# Mapping the Fractions and Decimal Online Interview to the Victorian Curriculum F-10: Mathematics

This table links tasks from Fractions and Decimal Online Interview to the Victorian Curriculum F-10: Mathematics.

## Overview

Each task and the overarching big idea from the Fractions and Decimals Online Interview has been linked to the Level, Strand, VC Code, Content Description and Elaboration of the *Victorian Curriculum F-10: Mathematics* which provides the best match. An indication of the extent of this match is also provided.

Interpreting the table:

* Blank cells indicate no obvious/direct match from the task to the *Victorian Curriculum F-10: Mathematics*
* When there is only a partial match to the Victorian Curriculum F-10 Content Description and/or Elaborations, the bold text indicates where met.

Further details on the Victorian Curriculum F-10: Mathematics can be accessed from the VCAA website at: [http://victoriancurriculum.vcaa.vic.edu.au/mathematics/](http://victoriancurriculum.vcaa.vic.edu.au/mathematics/introduction/rationale-and-aims)

| FRACTIONS AND DECIMALS ONLINE INTERVIEW | VICTORIAN CURRICLUM F-10: MATHEMATICS  |
| --- | --- |
| Item No. | Task | Big Ideas | Level | Strand  | VC Code  | Content Description | Elaborations | Extent of content match |
| **1**  | Fraction Pie | Understands that fractions are equal shares, with careful attention to what isthe whole. Can determine the part of a given whole. | 3 | Number and Algebra | VCMNA136 | Model and represent unit fractions including 1/2, 1/4,1/3, 1/5 and their multiples to a complete whole  | **Partitioning areas** lengths and collections **to create halves, thirds, quarters** and fifths, such as folding the same sized sheets of paper **to illustrate different unit fractions and comparing the number of parts with their sizes** | The task takes the idea of equal shares further, using unequal partitions in the model, so a **partial match** to content description. The elaboration is only a partial match indicated by the text bolded. |
| **2a & 2b** | Pattern Blocks(Fraction of blueblock to yellowblock) | Understands that the whole can change within a given task, and adjusts thinking accordingly. Can express a larger object as a non-unit multiple of a smaller object. | 3 | Number and Algebra | VCMNA136 | Model and represent unit fractions including 1/2, 1/4,1/3, 1/5 and their multiples to a complete whole  | **Partitioning areas** lengths and collections **to create halves, thirds, quarters** and fifths, such as folding the same sized sheets of paper **to illustrate different unit fractions and comparing the number of parts with their sizes** | This task is a **partial match** with the content description as there is no indication to dealing with different wholes.The elaboration is only a partial match indicated by the text bolded. |
| **2c** | Pattern Blocks(Number of blueblocks to coverone yellow) | Understands that the whole can change within a given task, and adjusts thinking accordingly. Can express a larger object as a non-unit multiple of a smaller object. |  |  |  |  |  | This task is more complex than the content description VCMNA136 as students to apply their knowledge of unit and non-unit (including improper) fractions to different wholes. Consequently, no direct match to a content description.  |
| 2d | Pattern Blocks(Blue is whatfraction of red?) | Understands that the whole can change within a given task, and adjusts thinking accordingly. Can express a larger object as a non-unit multiple of a smaller object. | 3  | Number and Algebra | VCMNA136 | Model and represent unit fractions including 1/2, 1/4, 1/3, 1/5 and their multiples to a complete whole  | **Partitioning areas** lengths and collections **to create halves, thirds, quarters** and fifths, such as folding the same sized sheets of paper **to illustrate different unit fractions and comparing the number of parts with their sizes** | This task is more complex than the content description VCMNA136 as students to apply their knowledge of unit and non-unit (including improper) fractions to different wholes. Consequently, no direct match to a content description. |
