima ngā tamaiti e toha ana e 4 ngā panikeke. Me whakaatu ou whakamārama i ngā ara rerekē.
Whakaaro Matua Pāngarau ***Big Ideas***	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 ($\frac{a}{b}$ = a ÷ b, a & b are integers & b - 0), and it can be interpreted on the number line in two ways. For example, $\frac{2}{3} = 2 \div 3$. On the number line, 2 ÷ 3 can be interpreted as 2 segments where each is $\frac{1}{3}$ of a unit (2 x $\frac{1}{3}$) or $\frac{1}{3}$ of 2 whole units ($\frac{1}{3}$ x 2); each is associated with the same point on the number line. The real-world actions for addition and subtraction of whole numbers are the same for operations with fractions and decimals.
Hononga ki te Marau	Ka mohio ki nga hautau, pera i nga haurua, nga hautoru, nga hauwha, nga haurima me nga hautekau: - te tuhi i nga tohu hautau, te tikanga o te taurunga me te tauraro o tetahi hautau. Te raupapa hautau mama me nga hautau e orite ana te tauraro. Ka whakaoti rapanga e whai wahi mai ana te tauoti me te hautau, ka whakamarama hoki i te: • rautaki tatau; • rautaki whakaropu; • rautaki tohatoha orite; • rautaki wawahi tau tapiripiri mama. Ka marama ki te whaitakenga o te otinga o tetahi rapanga.

Hononga Marautanga ***Curriculum Links***	**NA2-1:** Use simple additive strategies with whole numbers and fractions. **NA2-5:** Know simple fractions in everyday use. **NA2-6:** Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols. **NA3-1:** Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages. **NA3-6:** Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality.
Whāinga Ako ***Learning Outcomes***	• Share whole parts equally. • Solve problems that involve dividing a whole number into a fraction.
Reo Matatini Pāngarau ***Mathematical Language***	Whole, half, halves, quarters, fourths, thirds, fraction, fractional number, whole number, eighths, equal, equivalent, section, piece, fair share
Tohatoha Whakaaro/Wā Hononga ***Sharing back/ Connect***	Select students to share who develop representations to justify their reasoning and either split all the pani popo into a fractional amount 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. Connect: Use the student solutions to ask students to record these as equivalent fractions with mixed numbers and improper fractions. Ask the students to represent 10 eighths in a drawing and then record as a fraction and a whole number and a fraction (e.g., $\frac{10}{8} = 1\frac{2}{8}$). Repeat for the different fractional amounts.
Kōrero Tautoko ***Teacher Notes***	• During the launch, model the pani popo as a rectangular representation. • Facilitate the students to notice the need to coordinate partitioning of the shared item with the number of sharers. This is the basis of students developing understanding of the multiplicative relationship of the numerator and denominator in a fraction. • Expect students to represent with drawings and ensure that they use the

Ngohe whakaharatau ***Independent Tasks***	Ānei ngā tapeke i tētahi whakataetae poiwhana. I whana a Ruby e 5 o te 6 o ngā piro. I whana a Rawiri e 2 o te 3 o ngā piro. I whana a Tonga e 3 o te 4 o ngā piro. I whana a Rawinia e 7 o te 8 o ngā piro. Rauapapahia ēnei mai te mea nui ake ki te mea iti iho.
Ngā matapae ***Anticipations***	

