

Aligning *Equals Math* with the Alberta Program of Studies

Grade 8



| Alberta Program of Studies | Related activities from <i>Equals Math</i> resources |
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| Number | |
| Representing | |
| <p>N3. Demonstrate an understanding of percents greater than or equal to 0%, including greater than 100%.</p> | <p><i>Emerging:</i></p> <ul style="list-style-type: none"> 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 pieces (R) 12.A.4 identify 2 ways to make a square into fourths (R) 12.A.5 define meaning of numerator and denominator (R) 12.A.6 write fraction name (R) 12.B.1 identify fractions with numerator greater than 1 (R) 12.B.2 match equivalent fractions with models (R) 12.C.1 identify fractions with common denominator (R) <p><i>Introductory:</i></p> <ul style="list-style-type: none"> 12.B.3 identify fractions of a set (R) 12.B.4 order common fractions (R) 12.B.5 compare common fractions (R) 12.B.6 identify fractions of linear measurement (R) 12.D.3 read decimals to tenths place (R) 12.D.4 read decimals in money terms (R) 12.D.5 add and subtract decimals in money terms (R) 12.D.6 match decimals and fractions and relate time and money (R) 12.D.7 match fractions to percentages (R) <p><i>Basic:</i></p> <p>No related activities identified.</p> |
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Multiplying and Dividing

N6. Demonstrate an understanding of multiplying and dividing positive fractions and mixed numbers, concretely, pictorially and symbolically.

Emerging:

- 12.B.3 identify fractions of a set (R)
- 12.B.4 order common fractions (R)
- 12.B.5 compare common fractions (R)
- 12.B.6 identify fractions of linear measurement (R)

Introductory:

- 11.A.1 demonstrate multiplication with repeated sets (R)
- 11.A.2 use manipulatives to solve multiplication problems (R)
- 11.A.3 use 10:1 or 2:1 relationships to solve a multiplication problem (R)
- 11.A.4 skip count to solve multiplication problems (R)
- 11.B.4 use multiplication to solve word problem with repeated addition problem (R)
- 11.B.5 solve 2-digit multiplication problem with calculator (R)
- 11.B.6 demonstrate commutative property of multiplication (R)
- 11.C.1 identify sets that can be divided into equal groups (R)
- 11.C.2 demonstrate division with array and grouping (R)
- 11.C.3 use manipulatives to solve division problems (R)
- 11.C.5 use inverse relation to solve division problems (R)
- 11.D.3 use division to solve word problem with equal sets(R)
- 11.D.6 choose multiplication or division to solve word problem (R)
- 12.C.4 identify mixed numbers in a recipe
- 12.D.7 match fractions to percentages

Basic:

No related activities identified.

N7. Demonstrate an understanding of multiplication and division of integers, concretely, pictorially and symbolically.

Emerging:

No related activities identified.

Introductory:

- 11.A.1 demonstrate multiplication with repeated sets (R)
- 11.A.2 use manipulatives to solve multiplication problems (R)
- 11.A.3 use 10:1 or 2:1 relationships to solve a multiplication problem (R)
- 11.A.4 skip count to solve multiplication problems (R)
- 11.B.4 use multiplication to solve word problem

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| | <p>with repeated addition problem (R)</p> <p>11.B.5 solve 2-digit multiplication problem with calculator (R)</p> <p>11.B.6 demonstrate commutative property of multiplication (R)</p> <p>11.C.1 identify sets that can be divided into equal groups (R)</p> <p>11.C.2 demonstrate division with array and grouping (R)</p> <p>11.C.3 use manipulatives to solve division problems (R)</p> <p>11.C.5 use inverse relation 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 or division to solve word problem (R)</p> <p><i>Basic:</i> No related activities identified.</p> |
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| Patterns and Relations | |
| Graphs and Tables | |
| <p>PR1. Graph and analyze two-variable linear relations.</p> | <p><i>Emerging:</i> 10.C.5 extend number pattern with constant increment 10.C.6 use a table representing constant rate of change 10.C.7 describe number pattern in table with constant rate of change</p> <p><i>Introductory:</i> No related activities identified.</p> <p><i>Basic:</i> No related activities identified.</p> |
| Equations | |
| <p>PR2. Model and solve problems concretely, pictorially and symbolically, using linear equations of the form:</p> <ul style="list-style-type: none"> • $ax = b$ • $x/a \square b, a \neq 0$ • $ax + b = c$ • $x/a + b \square c, a \neq 0$ • $a(x + b) = c$ <p>where a, b and c are integers.</p> | <p><i>Emerging:</i> 10.C.1 use notation for equivalent expression 10.C.2 complete problem solving with missing addend 10.C.3 solve addition equation with a variable 10.C.4 identify equal and equivalent sets</p> <p><i>Introductory:</i> No related activities identified.</p> <p><i>Basic:</i> No related activities identified.</p> |

