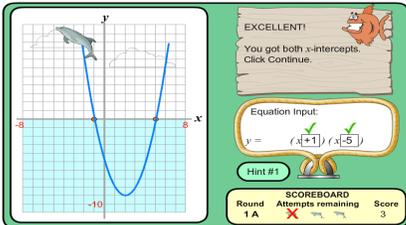
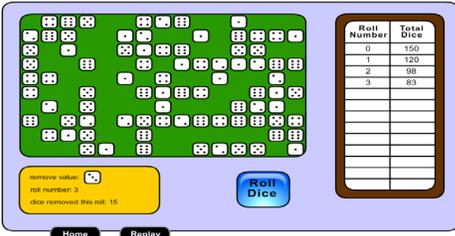
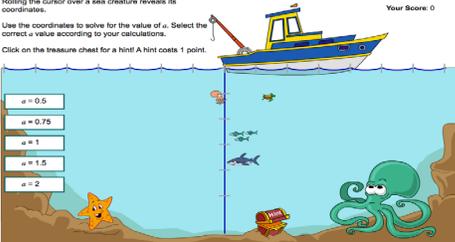
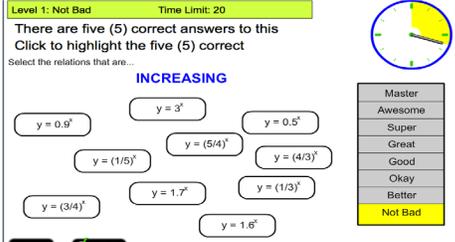


# MBF3C

## Ontario Educational Resources Bank (OERB) Activities

Mathematical Models	
Activity	Description
<p style="text-align: center;"><b>Buoy-Oh-Buoy</b></p>  <p style="text-align: center;"><b>Resource ID: ELO1199050</b></p>	<p>Build understanding of the roles of <math>a</math>, <math>s</math> and <math>t</math> in quadratics of the form <math>y=a(x-s)(x-t)</math> by viewing a scripted tutorial. Practise determining the values of <math>a</math>, <math>s</math> and <math>t</math> when the <math>x</math>-intercepts and the vertex of a quadratic function are given in a graph, by completing a simulation activity.</p>
<p style="text-align: center;"><b>A Dickey Situation</b></p>  <p style="text-align: center;"><b>Resource ID: ELO119090</b></p>	<p>Build understanding of exponential growth and decay by collecting realistic data through dice rolling simulations and viewing a graphical model for each.</p>
<p style="text-align: center;"><b>Go Fish</b></p>  <p style="text-align: center;"><b>Resource ID: EL01195080</b></p>	<p>Practise determining the stretch or compression factor given the vertex and one other point by finding the value of <math>a</math>, and ultimately the equation of a quadratic in vertex form, after viewing some model solutions.</p>
<p style="text-align: center;"><b>Exponent - Chills</b></p>  <p style="text-align: center;"><b>Resource ID: ELO1199150</b></p>	<p>Build understanding of exponential graphs of the form <math>y=b^x</math> where <math>b&gt;1</math> and where <math>0&lt;b&lt;1</math> by viewing an illustrated tutorial. Practise differentiating between these two sets of graphs by identifying the correct equations of various exponential relations.</p>

# MBF3C

## Ontario Educational Resources Bank (OERB) Activities

### Mathematical Models (continued)

#### Activity

#### Description

#### Exponent Laws

[Multiply Tutorial](#)

$$3^2 \times 3^4 = (3 \times 3) \times (3 \times 3 \times 3 \times 3)$$

$$= 3^6$$

Click the Next button to continue.

Resource ID: ELO1150750

Build understanding of the exponent laws by viewing a tutorial. Practise the exponent laws by simplifying expressions involving the multiplication and division of powers and the power of a power.

#### Exponent Locker Combinations

As you move from top to bottom on Andy's combination you divide by 2 to get the next answer. For example,  $32 \div 2 = 16$ .

If we want  $2^0$ , divide the answer for  $2^1$  by 2!

The answer is 1!

Resource ID: ELO1150760

Build understanding of zero and negative exponents by examining number patterns. Practise evaluating expressions with zero and negative exponents by answering questions and finding matches.

#### Net Results

Resource ID: ELO1196410

Build understanding of how to determine the x-intercepts given a quadratic in factored form by viewing a scripted tutorial. Practise determining the x-intercepts of a quadratic in factored form by dragging buoys to the appropriate x-intercepts on a number line in a fishing activity.

### Personal Finance

#### Activity

#### Description

#### Compound Interest

**Test Yourself**

Click and drag the correct *i* value and *n* value to match beside the appropriate description for the formula  $A = P(1 + i)^n$

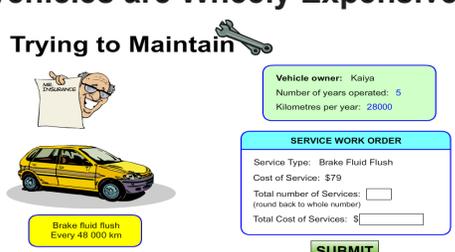
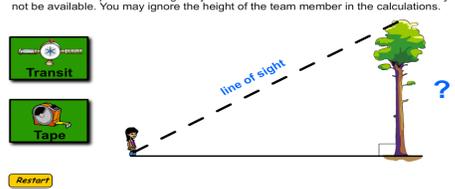
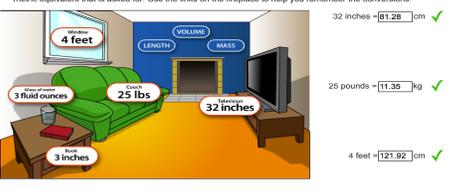
Descriptions	<i>i</i> value	<i>n</i> value	<i>i</i> values	<i>n</i> values
5% interest compounded semi annually for 3 years	<input type="text"/>	<input type="text"/>	<input type="text" value="0.003267671233"/>	<input type="text" value="120"/>
6.5% interest compounded quarterly for 5 years	<input type="text"/>	<input type="text"/>	<input type="text" value="0.0075"/>	<input type="text" value="730"/>
9% interest compounded monthly for 10 years	<input type="text"/>	<input type="text"/>	<input type="text" value="0.01625"/>	<input type="text" value="6"/>
12% interest compounded daily for 2 years	<input type="text"/>	<input type="text"/>	<input type="text" value="0.025"/>	<input type="text" value="20"/>