| **2e** | Pattern Blocks(If yellow is one,what is the valueof the blueblock?) | Understands that the whole can change within a given task, and adjusts thinking accordingly. Can express a larger object as a non-unit multiple of a smaller object. | 3 | Number and Algebra | VCMNA136 | Model and represent unit fractions including 1/2, 1/4, 1/3, 1/5 and their multiples to a complete whole  | **Partitioning areas** lengths and collections **to create halves, thirds, quarters** and fifths, such as folding the same sized sheets of paper **to illustrate different unit fractions and comparing the number of parts with their sizes** | This task is a **partial match** with the content description as there is no indication to dealing with different wholes.The elaboration is only a partial match indicated by the text bolded |
| **2f** | Pattern Blocks(If the blue blockis one, what is thevalue of the red?) | Understands that the whole can change within a given task, and adjusts thinking accordingly. Can express a larger object as a non-unit multiple of a smaller object. |  |  |  |  |  | This task is more complex than the content description as it expects students to apply their knowledge of unit and non-unit (including improper) fractions to different wholes. No direct match to a content description. |
| **3a & 3b** | Dots array | Can name a fraction of a collection. Recognises two equivalent fractions within a discrete situation. | 4 | Number and Algebra | VCMNA157 | Investigate equivalent fractions used in contexts |  | These tasks are assessing equivalent fractions in a discrete context, so a **partial match** to content description. |
| **4a** | SimpleOperators(1/2 of 6) | Can mentally partition a number and identify the resultant part of the actionof an operator involving a fraction of a whole number and problems involving twofractions. | 6 | Number and Algebra | VCMNA213 | Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies  | Recognising that finding one third of a quantity is the same as dividing by 3 | Good match |
| 4b | SimpleOperators(1/5 of 10) | Can mentally partition a number and identify the resultant part of the actionof an operator involving a fraction of a whole number and problems involving twofractions. | 6 | Number and Algebra | VCMNA213 | Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies  | Recognising that finding one third of a quantity is the same as dividing by 3 | Good match |
| 4c | SimpleOperators(2/3 of 9) | Can mentally partition a number and identify the resultant part of the actionof an operator involving a fraction of a whole number and problems involving twofractions. | 6 | Number and Algebra | VCMNA213 | Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies  | Recognising that finding one third of a quantity is the same as dividing by 3 | Good match |
| 4d | SimpleOperators(One third ofone half) | Can mentally partition a number and identify the resultant part of the actionof an operator involving a fraction of a whole number and problems involving twofractions. | 7 | Number and Algebra | VCMNA245 | Express one quantity as a fraction of another, with and without the use of digital technologies  |  | Good match |
| 4e | SimpleOperators(One half of onethird) | Can mentally partition a number and identify the resultant part of the actionof an operator involving a fraction of a whole number and problems involving twofractions. | 7 | Number and Algebra | VCMNA245 | Express one quantity as a fraction of another, with and without the use of digital technologies  |  | Good match |
| **5a** | Fractions on anumber line (two thirds) | Can correctly locate a fraction (proper and improper) on a number line. | 4 | Number and Algebra | VCMNA158 | Count by quarters, halves andthirds, including with mixednumerals**. Locate and****represent these fractions on****a number line**  |  | **Partial match** as these tasks it only relates to the number line aspect of the content description not the counting aspect.  |
| **5b** | Fractions on anumber line (six thirds) | Can correctly locate a fraction (proper and improper) on a number line. | 4 | Number and Algebra | VCMNA158 | Count by quarters, halves and thirds, including with mixed numerals**. Locate and represent these fractions on a number line**  |  | **Partial match** as these tasks it only relates to the number line aspect of the content description not the counting aspect.  |
| **5c** | Fractions on anumber line(11 sixths) | Can correctly locate a fraction (proper and improper) on a number line. |  |  |  |  |  | This task also includes representing improper fractions beyond the range of any content descriptions, so no direct match. |
| **6**  | Pizza  | Has an appropriate strategy for a sharing-type situation. |  |  |  |  |  | In this task, there is no remainder strictly, because each share is described as a fraction, so no direct match to content description. |
