

# Aligning *Equals Math* with the Alberta Program of Studies

## Knowledge and Employability 20-4



Alberta Program of Studies	Related activities from <i>Equals Math</i> resources
<b>Number</b>	
<b>Operations</b>	
<p>N1. use estimation strategies to estimate and apply arithmetic operations to solve everyday problems involving:</p> <ul style="list-style-type: none"> <li>• whole numbers</li> <li>• integers (add/subtract only)</li> <li>• decimals</li> <li>• fractions</li> <li>• mixed numbers</li> <li>• percents</li> </ul>	<p><i>Emerging:</i></p> <p>4.C.2 write addition and subtraction equations (R)</p> <p>7.B.5 choose correct operation to solve simple word problem (R)</p> <p>7.D.9 estimate number to represent familiar sets with 1- and 2-digit numbers</p> <p>8.A.1 demonstrate understanding of place value to 100 (R)</p> <p>8.A.7 use a calculator to add and subtract 2- and 3-digit numbers (R)</p> <p>8.A.9 add and subtract 3-digit numbers, no re-grouping (R)</p> <p>8.B.7 add and subtract 3-digit numbers, with re-grouping (R)</p> <p>8.C.5 use a calculator to add and subtract 4-digit numbers (R)</p> <p><i>Introductory:</i></p> <p>8.B.1 estimate number to represent familiar sets up to 3-digit numbers (R)</p> <p>8.C.1 demonstrate understanding of place value to 1000 (R)</p> <p>8.C.4 estimate number to represent familiar sets up to 4-digit numbers</p> <p>11.B.5 solve 2-digit multiplication problem with calculator (R)</p> <p>11.C.3 use manipulatives to solve division problems(R)</p> <p>11.C.5 use inverse relationship to solve division problems(R)</p> <p>11.D.3 use division to solve word problem with equal sets(R)</p> <p>11.D.6 choose multiplication and division to solve word problem(R)</p> <p><i>Basic:</i></p> <p>No related activities identified.</p>
<p>N3. assess the reasonableness of applied calculations and problem-solving strategies, using a variety of tools and/or strategies; e.g.,</p>	<p><i>Emerging:</i></p> <p>4.C.2 write addition and subtraction equations (R)</p> <p>7.B.5 choose correct operation to solve simple</p>

<p>estimation, charts, graphs, calculators and/or computers</p>	<p>word problem (R)  8.A.7 use a calculator to add and subtract 2- and 3-digit numbers (R)  8.A.9 add and subtract 3-digit numbers, no re-grouping (R)  8.B.7 add and subtract 3-digit numbers, with re-grouping (R)  8.C.5 use a calculator to add and subtract 4-digit numbers (R)</p> <p><i>Introductory:</i>  11.B.5 solve 2-digit multiplication problem with calculator (R)  11.C.3 use manipulatives to solve division problems(R)  11.C.5 use inverse relationship to solve division problems(R)  11.D.3 use division to solve word problem with equal sets(R)  11.D.6 choose multiplication and division to solve word problem(R)</p> <p><i>Basic:</i>  No related activities identified.</p>
<p><b>Rounding</b></p>	
<p>N2. estimate and round numbers and decimals, e.g., money, to the nearest unit, tenth and hundredth to solve problems in everyday contexts</p>	<p><i>Emerging:</i>  7.D.1 count 1–100  6.B.6 demonstrate understanding of place value to 50  7.D.3 demonstrate understanding of place value from 51–99  8.A.1 demonstrate understanding of place value to 100 (R)  8.C.1 demonstrate understanding of place value to 1000</p> <p><i>Introductory:</i>  8.B.1 estimate number to represent familiar sets up to 3-digit numbers (R)  8.C.1 demonstrate understanding of place value to 1000 (R)  8.C.4 estimate number to represent familiar sets up to 4-digit numbers</p> <p><i>Basic:</i>  No related activities identified.</p>
<p><b>Fractions and Decimals</b></p>	
<p>N6. use a variety of methods and tools to convert fractional percents to decimal forms</p>	<p><i>Emerging:</i>  12.A.1 sort equal fraction pieces (R)  12.A.2 show half of object and array (R)  12.A.3 assemble and name matching fraction</p>

	<p>pieces (R)</p> <p>12.A.4 identify 2 ways to make a square into fourths (R)</p> <p>12.A.5 define meaning of numerator and denominator (R)</p> <p>12.A.6 write fraction name (R)</p> <p>12.B.1 identify fractions with numerator greater than 1 (R)</p> <p>12.B.2 match equivalent fractions with models (R)</p> <p>12.C.1 identify fractions with common denominator (R)</p> <p><i>Introductory:</i></p> <p>12.B.3 identify fractions of a set (R)</p> <p>12.B.4 order common fractions (R)</p> <p>12.B.5 compare common fractions (R)</p> <p>12.B.6 identify fractions of linear measurement (R)</p> <p>12.D.3 read decimals to tenths place (R)</p> <p>12.D.4 read decimals in money terms (R)</p> <p>12.D.6 match decimals and fractions and relate time and money</p> <p><i>Introductory:</i></p> <p>12.D.1 use models to identify fractions in tenths</p> <p>12.D.2 convert fractions to decimals</p> <p><i>Basic:</i></p> <p>No related activities identified.</p>
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## Knowledge and Employability 20-4

