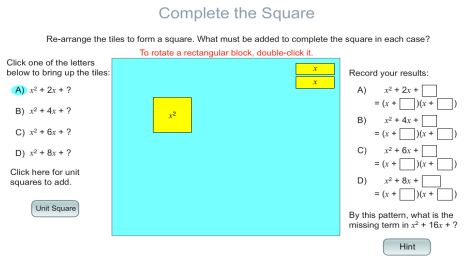
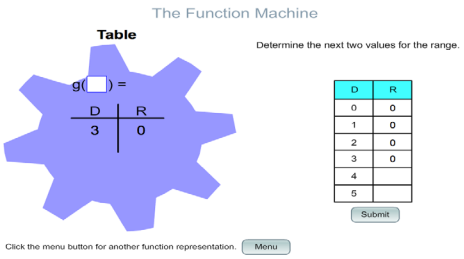
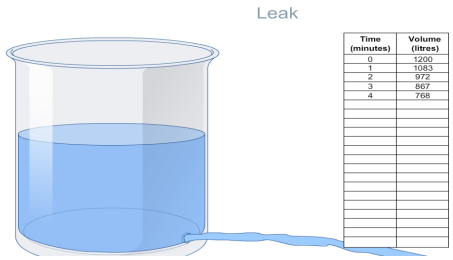
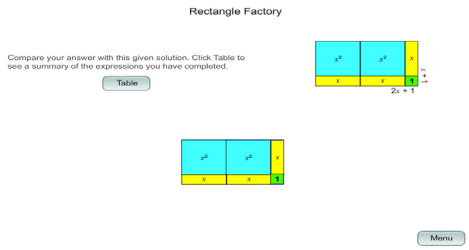
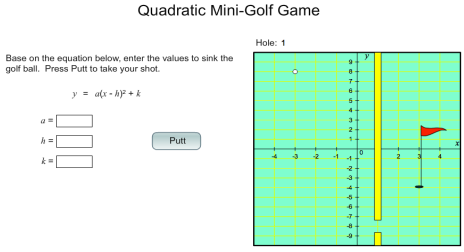
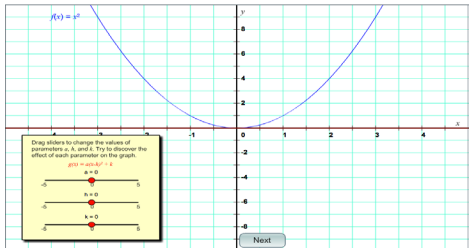
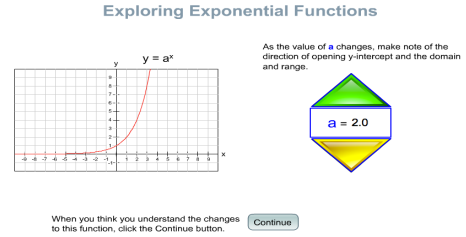
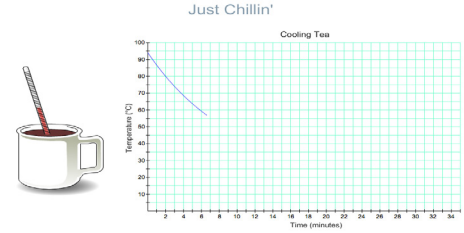
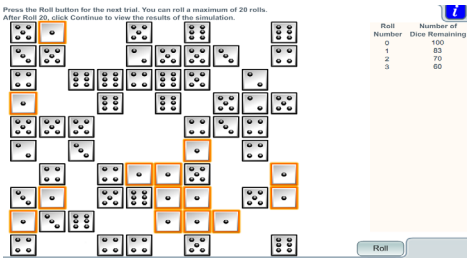
MCR3U
Ontario Educational Resources Bank (OERB) Activities