| **7** | Draw Me a Whole | Can determine the whole when given a part, which is less than one, and a part greater than one. |  |  |  |  |  | Involves representing a whole given a part so no direct match to content description. |
| **8** | Construct a Sum | Has a sound understanding that a fraction has a size which can be benchmarkedagainst fractions such as 0, 1/2 and 1. Can determine two fractions that when added are close to one. | 7 | Number and Algebra | VCMNA243 | Solve problems involvingaddition and subtraction offractions, including those withunrelated denominators |  | Also focuses on estimation and benchmarking, so **partial match.** |
| **9a** | Fraction Pairs3/8 7/8 | Can compare the relative size of fractions, using appropriate and efficient strategies.Can compare the relative size of fractions, using appropriate and efficient strategies such preferred strategies such as residual thinking and benchmarking. |  |  |  |  |  | This task requires students to compare non- unit fractions with same denominator. Nodirect match to any content description. |
| **9b**  | Fraction Pairs2/4 4/8 | Can compare the relative size of fractions, using appropriate and efficient strategies.Can compare the relative size of fractions, using appropriate and efficient strategies such preferred strategies such as residual thinking and benchmarking. | 6 | Number and Algebra | VCMNA211 | Compare fractions with related denominators and locate and represent them on a number line  |  | No number line representation required, so**partial match** to content description. |
| **9c**  | Fraction Pairs1/2 5/8 | Can compare the relative size of fractions, using appropriate and efficient strategies.Can compare the relative size of fractions, using appropriate and efficient strategies such preferred strategies such as residual thinking and benchmarking. | 6 | Number and Algebra | VCMNA211 | Compare fractions with related denominators and locate and represent them on a number line  |  | No number line representation required, so**partial match** to content description. |
| **9d**  | Fraction Pairs2/4 4/2 | Can compare the relative size of fractions, using appropriate and efficient strategies.Can compare the relative size of fractions, using appropriate and efficient strategies such preferred strategies such as residual thinking and benchmarking. | 6 | Number and Algebra | VCMNA211 | Compare fractions with related denominators and locate and represent them on a number line  |  | No number line representation required, so**partial match** to content description. |
| **9e** | Fraction Pairs4/ 7 4/5 | Can compare the relative size of fractions, using appropriate and efficient strategies.Can compare the relative size of fractions, using appropriate and efficient strategies such preferred strategies such as residual thinking and benchmarking. |  |  |  |  |  | These are not fractions with related denominators. No direct match to any content description. |
| **9f** | Fraction Pairs3/7 5/7 | Can compare the relative size of fractions, using appropriate and efficient strategies.Can compare the relative size of fractions, using appropriate and efficient strategies such preferred strategies such as residual thinking and benchmarking. |  |  |  |  |  | This task compares non-unit fractions with same denominator, so does not directly match VCMNA211. |
| **9g** | Fraction Pairs5/6 7/8 | Can compare the relative size of fractions, using appropriate and efficient strategies.Can compare the relative size of fractions, using appropriate and efficient strategies such preferred strategies such as residual thinking and benchmarking. |  |  |  |  |  | This task does not have fractions with related denominators. No direct match to any content description. |
| **9h**  | Fraction Pairs 3/4 7/9 | Can compare the relative size of fractions, using appropriate and efficient strategies.Can compare the relative size of fractions, using appropriate and efficient strategies such preferred strategies such as residual thinking and benchmarking. |  |  |  |  |  | This task does not have fractions with related denominators. No direct match to any content description. |
| **10a** | Decimals on aNumber line | Can identify a decimal fraction on a number line, including when the calibrations are in tenths and are not in tenths. | 5 | Number and Algebra | VCMNA190 | Compare, order and represent decimals  | Locating decimals on a number line | These tasks require students to ***interpret*** a decimal on a number line, rather than just comparing and ordering, so **partial match** to content description. |