Rapanga 6	Kei te toha a Mahina i tana rare ki āna hoa e 5. He hauwha kei a Mahina me āna hoa. E hia ngā rare ā Mahina ki te toha? Kei te toha a Mahina i tana rare ki āna hoa e 8. He hautoru kei a Mahina me āna hoa. E hia ngā rare ā Mahina ki te toha? Kei te toha a Mahina i tana rare ki āna hoa e 9. E rua haurima kei a Mahina me āna hoa. E hia ngā rare ā Mahina ki te toha?
Whakaaro Matua Pāngarau ***Big Ideas***	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 ($\frac{a}{b}$ = a ÷ b, a & b are integers & b - 0), and it can be interpreted on the number line in two ways. For example, $\frac{2}{3} = 2 \div 3$. On the number line, $2 \div 3$ can be interpreted as 2 segments where each is $\frac{1}{3}$ of a unit ($2 \times \frac{1}{3}$) or $\frac{1}{3}$ of 2 whole units ($\frac{1}{3} \times 2$); each is associated with the same point on the number line.
Hononga ki te Marau	Ka mohio ki nga hautau, pera i nga haurua, nga hautoru, nga hauwha, nga haurima me nga hautekau: - te tuhi i nga tohu hautau, te tikanga o te taurunga me te tauraro o tetahi hautau. Te raupapa hautau mama me nga hautau e orite ana te tauraro. Ka whakaoti rapanga e whai wahi mai ana te tauoti me te hautau, ka whakamarama hoki i te: • rautaki tatau; • rautaki whakaropu; • rautaki tohatoha orite; • rautaki wawahi tau tapiripiri mama. Ka marama ki te whaitakenga o te otinga o tetahi rapanga.
Hononga Marautanga ***Curriculum Links***	**NA2-1:** Use simple additive strategies with whole numbers and fractions. **NA2-5:** Know simple fractions in everyday use. **NA2-6:** Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols. **NA3-1:** Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages. **NA3-6:** Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality.

Whāinga Ako ***Learning Outcomes***	• Add unit fractions. • Multiply a fraction by a whole number.
Reo Matatini Pāngarau ***Mathematical Language***	Whole, quarters, fourths, thirds, equivalent, numerator, denominator.
Tohatoha Whakaaro/Wā Hononga ***Sharing back/ Connect***	Select students who add all the fourths and get six fourths; or add the fourths and get six fourths and see this as equivalent to one whole and two fourths; or solve the problem as $6 \times \frac{1}{4} = 1\frac{2}{4}$ or $1\frac{1}{2}$. If either solution is not used, then model as another way the teacher has seen used previously. **Connect:** Record the solution for each task as below and ask the students what they notice: $\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}=6 \times \frac{1}{4}=\frac{6}{4}$ How would you record the following two situations: Mahini is sharing with 3 friends. She gives each friend $\frac{1}{2}$ of her red licorice twist. How many licorice twists does she have? Mahini is sharing with 6 friends. She gives each friend $\frac{1}{8}$ red licorice twist. How many licorice twists does she have? What patterns do you notice?
Kōrero Tautoko ***Teacher Notes***	• Facilitate the students to notice that there are multiples of the fractional number which they can add or multiply. • Expect students to represent using drawings, number-line or fraction pieces to represent parts of the whole and to use the fractional parts to make wholes.

Ngohe whakaharatau ***Independent Tasks***	Ko tēhea te hautanga nui ake? Ko tehea te hautanga eiti iho? $\frac{1}{2}, \frac{1}{4}$ $\quad\quad$ $\frac{1}{8}, \frac{1}{4}$ $\frac{1}{3}, \frac{1}{2}$ $\quad\quad$ $\frac{1}{2}, \frac{3}{4}$ $\frac{3}{4}, \frac{2}{2}$ $\quad\quad$ $\frac{4}{4}, \frac{4}{3}$ $\frac{2}{4}, \frac{3}{3}$ $\quad\quad$ $\frac{3}{2}, \frac{3}{4}$ $1\frac{1}{2}, 1\frac{1}{4}$ $\quad\quad$ $2\frac{3}{4}, 2\frac{7}{8}$ Tuhia ou whakamārama.
Ngā matapae ***Anticipations***	