Alberta Program of Studies	Related activities from <i>Equals Math</i> resources
<b>Patterns and Relations</b>	
<b>Graphs and Tables</b>	
<p>PR1. use relationships and patterns to summarize, generalize and predict when solving problems and making decisions in everyday and work-related contexts</p>	<p><i>Emerging:</i>            10.C.5 extend number pattern with constant increment (R)            10.C.6 use a table representing constant rate of change (R)            10.C.7 describe number pattern in table with constant rate of change (R)</p> <p><i>Introductory/Basic:</i>            No related activities identified.</p>
<p>PR2. generalize patterns arising from everyday problem-solving contexts, using mathematical expressions and equations and/or verifying by substitution</p>	<p><i>Emerging:</i>            10.C.5 extend number pattern with constant increment (R)            10.C.6 use a table representing constant rate of change (R)            10.C.7 describe number pattern in table with constant rate of change (R)</p> <p><i>Introductory/Basic:</i>            No related activities identified.</p>
<b>Equations</b>	
<p>PR 3. interpret formulas related to practical situations and solve everyday problems by using common arithmetic expressions and relationships; e.g., perimeter and area</p>	<p><i>Emerging:</i>            10.C.1 use notation for equivalent expression (R)            10.C.2 complete problem solving with missing addend (R)            10.C.3 solve addition equation with a variable (R)            10.C.4 identify equal and equivalent sets(R)</p> <p><i>Introductory/Basic:</i>            No related activities identified.</p>

## Knowledge and Employability 20-4

Alberta Program of Studies	Related activities from <i>Equals Math</i> resources
<b>Shape and Space</b>	
<b>Metric and Imperial</b>	
<p>SS 1. use appropriate metric (SI) and imperial measuring strategies, tools and units to measure:</p> <ul style="list-style-type: none"> <li>• length</li> <li>• volume (capacity)</li> <li>• mass (weight)</li> <li>• angles</li> <li>• time</li> <li>• temperature</li> </ul>	<p><i>Emerging:</i></p> <p>6.C.1 identify common elements between measurement tools (R)</p> <p>6.C.2 identify measurement tools(R)</p> <p>6.C.3 match measurement attributes to tools(R)</p> <p>6.C.4 match measurement tools to everyday situations(R)</p> <p>6.C.5 compare measurement attributes(R)</p> <p>9.A.5 measure line in centimeters (R)</p> <p>9.A.7 measure line in meters (R)</p> <p>11.E.1 measure perimeter (R)</p> <p><i>Introductory:</i></p> <p>9.D.4 count sides and vertices on two-dimensional net</p> <p>11.E.2 measure area (R)</p> <p>11.E.4 determine the volume of a box (R)</p> <p>11.E.5 identify dry and liquid measured amounts (R)</p> <p>11.E.6 identify measuring spoon amounts (R)</p> <p>11.E.7 measure dry ingredients (R)</p> <p>11.E.8 measure liquid ingredients (R)</p> <p>11.E.9 measure dry and liquid ingredients with spoons (R)</p> <p><i>Basic:</i></p> <p>No related activities identified.</p> <p><i>Activities that are beyond the scope of the Alberta Program of Studies, but can be used to support the related outcome</i></p> <p>9.A.6 measure line in decimeters (R)</p>
<p>SS4. use conversion charts, calculators and/or other tools to compare and convert common metric (SI) and imperial units of measure, as required in everyday contexts</p>	<p><i>Emerging:</i></p> <p>6.C.1 identify common elements between measurement tools (R)</p> <p>6.C.2 identify measurement tools(R)</p> <p>6.C.3 match measurement attributes to tools(R)</p> <p>6.C.4 match measurement tools to everyday situations(R)</p> <p>6.C.5 compare measurement attributes(R)</p> <p><i>Introductory/Basic:</i></p> <p>No related activities identified.</p>

<p>SS2. measure within acceptable degrees of accuracy, as required in everyday and work-related situations</p>	<p><i>Emerging:</i>            9.A.5 measure line in centimeters (R)            9.A.7 measure line in meters (R)            11.E.1 measure perimeter (R)</p> <p><i>Introductory/Basic:</i>            No related activities identified.</p> <p><i>Activities that are beyond the scope of the Alberta Program of Studies, but can be used to support the related outcome</i>            9.A.6 measure line in decimeters (R)</p>
<p>SS5. investigate the types and uses of measuring tools and units within the community and workplace</p>	<p><i>Emerging:</i>            6.C.1 identify common elements between measurement tools (R)            6.C.2 identify measurement tools(R)            6.C.3 match measurement attributes to tools(R)            6.C.4 match measurement tools to everyday situations(R)            6.C.5 compare measurement attributes(R)            9.A.5 measure line in centimeters (R)            9.A.7 measure line in meters (R)            11.E.1 measure perimeter (R)</p> <p><i>Introductory:</i>            9.D.4 count sides and vertices on two-dimensional net            11.E.2 measure area (R)            11.E.4 determine the volume of a box (R)            11.E.5 identify dry and liquid measured amounts (R)            11.E.6 identify measuring spoon amounts (R)            11.E.7 measure dry ingredients (R)            11.E.8 measure liquid ingredients (R)            11.E.9 measure dry and liquid ingredients with spoons (R)</p> <p><i>Basic:</i>            No related activities identified.</p> <p><i>Activities that are beyond the scope of the Alberta Program of Studies, but can be used to support the related outcome</i>            9.A.6 measure line in decimeters (R)</p>
<p><b>Time</b></p>	
<p>SS3. calculate elapsed time in everyday contexts</p>	<p><i>Emerging:</i>            3.C.1 name days of the week (R)            3.C.2 find days of the week on calendar (R)            3.C.3 name months (R)            3.C.4 find a given date on a calendar (R)            3.C.5 use calendar to count days to event (R)</p>