| **10b** | Decimals on aNumber line | Can identify a decimal fraction on a number line, including when the calibrations are in tenths and are not in tenths. | 5 | Number and Algebra | VCMNA190 | Compare, order and represent decimals  | Locating decimals on a number line | These tasks require students to ***interpret*** a decimal on a number line, rather than just comparing and ordering, so **partial match** to content description. |
| **10c** | Decimals on aNumber line(mLs in a syringe) | Can identify a decimal fraction on a number line, including when the calibrations are in tenths and are not in tenths. | 4 | Measurement and Geometry | VCMMG165 | Use scaled instruments tomeasure and compare lengths,masses, capacities andtemperatures  | Reading and interpreting, to thenearest graduation, the graduated scales on a range of measuring instruments | These tasks require students to ***interpret*** a decimal on a number line, rather than just comparing and ordering, so **partial match** to content description. |
| **11** | Decimal Density | Understands that between any two decimal numbers there is an infinite number of decimal numbers. | 4 | Number and Algebra | VCMNA159 | Recognise that the place valuesystem can be extended totenths and hundredths. Makeconnections between fractionsand decimal notation | Using division by 10 to extend the place-value system | Also involves decimal density, which is not addressed in the content description, so a **partial match.**  |
| **12a** | Make me adecimal(2 tenths as adecimal) | Can represent fractions (where the denominator is a multiple of ten) indecimal notation, regrouping and renamingas required. | 4 | Number and Algebra | VCMNA159 | Recognise that the place valuesystem can be extended totenths and hundredths. Makeconnections between fractionsand decimal notation | Using knowledge of fractions toestablish equivalences betweenfractions and decimal notation | Good match |
| **12b** | Make me adecimal(27thousandths as adecimal) | Can represent fractions (where the denominator is a multiple of ten) indecimal notation, regrouping and renamingas required. | 5 | Number and Algebra | VCMNA189 | Recognise that the place valuesystem can be extendedbeyond hundredths | Using knowledge of place value and division by 10 to extend thenumber system to thousandths and beyond | This task is a direct match with the content description, and to the second elaboration only.  |
| **12c** | Make me adecimal(Ten tenths as adecimal) | Can represent fractions (where the denominator is a multiple of ten) indecimal notation, regrouping and renamingas required. | 4 | Number and Algebra | VCMNA159 | Recognise that the place valuesystem can be extended totenths and hundredths. Makeconnections between fractionsand decimal notation | Using knowledge of fractions toestablish equivalences betweenfractions and decimal notation | This task includes making connections between fractions greater than one and decimal notation, so a **partial match** to content description.  |
| **12d** | Make me adecimal(27tenths as adecimal) | Can represent fractions (where the denominator is a multiple of ten) indecimal notation, regrouping and renamingas required. | 4 | Number and Algebra | VCMNA159 | Recognise that the place valuesystem can be extended totenths and hundredths. Makeconnections between fractionsand decimal notation | Using knowledge of fractions toestablish equivalences betweenfractions and decimal notation | This task includes making connections between fractions greater than one and decimal notation, so a **partial match** to content description.  |
| **13** | Orderingdecimals | Understands the relativesize of decimals. | 5 | Number and Algebra | VCMNA190 | Compare, order and representdecimals  |  | This task also includes ordering whole numbers and decimals greater than one, which is beyond the content description, so a **partial match** only.  |
| **14a** | Connecting Fractions, Decimals and Percent | Can interpret an area model divided intohundredths and represent this as a fraction, decimal and percent. | 4 | Number and Algebra | VCMNA159 | Recognise that the place valuesystem can be extended totenths and hundredths. Makeconnections between fractionsand decimal notation | Using knowledge of fractions toestablish equivalences betweenfractions and decimal notation | Good match |
| **14b** | Connecting Fractions, Decimals and Percent | Can interpret an area model divided intohundredths and represent this as a fraction, decimal and percent. | 4 | Number and Algebra | VCMNA159 | Recognise that the place valuesystem can be extended totenths and hundredths. Makeconnections between fractionsand decimal notation | Using knowledge of fractions toestablish equivalences betweenfractions and decimal notation | Good match |