Rapanga 7	Kei au e rua ngā kotinga poaka tote (ham).He hauwhā o tētahi kotinga poaka tote ki te hanga he hanuwiti. E hia ngā hanuwiti e āhei ana ki te hanga? Kei au e toru ngā kotinga poaka tote (ham).He hautoru o tētahi kotinga poaka tote ki te hanga he hanuwiti. E hia ngā hanuwiti e āhei ana ki te hanga? Kei au e rima ngā kotinga poaka tote (ham). E rua hautoru o ngā kotinga poaka tote ki te hanga he hanuwiti. E hia ngā hanuwiti e āhei ana ki te hanga?
Whakaaro Matua Pāngarau ***Big Ideas***	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. Different real-world interpretations can be associated with
Hononga ki te Marau	Ka mohio ki nga hautau, pera i nga haurua, nga hautoru, nga hauwha, nga haurima me nga hautekau: - te tuhi i nga tohu hautau, te tikanga o te taurunga me te tauraro o tetahi hautau. Te raupapa hautau mama me nga hautau e orite ana te tauraro. Ka whakaoti rapanga e whai wahi mai ana te tauoti me te hautau, ka whakamarama hoki i te: • rautaki tatau; • rautaki whakaropu; • rautaki tohatoha orite; • rautaki wawahi tau tapiripiri mama. Ka marama ki te whaitakenga o te otinga o tetahi rapanga.

Hononga Marautanga ***Curriculum Links***	**NA2-1:** Use simple additive strategies with whole numbers and fractions. **NA2-5:** Know simple fractions in everyday use. **NA2-6:** Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols. **NA3-1:** Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages. **NA3-5**: Know fractions and percentages in everyday use. **NA3-6:** Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality.
Whāinga Ako ***Learning Outcomes***	• Use repeated subtraction as division. • Solve problems that involve dividing a whole number by a fraction.
Reo Matatini Pāngarau ***Mathematical Language***	Whole, half, halves, quarters, fourths, thirds, fraction, fractional number, whole number, eighths, equal, equivalent, section, piece, fair share, counting numbers, mixed numbers, splitting, partitioning
Tohatoha Whakaaro/Wā Hononga ***Sharing back/ Connect***	Select students to who use measurement division (repeated subtraction as division, e.g., $2 - \frac{1}{4} - \frac{1}{4} - \frac{1}{4} - \frac{1}{4} - \frac{1}{4} - \frac{1}{4} - \frac{1}{4} - \frac{1}{4}$) or who use the inverse relationship of multiplication and division ($\frac{1}{4}$ x ? = 2) or ($\frac{1}{4} + \frac{1}{4} + \frac{1}{4} \ldots = 2$). If either solution is not used, then model as another way the teacher has seen used previously. **Connect:** Ask students to describe how you would solve the following problems using division and subtraction or multiplication (addition): I have 6 slices of ham. It takes one third of a slice of ham to make a snack. How many snacks can I make? I have 8 slices of ham. It takes two quarters of a slice of ham to make a snack. How many snacks can I make?
Kōrero Tautoko ***Teacher Notes***	• Facilitate the students to notice that there are multiples of the fractional number which they can divide, add or multiply. • Notice students who use relationships to solve these word problems. For example, most students will repeatedly add or subtract but notice the students who see the relationships as ‘ groups of’ in multiplicative ways. • Expect students to represent using drawings and notation.

Ngohe whakaharatau ***Independent Tasks***	E hia ngā haurua i: · Tētahi kotinga poaka tote · E rua ngā kotinga poaka tote · Tekau ngā kotinga poaka tote E hia ngā hauwhā i: · Tētahi kotinga poaka tote · E rua ngā kotinga poaka tote · E toru ngā kotinga poaka tote · Tekau ngā kotinga poaka tote E hia ngā hautoru i: · Tētahi kotinga poaka tote · E rua ngā kotinga poaka tote · E toru ngā kotinga poaka tote · Tekau ngā kotinga poaka tote He aha te tauira e kite ana koe? Na, tuhia tau ake rerenga tau e whakaatu ana i nga hautau me ngā kotinga poaka tote.
Ngā matapae ***Anticipations***	

