# 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 | | | | | | | |
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| 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 is  the 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 blue  block to yellow  block) | 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 blue  blocks to cover  one 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 what  fraction 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 value  of the blue  block?) | 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 block  is one, what is the  value 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** | Simple  Operators  (1/2 of 6) | Can mentally partition a number and identify the resultant part of the action  of an operator involving a fraction of a whole number and problems involving two  fractions. | 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 | Simple  Operators  (1/5 of 10) | Can mentally partition a number and identify the resultant part of the action  of an operator involving a fraction of a whole number and problems involving two  fractions. | 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 | Simple  Operators  (2/3 of 9) | Can mentally partition a number and identify the resultant part of the action  of an operator involving a fraction of a whole number and problems involving two  fractions. | 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 | Simple  Operators  (One third of  one half) | Can mentally partition a number and identify the resultant part of the action  of an operator involving a fraction of a whole number and problems involving two  fractions. | 7 | Number and Algebra | VCMNA245 | Express one quantity as a fraction of another, with and without the use of digital technologies | |  | | Good match |
| 4e | Simple  Operators  (One half of one  third) | Can mentally partition a number and identify the resultant part of the action  of an operator involving a fraction of a whole number and problems involving two  fractions. | 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 a  number line (two 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. |
| **5b** | Fractions on a  number 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 a  number 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 benchmarked  against 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 involving  addition and subtraction of  fractions, including those with  unrelated denominators | |  | | Also focuses on estimation and benchmarking, so **partial match.** |
| **9a** | Fraction Pairs  3/8 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. No  direct match to any content description. |
| **9b** | Fraction Pairs  2/4 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 Pairs  1/2 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 Pairs  2/4 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 Pairs  4/ 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 Pairs  3/7 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 Pairs  5/6 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 a  Number 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 a  Number 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 a  Number 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 to  measure and compare lengths,  masses, capacities and  temperatures | Reading and interpreting, to the  nearest 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 value  system can be extended to  tenths and hundredths. Make  connections between fractions  and 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 a  decimal  (2 tenths as a  decimal) | Can represent fractions (where the denominator is a multiple of ten) in  decimal notation, regrouping and renaming  as required. | 4 | Number and Algebra | VCMNA159 | Recognise that the place value  system can be extended to  tenths and hundredths. Make  connections between fractions  and decimal notation | Using knowledge of fractions to  establish equivalences between  fractions and decimal notation | | Good match | |
| **12b** | Make me a  decimal  (27thousandths as a  decimal) | Can represent fractions (where the denominator is a multiple of ten) in  decimal notation, regrouping and renaming  as required. | 5 | Number and Algebra | VCMNA189 | Recognise that the place value  system can be extended  beyond hundredths | Using knowledge of place value and division by 10 to extend the  number system to thousandths and beyond | | This task is a direct match with the content description, and to the second elaboration only. | |
| **12c** | Make me a  decimal  (Ten tenths as a  decimal) | Can represent fractions (where the denominator is a multiple of ten) in  decimal notation, regrouping and renaming  as required. | 4 | Number and Algebra | VCMNA159 | Recognise that the place value  system can be extended to  tenths and hundredths. Make  connections between fractions  and decimal notation | Using knowledge of fractions to  establish equivalences between  fractions 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 a  decimal  (27tenths as a  decimal) | Can represent fractions (where the denominator is a multiple of ten) in  decimal notation, regrouping and renaming  as required. | 4 | Number and Algebra | VCMNA159 | Recognise that the place value  system can be extended to  tenths and hundredths. Make  connections between fractions  and decimal notation | Using knowledge of fractions to  establish equivalences between  fractions and decimal notation | | This task includes making connections between fractions greater than one and decimal notation, so a **partial match** to content description. | |
| **13** | Ordering  decimals | Understands the relative  size of decimals. | 5 | Number and Algebra | VCMNA190 | Compare, order and represent  decimals |  | | 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 into  hundredths and represent this as a fraction, decimal and percent. | 4 | Number and Algebra | VCMNA159 | Recognise that the place value  system can be extended to  tenths and hundredths. Make  connections between fractions  and decimal notation | Using knowledge of fractions to  establish equivalences between  fractions and decimal notation | | Good match | |
| **14b** | Connecting Fractions, Decimals and Percent | Can interpret an area model divided into  hundredths and represent this as a fraction, decimal and percent. | 4 | Number and Algebra | VCMNA159 | Recognise that the place value  system can be extended to  tenths and hundredths. Make  connections between fractions  and decimal notation | Using knowledge of fractions to  establish equivalences between  fractions and decimal notation | | Good match | |
| **14c** | Connecting Fractions, Decimals and Percent | Can interpret an area model divided into  hundredths and represent this as a fraction, decimal and percent. | 4 | Number and Algebra | VCMNA159 | Recognise that the place value  system can be extended to  tenths and hundredths. Make  connections between fractions  and decimal notation | Using knowledge of fractions to  establish equivalences between  fractions and decimal notation | | Good match | |
| **14d** | Connecting Fractions, Decimals and Percent | Can interpret an area model divided into  hundredths 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 different  representations of the same  number, moving fluently between representations and choosing the appropriate one for the problem being solved | | Good match | |
| **15** | Decimal  Comparison Test | Is able to compare the  relative size of a pair of  decimals. | 5 | Number and Algebra | VCMNA190 | Compare, order and represent  decimals |  | | The task does not involve representation so is only a **partial match.** | |
| **16** | Decimal  Operations | Has a deep conceptual  understanding of  multiplication and division.  Is able to apply an  understanding of  multiplication and division  to the decimal context. | 6 | Number and Algebra | VCMNA215 | Multiply decimals by whole  numbers and perform divisions  by non-zero whole numbers  where the results are  terminating decimals, with and  without 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 or  New Tunes | Applies appropriate  proportional reasoning to  determine best value. | 7 | Number and Algebra | VCMNA249 | Recognise and solve problems  involving 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 'best  buys', with and without digital  technologies | Applying the unitary method to  identify ‘best buys’ situations, such as comparing the cost per 100g | | Good match | |
| **18a & 18b** | Reserve Bank  (Write one quarter  of one percent  different ways) | Understands how  percentages 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 between  equivalent fractions, decimals  and percentages | Connecting fractions, decimals and percentages as different  representations of the same  number, moving fluently between representations and choosing the appropriate one for the problem being solved | | Good match | |
| **18c** | Chocolate Milk  (Finding the daily  allowance when  given 125% of the  daily allowance) | Understands how  percentages 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 and  percentages and carry out  simple 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 ratio  to a practical situation,  understanding that a  partitioning situation  represented by a:b can also be represented by a  partitioning into two parts  a/(a+b) and b/(a+b). | 7 | Number and Algebra | VCMNA249 | Recognise and solve problems  involving 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 how  much 0.34kg would cost, if 1 kg costs  $12.59) | Estimates well in a  shopping situation involving determining the price of a fraction of a kilogram, given the kilogram rate. Chooses  the appropriate operation  (multiplication) when  calculating the cost of a  decimal fraction of a  kilogram. |  |  |  |  |  | | 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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