	<p><i>Introductory:</i>  5.B.1 tell time to the hour  5.B.2 tell time to 1/2 hour  5.B.2 tell time to 1/4 hour</p> <p><i>Basic:</i>  5.B.4 match analog and digital time  5.B.5 use common language to tell time  8.E.1 tell time to 5 minutes  8.E.2 use common language to tell time at 5-minute intervals</p> <p><i>Activities that are beyond the scope of the Alberta Program of Studies, but can be used to support the related outcome</i>  3.C.6 identify 4 seasons given name of month (R)</p>
<b>2- D Shapes and 3-D Objects</b>	
<p>SS6. read and interpret scale drawings and models in workplace and community situations</p>	<p><i>Emerging:</i>  5.D.6 identify three-dimensional shapes  5.D.5 find and match three-dimensional shapes in the environment  9.A.4 identify length with lines and pictured ruler (R)  9.A.5 measure line in centimeters (R)  9.A.7 measure line in meters (R)  9.B.1 match two-dimensional shape to three-dimensional face  9.C.1 identify right angle (R)  9.D.1 identify three-dimensional faces, vertices, and edges  9.D.2 count three-dimensional faces, vertices, and angles  9.D.3 use a table to organize three-dimensional shapes  11.E.1 measure perimeter (R)  11.E.2 measure area (R)  11.E.4 determine the volume of a box (R)</p> <p><i>Introductory:</i>  9.B.2. identify congruent shapes(R)  9.B.5. identify symmetrical shapes(R)  9.D.4 count sides and vertices on two-dimensional net (R)  9.D.5 build, identify, and compare three-dimensional shape to net (R)</p> <p><i>Basic:</i>  No related activities identified.</p>
<b>Transformations</b>	
<p>SS7. use scale diagrams, including enlargements and reductions, to solve construction, renovation and other related problems</p>	<p><i>Emerging:</i>  9.B.3 predict and confirm results of transformations (R)</p>

	<p>9.B.4 describe motion (s) to prove congruency (R)</p> <p><i>Introductory:</i></p> <p>9.B.2. identify congruent shapes(R) 9.B.5. identify symmetrical shapes(R) 9.D.4 count sides and vertices on two-dimensional net (R) 9.D.5 build, identify, and compare three-dimensional shape to net (R)</p> <p><i>Basic:</i></p> <p>No related activities identified.</p>
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## Knowledge and Employability 20-4

Alberta Program of Studies	Related Activities from Equals Math
<b>Statistics and Probability</b>	
<b>Collecting, Displaying and Analyzing Data</b>	
<p>SP1. use information and data from a variety of sources to make comparisons, predictions, inferences, conclusions and/or decisions in everyday situations</p>	<p><i>Emerging:</i>            3.D.6 interpret a bar graph by comparison (R)            3.E.3 place data in simple bar graph with symbolic representation (R)            3.E.4 compare amounts on bar graph with symbolic representation (R)            3.E.5 use data from bar graph to solve simple problem (R)            6.A.5 make a bar graph with categorical data (R)            6.A.6 communicate conclusions drawn from bar graph (R)</p> <p><i>Introductory/Basic:</i>            No related activities identified.</p>
<p>SP2. record and organize information and data as appropriate in everyday and work-related situations</p>	<p><i>Emerging:</i>            3.D.6 interpret a bar graph by comparison (R)            3.E.3 place data in simple bar graph with symbolic representation (R)            3.E.4 compare amounts on bar graph with symbolic representation (R)            3.E.5 use data from bar graph to solve simple problem (R)            6.A.5 make a bar graph with categorical data (R)            6.A.6 communicate conclusions drawn from bar graph (R)</p> <p><i>Introductory/Basic:</i>            No related activities identified.</p>
<b>Probability</b>	
<p>SP3. use probability and statistics to predict upcoming events and to make decisions in everyday life</p>	<p><i>Emerging:</i>            6.A.1 choose a survey question            6.A.2 make a prediction about opinion-based data            6.A.3 tally categorical data from opinion survey            6.A.4 use categorical data to organize answers            6.A.5 make a bar graph with categorical data (R)            6.A.6 communicate conclusions drawn from bar graph (R)</p> <p><i>Introductory/Basic:</i>            No related activities identified.</p>