Rapanga 8	I awhi a Ayla rāua ko Jack i ā rāua Māmā ki te peita i te whare. He peita tini karaka tā rāua. I mahia he haurua o te tini o Jack. I mahia e toru hauwha o te tini o Ayla. He aha te toenga o ngā tini peita karaka e rua? I awhi a Ayla rāua ko Jack i ā rāua Māmā ki te peita i te whare. He peita tini karaka tā rāua. I mahia e toru hauwaru o te tini o Jack. I mahia e toru hauwha o te tini o Ayla. He aha te toenga o ngā tini peita karaka e rua? I awhi a Ayla rāua ko Jack i ā rāua Māmā ki te peita i te whare. He peita tini karaka tā rāua. I mahia he haurua o te tini o Jack. I mahia e toru haurima o te tini o Ayla. He aha te toenga o ngā tini peita karaka e rua?
Whakaaro Matua Pāngarau ***Big Ideas***	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.
Hononga ki te Marau	Ka mohio ki nga hautau, pera i nga haurua, nga hautoru, nga hauwha, nga haurima me nga hautekau: - te tuhi i nga tohu hautau, te tikanga o te taurunga me te tauraro o tetahi hautau. Te raupapa hautau mama me nga hautau e orite ana te tauraro. Ka whakaoti rapanga e whai wahi mai ana te tauoti me te hautau, ka whakamarama hoki i te: • rautaki tatau; • rautaki whakaropu; • rautaki tohatoha orite; • rautaki wawahi tau tapiripiri mama. Ka marama ki te whaitakenga o te otinga o tetahi rapanga.

Hononga Marautanga ***Curriculum Links***	**NA2-1:** Use simple additive strategies with whole numbers and fractions. **NA2-5:** Know simple fractions in everyday use. **NA2-6:** Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols. **NA3-1:** Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages. **NA3-6:** Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality.
Whāinga Ako ***Learning Outcomes***	• Change fractions to equivalent fractions. • Solve problems that involve adding fractions.
Reo Matatini Pāngarau ***Mathematical Language***	Whole, half, halves, quarters, fourths, eighths, equal, equivalent.
Tohatoha Whakaaro/Wā Hononga ***Sharing back/ Connect***	Select students to share who converted fractions to equivalent fractions using informal methods with representations before they added the fractions. **Connect:** What are all the fractions that would be the same as $\frac{1}{4}$? What are all the fractions that would be the same as $\frac{3}{4}$? What patterns and relationships can you use to find equivalent fractions? Can you come up with a rule to change fractions but keep them equivalent.
Kōrero Tautoko ***Teacher Notes***	• Have concrete material available if needed for students to select (e.g., fraction tiles). • Facilitate the students to notice that to add fractions the denominators need to be the same • Monitor for students using vocabulary of equivalence and relational thinking. • Notice students who show relational understanding ($\frac{3}{4}$ as $\frac{1}{2}$ $+\frac{1}{4}$).
Ngohe whakaharatau ***Independent Tasks***	I awhi a Ayla rāua ko Jack i ā rāua Māmā ki te peita i te whare. He peita tini karaka tā rāua. I mahia he haurua o te tini o Jack. I mahia he hauwhā o te tini o Ayla. He aha te toenga o ngā tini peita karaka e rua?

	I awhi a Ayla rāua ko Jack i ā rāua Māmā ki te peita i te whare. He peita tini karaka tā rāua. I mahia he hauwhā o te tini o Jack. I mahia he hauwaru o te tini o Ayla. He aha te toenga o ngā tini peita karaka e rua? I awhi a Ayla rāua ko Jack i ā rāua Māmā ki te peita i te whare. He peita tini karaka tā rāua. I mahia he haurua o te tini o Jack. I mahia e toru hautoru o te tini o Ayla. He aha te toenga o ngā tini peita karaka e rua? I awhi a Ayla rāua ko Jack i ā rāua Māmā ki te peita i te whare. He peita tini karaka tā rāua. I mahia he hauono o te tini o Jack. I mahia e rua hautoru o te tini o Ayla. He aha te toenga o ngā tini peita karaka e rua?
Ngā matapae ***Anticipations***	