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| Alberta Program of Studies | Related activities from <i>Equals Math</i> resources |
|---|---|
| Shape and Space | |
| Triangles | |
| SS1. Develop and apply the Pythagorean theorem to solve problems. | <p><i>Emerging:</i> 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) 11.E.1 measure perimeter</p> <p><i>Introductory:</i> No related activities identified.</p> <p><i>Basic:</i> No related activities identified.</p> |
| Surface Area | |
| SS3. Determine the surface area of: <ul style="list-style-type: none"> • right rectangular prisms • right triangular prisms • right cylinders to solve problems. | <p><i>Emerging:</i> 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.C.1 identify right angle (R) 9.D.4 count sides and vertices on two-dimensional net (R) 11.E.1 measure perimeter (R)</p> <p><i>Introductory:</i> 11.E.2 measure area (R) 11.E.4 determine the volume of a box (R)</p> <p><i>Basic:</i> No related activities identified.</p> |
| 3-D Objects | |
| SS2. Draw and construct nets for 3-D objects. | <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.C.1 identify right angle (R) 9.C.3 identify polygons and quadrilaterals (R) 9.C.4 identify rhombus, hexagon and octagon(R) 9.D.1 identify three-dimensional faces, vertices, and edges (R) 9.D.2 count three-dimensional faces, vertices,</p> |

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| | <p>and angles 9.D.3 use a table to organize three-dimensional shapes (R) 11.E.1 measure perimeter (R)</p> <p><i>Introductory:</i> 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) 11.E.2 measure area (R) 11.E.4 determine the volume of a box (R)</p> <p><i>Basic:</i> No related activities identified.</p> |
| <p>SS5. Draw and interpret top, front and side views of 3-D objects composed of right rectangular prisms</p> | <p><i>Emerging:</i> 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.C.1 identify right angle (R) 9.C.3 identify polygons and quadrilaterals (R) 9.C.4 identify rhombus, hexagon and octagon(R) 9.D.1 identify three-dimensional faces, vertices, and edges (R) 9.D.2 count three-dimensional faces, vertices, and angles 9.D.3 use a table to organize three-dimensional 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) 11.E.1 measure perimeter (R) 11.E.2 measure area (R)</p> <p><i>Introductory:</i> No related activities identified</p> <p><i>Basic:</i> No related activities identified.</p> |
| <p>Formulas for Right Prisms and Right Cylinders</p> | |
| <p>SS4. Develop and apply formulas for determining the volume of right rectangular prisms, right triangular prisms and right cylinders.</p> | <p><i>Emerging:</i> 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.C.1 identify right angle (R) 9.D.4 count sides and vertices on two-dimensional net (R) 11.E.1 measure perimeter (R)</p> |

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| | <p><i>Introductory:</i> 11.E.2 measure area (R) 11.E.4 determine the volume of a box (R)</p> <p><i>Basic:</i> No related activities identified.</p> |
| Transformations | |
| <p>SS6. Demonstrate an understanding of the congruence of polygons.</p> | <p><i>Emerging:</i> 9.B.3 predict and confirm results of transformations (R) 9.B.4 describe motion (s) to prove congruency (R)</p> <p><i>Introductory:</i> No related activities identified.</p> <p><i>Basic:</i> No related activities identified.</p> |

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| Alberta Program of Studies | Related Activities from Equals Math |
|---|--|
| Statistics and Probability | |
| Graphs | |
| <p>SP1. Critique ways in which data is presented in circle graphs, line graphs, bar graphs and pictographs.</p> | <p><i>Emerging:</i> 3.D.6 interpret a bar graph by comparison 3.E.3 place data in simple bar graph with symbolic representation 3.E.4 compare amounts on bar graph with symbolic representation 3.E.5 use data from bar graph to solve simple problem 6.A.5 make a bar graph with categorical data 6.A.6 communicate conclusions drawn from bar graph</p> <p><i>Introductory:</i> No related activities identified.</p> <p><i>Basic:</i> No related activities identified.</p> |
| Probability | |
| <p>SP2. Solve problems involving the probability of independent events.</p> | <p><i>Emerging:</i> 10.B.1 predict probability of outcomes 10.B.2 describe outcome of experiment 10.B.3 describe variable and result</p> <p><i>Introductory:</i> 10.B.6 predict probability regarding change over time (R) 10.B.7 collect data from experiment</p> <p><i>Basic:</i> No related activities identified.</p> |