| **14c** | Connecting Fractions, Decimals and Percent | Can interpret an area model divided intohundredths and represent this as a fraction, decimal and percent. | 4 | Number and Algebra | VCMNA159 | Recognise that the place valuesystem can be extended totenths and hundredths. Makeconnections between fractionsand decimal notation | Using knowledge of fractions toestablish equivalences betweenfractions and decimal notation | Good match |
| **14d** | Connecting Fractions, Decimals and Percent | Can interpret an area model divided intohundredths and represent this as a fraction, decimal and percent. | 6 | Number and Algebra | VCMNA217 | Make connections between equivalent fractions, decimals and percentages  | Connecting fractions, decimals and percentages as differentrepresentations of the samenumber, moving fluently between representations and choosing the appropriate one for the problem being solved | Good match |
| **15** | DecimalComparison Test | Is able to compare therelative size of a pair ofdecimals. | 5 | Number and Algebra | VCMNA190 | Compare, order and representdecimals  |  | The task does not involve representation so is only a **partial match.**  |
| **16** | DecimalOperations | Has a deep conceptualunderstanding ofmultiplication and division.Is able to apply anunderstanding ofmultiplication and divisionto the decimal context. | 6 | Number and Algebra | VCMNA215 | Multiply decimals by wholenumbers and perform divisionsby non-zero whole numberswhere the results areterminating decimals, with andwithout digital technologies | Understanding that rate and ratio problems can be solved using fractions or percentages and choosing the most efficient form to solve a particular problem | This task also includes dividing a whole number by a decimal less than one, so goes beyond the content description, so is only a **partial match.** |
| **17** | Pod Tunes orNew Tunes | Applies appropriateproportional reasoning todetermine best value. | 7 | Number and Algebra | VCMNA249 | Recognise and solve problemsinvolving simple ratios | Understanding that rate and ratio problems can be solved using fractions or percentages and choosing the most efficient form to solve a particular problem | Good match |
|  | VCMNA250 | Investigate and calculate 'bestbuys', with and without digitaltechnologies  | Applying the unitary method toidentify ‘best buys’ situations, such as comparing the cost per 100g | Good match |
| **18a & 18b** | Reserve Bank(Write one quarterof one percentdifferent ways) | Understands howpercentages can be greater than 100%, and can move from more than 100% of a quantity to the quantity back to the whole. | 6 | Number and Algebra | VCMNA217 | Make connections betweenequivalent fractions, decimalsand percentages  | Connecting fractions, decimals and percentages as differentrepresentations of the samenumber, moving fluently between representations and choosing the appropriate one for the problem being solved | Good match |
| **18c** | Chocolate Milk(Finding the dailyallowance whengiven 125% of thedaily allowance) | Understands howpercentages can be greater than 100%, and can move from more than 100% of a quantity to the quantity back to the whole. | 7 | Number and Algebra | VCMNA247 | Connect fractions, decimals andpercentages and carry outsimple conversions |  | This task includes a percentage greater than 100%, so is only a **partial match** to the content description. |
| **19** | Cordial | Can solve a two-part ratioto a practical situation,understanding that apartitioning situationrepresented by a:b can also be represented by apartitioning into two partsa/(a+b) and b/(a+b). | 7 | Number and Algebra | VCMNA249 | Recognise and solve problemsinvolving simple ratios | Understanding that rate and ratio problems can be solved using fractions or percentages and choosing the most efficient form to solve a particular problem | Good match |
| **20** | Cheese Please(Estimate howmuch 0.34kg would cost, if 1 kg costs$12.59) | Estimates well in ashopping situation involving determining the price of a fraction of a kilogram, given the kilogram rate. Choosesthe appropriate operation(multiplication) whencalculating the cost of adecimal fraction of akilogram. |  |  |  |  |  | This task does not involve simple fractions and an estimate is all that is required. No direct match to any content description. |

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