Rapanga 9	Ka rākei koe tō kēkē huritau ki ngā rare tiakereti M&M 20. Ka tapahi te kēkē kia hauwha ngā wāhanga me te toha ngā rare tiakereti M&M. E hia ngā M&M ki ia wāhanga? Ka rākei koe tō kēkē huritau ki ngā rare tiakereti M&M 18. Ka tapahi te kēkē kia hautoru ngā wāhanga me te toha ngā rare tiakereti M&M. E hia ngā M&M ki ia wāhanga? Ka rākei koe tō kēkē huritau ki ngā rare tiakereti M&M 40. Ka tapahi te kēkē kia haurima ngā wāhanga me te toha ngā rare tiakereti M&M. E hia ngā M&M ki ia wāhanga?
Whakaaro Matua Pāngarau ***Big Ideas***	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 ($\frac{a}{b}$ = a ÷ b, a & b are integers & b - 0), and it can be interpreted on the number line in two ways. For example, $\frac{2}{3} = 2 \div 3$. On the number line, $2 \div 3$ can be interpreted as 2 segments where each is $\frac{1}{3}$ of a unit (2 x $\frac{1}{3}$) or $\frac{1}{3}$ of 2 whole units ($\frac{1}{3}$ x 2); each is associated with the same point on the number line.
Hononga ki te Marau	Ka mohio ki nga hautau, pera i nga haurua, nga hautoru, nga hauwha, nga haurima me nga hautekau: - te tuhi i nga tohu hautau, te tikanga o te taurunga me te tauraro o tetahi hautau. Te raupapa hautau mama me nga hautau e orite ana te tauraro. Ka whakaoti rapanga e whai wahi mai ana te tauoti me te hautau, ka whakamarama hoki i te: • rautaki tatau; • rautaki whakaropu; • rautaki tohatoha orite; • rautaki wawahi tau tapiripiri mama. Ka marama ki te whaitakenga o te otinga o tetahi rapanga.

Hononga Marautanga ***Curriculum Links***	**NA2-1:** Use simple additive strategies with whole numbers and fractions. **NA2-5:** Know simple fractions in everyday use. **NA2-6:** Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols. **NA3-1:** Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages.
Whāinga Ako ***Learning Outcomes***	• Find fractions of a set
Reo Matatini Pāngarau ***Mathematical Language***	Whole, quarters, fourths, thirds, fifths, section, piece, fair share, divide.
Tohatoha Whakaaro/Wā Hononga ***Sharing back/ Connect***	Select students to share who have used a representation split into fraction parts and then have either used partitive division (e.g., 20 ÷ 4 = ?) or have used the inverse relationship and repeated addition or multiplication (e.g., 4 x ? = 20). If either solution is not used, then model as another way the teacher has seen used previously. **Connect:** Record the solution for each of the problems: $\frac{1}{4}$ of $20 = 5$ $\quad 20 \div 4 = 5$ $\frac{1}{3}$ of $18 = 6$ $\quad 18 \div 3 = 6$ $\frac{1}{5}$ of $40 = 8$ $\quad 40 \div 5 = 8$ What patterns and relationships do you notice? What is a rule for finding a fraction of a set?
Kōrero Tautoko ***Teacher Notes***	• During the launch, ensure that you reinforce that the set of lollies are one whole as part of developing the context. • Have concrete material available if needed for students to select (e.g., fraction tiles, strips of paper) and counters to represent the lollies. • 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.

Ngohe whakaharatau ***Independent Tasks***	12 ngā rare tāu. Ka toha koe ki tō hoa. He aha te hautanga? E hia ngā rare ka whiwhi kōrua? 24 ngā rare tāu. Ka toha koe ki ngā hoa e 3. He aha te hautanga? E hia ngā rare ka whiwhi koutou? He aha te hauwha o te 8? He aha te hauwha o te 80? He aha te haurua o te 10? He aha te haurua o te 100? He aha te hautoru o te 6? He aha te hautoru o te 60?
Ngā matapae ***Anticipations***	