Resource ID: ELO1150720

Practise determining the appropriate *i* and *n* values in the compound interest formula,  $A = P(1 + i)^n$  by dragging given *i* and *n* values to match a variety of investment scenarios after viewing worked examples of how to calculate future value using this formula and how to adjust *i* and *n* according to the compounding period.

# MBF3C

## Ontario Educational Resources Bank (OERB) Activities

Personal Finance (continued)	
Activity	Description
<p style="text-align: center;"><b>Double Take / An Interesting Challenge</b></p> <p>Match this value: Level 2 8 chances remaining</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; background-color: #d9e1f2;">\$4645.89</div> <div style="border: 1px solid black; padding: 5px; background-color: #d9e1f2;">\$5673.38</div> </div> <p>1) \$4000 at 3.5% compounded semi-annually for 3 years = \$4438.81 ❌</p> <p>2) \$4000 at 5% compounded monthly for 3 years = \$4645.89 ✅</p> <p>3) \$4000 at 8% compounded daily for 3 years = \$5967.04 ❌</p> <p>4) \$4000 at 8% compounded daily for 3 years <input type="button" value="Check"/></p> <p style="text-align: center; margin-top: 20px;"><b>Resource ID: ELO1199170</b></p>	<p>Build understanding of how the interest rate, the compounding period and the time invested impacts on the future amount by manipulating these values in the compound interest formula to match a specific future value amount.</p>
<p style="text-align: center;"><b>Vehicles are Wheely Expensive</b></p> <p style="text-align: center;"><b>Trying to Maintain</b></p>  <p style="text-align: center; margin-top: 20px;"><b>Resource ID: ELO1199190</b></p>	<p>Build understanding of the costs associated with owning, leasing and operating a vehicle by selecting from and manipulating a variety of options to investigate the impact of each.</p>
Geometry and Trigonometry	
Activity	Description
<p style="text-align: center;"><b>The Great Trig Trek</b></p> <p style="text-align: center;"><b>The Great Trig</b> <b>Trek</b> <span style="float: right;"><b>North America</b></span></p> <p><small>You must calculate the height of a giant redwood tree in California. Select a tool and then click on the part of the diagram you wish to measure. Some measurements may not be available. You may ignore the height of the team member in the calculations.</small></p>  <p style="text-align: center; margin-top: 20px;"><b>Resource ID: ELO1194980</b></p>	<p>Practise selecting an appropriate tool by deciding whether a trig ratio, the sine law or the cosine law should be used to solve for a missing measure in a triangle. Practise problem solving by calculating the measure of a missing side or angle in real-life examples involving triangles.</p>
<p style="text-align: center;"><b>Imperial vs Metric System</b></p> <p style="text-align: center;"><small>Converting between Metric and Imperial</small></p> <p><small>Click on the imperial measurements you see in the living room. Convert each imperial measurement to the metric equivalent that is asked for. Use the links on the fireplace to help you remember the conversions.</small></p>  <p style="text-align: center; margin-top: 20px;"><b>Resource ID: ELO1150730</b></p>	<p>Practise converting within and between the imperial and metric systems of measurement by calculating equivalent measures for a variety of mass, volume and length problems, given the conversion formulae. Practise selecting an appropriate measure by matching examples to an appropriate measurement.</p>

# MBF3C

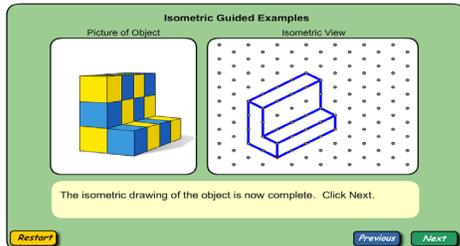
## Ontario Educational Resources Bank (OERB) Activities

### Geometry and Trigonometry (continued)

#### Activity

#### Description

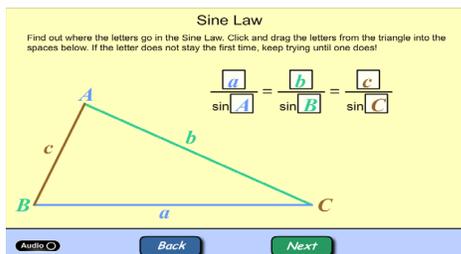
#### It's All in The Way You View It



Resource ID: ELO1195030

Build understanding of three-dimensional geometry, by constructing isometric and orthographic drawings for three-dimensional images, after viewing step-by-step demonstrations.

#### Sine and Cosine Law



Resource ID: ELO1081410

Practise using the sine law and cosine law by selecting the appropriate law and then solving for a missing side or angle after viewing animated “how to” examples.

### Data Management

#### Activity

#### Description

#### Just Your Average Games



Resource ID: ELO1199210

Build understanding of mean and median by selecting values from a set of data to get a target mean and median. Practise determining the mean and median for a set of data by participating in timed challenges.

#### Probability Fair



Resource ID: ELO1199010

Build understanding of theoretical probability by calculating the probability of a variety of events while participating in three different carnival games of chance.