Rapanga 10	Kei te hanga a Leilani i tētahi tauira mā ngā piere. 16 ngā piere whero, 40 ngā piere kahurangi, 24 ngā piere kowhai. Ka whakawehe te tauira kia hauwhā engari he orite te nama o ngā piere. E hia ngā piere o ia kara ka whakamahia e ia? Mēnā ka whakawehe te tauira kia hauwaru e hia ngā piere o ia kara?
Whakaaro Matua Pāngarau ***Big Ideas***	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 ($\frac{a}{b}$ = a ÷ b, a & b are integers & b - 0), and it can be interpreted on the number line in two ways. For example, $\frac{2}{3} = 2 \div 3$. On the number line, 2 ÷ 3 can be interpreted as 2 segments where each is $\frac{1}{3}$ of a unit (2 x $\frac{1}{3}$) or $\frac{1}{3}$ of 2 whole units ($\frac{1}{3}$ x 2); each is associated with the same point on the number line.
Hononga ki te Marau	Ka mohio ki nga hautau, pera i nga haurua, nga hautoru, nga hauwha, nga haurima me nga hautekau: - te tuhi i nga tohu hautau, te tikanga o te taurunga me te tauraro o tetahi hautau. Te raupapa hautau mama me nga hautau e orite ana te tauraro. Ka whakaoti rapanga e whai wahi mai ana te tauoti me te hautau, ka whakamarama hoki i te: • rautaki tatau; • rautaki whakaropu; • rautaki tohatoha orite; • rautaki wawahi tau tapiripiri mama. Ka marama ki te whaitakenga o te otinga o tetahi rapanga.
Hononga Marautanga ***Curriculum Links***	**NA2-1:** Use simple additive strategies with whole numbers and fractions. **NA2-5:** Know simple fractions in everyday use. **NA2-6:** Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols. **NA3-1:** Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages.
Whāinga Ako ***Learning Outcomes***	• Find fractions of a set.

Reo Matatini Pāngarau ***Mathematical Language***	Whole, half, halves, quarters, fourths, equal, equivalent, section, piece, fair share.
Tohatoha Whakaaro/Wā Hononga ***Sharing back/ Connect***	Select students to share who have used a representation split into fraction parts and then have either used partitive division (e.g., 16 ÷ 4 = ?) or have used the inverse relationship and repeated addition or multiplication (e.g., 4 x ? = 16). If either solution is not used, then model as another way the teacher has seen used previously. **Connect:** Remember the rules for finding a fraction of a set that you developed (re-visit these). Describe how you would find the following: $\frac{1}{4}$ of 48 $\frac{1}{3}$ of 99 $\frac{1}{n}$ of b
Kōrero Tautoko ***Teacher Notes***	• During the launch, ensure that you reinforce that the set of beads are one whole as part of developing the context. • Have concrete material available if needed for students to select (e.g., fraction tiles, strips of paper) and counters to represent the beads. • 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. • Monitor for students using vocabulary of the whole and parts of the set.
Ngohe whakaharatau ***Independent Tasks***	He aha te $\frac{1}{4}$ o te 12? He aha te $\frac{3}{4}$ o te 12? He aha te $\frac{1}{8}$ o te 24 He aha te $\frac{2}{8}$ o t 24? He aha te $\frac{1}{3}$ o te 33? He aha te $\frac{2}{3}$ o t 33? He aha te $\frac{1}{2}$ o te 34? He aha te $\frac{1}{5}$ o te 45? He aha te $\frac{4}{5}$ o te 45?

Ngā matapae ***Anticipations***	

Rapanga 11	Ka hanga a Tiare i tētahi mea roroha (elastic). 3 ngā mita kia hanga tana mea roroha, engari ka hoatu tana Māmā i ētahi mea paku noa. Tuatahi, ka hoatu tana Māmā he $1\frac{1}{2}$ mita. Engari ka kohi e 3 ngā mea $\frac{1}{2}$ mita te roanga. Pehea te roanga o āna roroha katoa? Ka hanga a Tiare i tētahi mea roroha (elastic). 3 ngā mita kia hanga tana mea roroha, engari ka hoatu tana Māmā i ētahi mea paku noa. Tuatahi ka hoatu tana Māmā he $2\frac{1}{4}$ mita. Engai ka kohi e 3 ngā mea $\frac{1}{4}$ mita te roanga. Pehea te roanga o āna roroha katoa?
Whakaaro Matua Pāngarau ***Big Ideas***	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 ($\frac{a}{b}$ = a ÷ b, a & b are integers & b - 0), and it can be interpreted on the number line in two ways. For example, $\frac{2}{3} = 2 \div 3$. On the number line, 2 ÷ 3 can be interpreted as 2 segments where each is $\frac{1}{3}$ of a unit (2 x $\frac{1}{3}$) or $\frac{1}{3}$ of 2 whole units ($\frac{1}{3}$ x 2); each is associated with the same point on the number line. The real-world actions for addition and subtraction of whole numbers are the same for operations with fractions and decimals.
Hononga ki te Marau	Ka mohio ki nga hautau, pera i nga haurua, nga hautoru, nga hauwha, nga haurima me nga hautekau: - te tuhi i nga tohu hautau, te tikanga o te taurunga me te tauraro o tetahi hautau. Te raupapa hautau mama me nga hautau e orite ana te tauraro. Ka whakaoti rapanga e whai wahi mai ana te tauoti me te hautau, ka whakamarama hoki i te: • rautaki tatau; • rautaki whakaropu; • rautaki tohatoha orite; • rautaki wawahi tau tapiripiri mama. Ka marama ki te whaitakenga o te otinga o tetahi rapanga.

Hononga Marautanga ***Curriculum Links***	**NA2-1:** Use simple additive strategies with whole numbers and fractions. **NA2-5:** Know simple fractions in everyday use. **NA2-6:** Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols. **NA3-1:** Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages. **NA3-6:** Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality.
Whāinga Ako ***Learning Outcomes***	• Change fractions to equivalent fractions. • Solve problems that involve subtracting fractions.
Reo Matatini Pāngarau ***Mathematical Language***	Whole, half, halves, quarters, fourths, thirds, equal, equivalent.
Tohatoha Whakaaro/Wā Hononga ***Sharing back/ Connect***	Select students to share who converted fractions to equivalent fractions using informal or more formalised methods (multiplication for example) before they subtracted the fractions. Connect: Remember the rules for changing equivalent fractions that you developed (re-visit these). What could you change these fractions to in order to solve the problems? $\frac{1}{2}-\frac{1}{4}=$ $\frac{1}{2}-\frac{1}{6}=$ $1-\frac{1}{2}=$ $1-\frac{3}{8}=$
Kōrero Tautoko ***Teacher Notes***	• Have concrete material available if needed for students to select (e.g., fraction tiles, strips of paper). • Facilitate the students to notice that to subtract fractions the denominators need to be the same. • Notice students who show relational understanding $\frac{3}{4}$ as $\frac{1}{2}+\frac{1}{4}+\frac{1}{4}=\frac{2}{8}$). • Expect students to represent using drawings and other concrete material.

Ngohe whakaharatau ***Independent Tasks***	Raupapahia ēnei: 1. $\frac{1}{2}, \frac{1}{4}, \frac{1}{3}, \frac{1}{8}, \frac{1}{6}$ 2. $\frac{4}{8}, \frac{2}{4}, \frac{3}{6}, \frac{1}{2}$ 3. $\frac{3}{4}, \frac{5}{8}, \frac{2}{4}, \frac{7}{8}, \frac{1}{8}$ 4. $\frac{4}{4}, \frac{1}{2}, \frac{6}{8}, \frac{1}{4}, \frac{2}{8}$ 5. $\frac{1}{2}, \frac{2}{3}, \frac{1}{6}, \frac{5}{6}, \frac{1}{3}, \frac{3}{6}$
Ngā matapae ***Anticipations***	

Rapanga 12	E 2 ngā pātara wai reka ā Hone me āna tungane a Wiremu rāu ko Jo. Ka inu ¾ o tētahi pātara. I inu a Wiremu 5/8 o tētahi pātara. Ka inu a Jo i te toenga. He aha te hautau o te inu inu a Jo? E 2 ngā pātara wai reka ā Hone me āna tungane a Wiremu rāu ko Jo. Ka inu 3/6 o tētahi pātara. I inu a Wiremu 2/3 o tētahi pātara. Ka inu a Jo i te toenga. He aha te hautau o te inu inu a Jo? E 2 ngā pātara wai reka ā Hone me āna tungane a Wiremu rāu ko Jo. Ka inu 1/5 o tētahi pātara. I inu a Wiremu 4/5 o tētahi pātara. Ka inu a Jo i te toenga. He aha te hautau o te inu inu a Jo?

Whakaaro Matua Pāngarau ***Big Ideas***	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 ($\frac{a}{b}$ = a ÷ b, a & b are integers & b - 0), and it can be interpreted on the number line in two ways. For example, $\frac{2}{3} = 2 \div 3$. On the number line, 2 ÷ 3 can be interpreted as 2 segments where each is $\frac{1}{3}$ of a unit (2 x $\frac{1}{3}$) or $\frac{1}{3}$ of 2 whole units ($\frac{1}{3}$ x 2); each is associated with the same point on the number line. The real-world actions for addition and subtraction of whole numbers are the same for operations with fractions and decimals.
Hononga ki te Marau	Ka mohio ki nga hautau, pera i nga haurua, nga hautoru, nga hauwha, nga haurima me nga hautekau: - te tuhi i nga tohu hautau, te tikanga o te taurunga me te tauraro o tetahi hautau. Te raupapa hautau mama me nga hautau e orite ana te tauraro. Ka whakaoti rapanga e whai wahi mai ana te tauoti me te hautau, ka whakamarama hoki i te: • rautaki tatau; • rautaki whakaropu; • rautaki tohatoha orite; • rautaki wawahi tau tapiripiri mama. Ka marama ki te whaitakenga o te otinga o tetahi rapanga.
Hononga Marautanga ***Curriculum Links***	**NA2-1:** Use simple additive strategies with whole numbers and fractions. **NA2-5:** Know simple fractions in everyday use. **NA2-6:** Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols. **NA3-1:** Use a range of additive and simple multiplicative strategies with whole numbers, fractions, decimals, and percentages. **NA3-6:** Record and interpret additive and simple multiplicative strategies, using words, diagrams, and symbols, with an understanding of equality.
Whāinga Ako ***Learning Outcomes***	• Change fractions to equivalent fractions. • Solve problems that involve subtracting fractions from whole numbers.

Reo Matatini Pāngarau ***Mathematical Language***	Whole, quarters, fourths, eighths, thirds, sixths, equal, equivalent.
Tohatoha Whakaaro/Wā Hononga ***Sharing back/ Connect***	Select students to share who converted fractions to equivalent fractions using informal or more formalised methods (multiplication for example) before they solved the problem. **Connect:** How would you change these fractions to solve the equations? $\frac{1}{2}+\frac{1}{4}+\frac{1}{4}=$ $\frac{1}{3}+\frac{1}{6}+\frac{1}{3}=$ $\frac{1}{8}+\frac{1}{4}=$
Kōrero Tautoko ***Teacher Notes***	• Have concrete material available if needed for students to select (e.g., fraction tiles, strips of paper). • Facilitate the students to notice that to add or subtract fractions the denominators need to be the same. • For the independent task, have fraction tiles or strips of paper available for the students to use if needed.
Aromatawai ***Assessment Tasks***	Choose from the following Assessment Tasks • N8A: Fractions (region) • NR2A: Fractions (set)
Ngā matapae ***Anticipations***	

DMIC

DEVELOPING MATHEMATICAL INQUIRY COMMUNITIES

ASSESSMENT TASK

XXXXX: LEVEL X TASK XXX