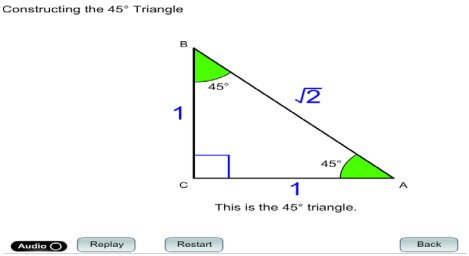
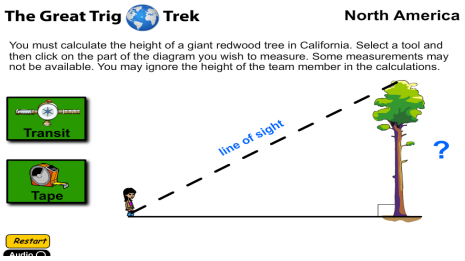
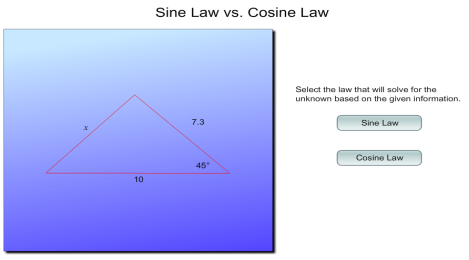
Characteristics of Functions	
Activity	**Description**
Completing the Square  **Resource ID: ELO1084080**	Build understanding of perfect square trinomials and a foundation for the process of completing the square by determining the missing tiles needed to complete perfect squares using virtual algebra tiles.
The Function Machine  **Resource ID: ELO1079500**	Build understanding of the relationship between the domain values and the range values of a function by exploring tables of values, data sets, mapping diagrams and graphs. Practise making equations by making predictions for each relation described.
Leak  **Resource ID: EL01079520**	Build understanding of the properties of quadratic functions by exploring a water leaking simulation where data is collected and represented graphically. Practise applying this knowledge by completing a quiz.
Rectangle Factory  **Resource ID: ELO1098970**	Build understanding of factoring by creating rectangles with a given area, using virtual algebra tiles.

MCR3U
Ontario Educational Resources Bank (OERB) Activities

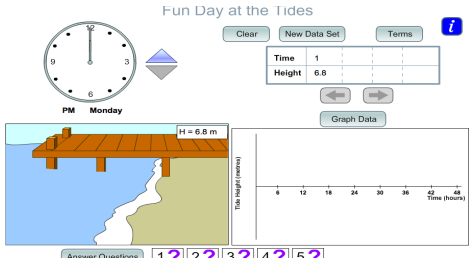
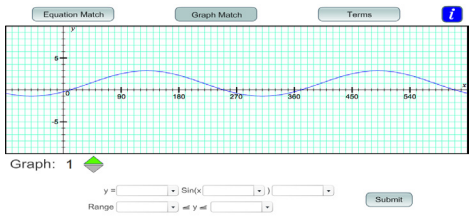
Characteristics of Functions (continued)	
Activity	**Description**
Quadratic Mini-Golf  **Resource ID: ELO1099580**	Practise determining the equation of a quadratic in vertex form $y=a(x-h)^2+k$, by calculating a when given the vertex and another point in a golf simulation activity.
Quadratic Transformations  **Resource ID: ELO1081340**	Build understanding of transformations by exploring the effects of each parameter in the quadratic equation $y=a(x-h)^2+k$. Practise applying this knowledge by completing a quiz.
Exponential Functions	
Activity	**Description**
Exploring Exponential Functions  **Resource ID: ELO1079540**	Build understanding of the properties of the basic exponential function $y=a^x$ by exploring what happens to a graph as the value of the base a changes. Practise applying this knowledge by completing a quiz.
Just Chillin'  **Resource ID: ELO1081370**	Build understanding of exponential decay by investigating and interpreting the parts of a graph related to a simulation of hot liquid cooling.

MCR3U
Ontario Educational Resources Bank (OERB) Activities

Exponential Functions (continued)	
Activity	**Description**
Keep on Rollin'  **Resource ID: ELO1087820**	Build understanding of exponential decay by investigating and interpreting the parts of a graph related to a dice rolling simulation.

Trigonometric Functions	
Activity	**Description**
Constructing the 45° Triangle  **Resource ID: ELO1178310**	Build understanding of how the measures in an isosceles right triangle are related by viewing how it can be constructed from a unit square.
The Great Trig Trek  **Resource ID: ELO1194980**	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.
Sine Law vs Cosine Law  **Resource ID: ELO1410410**	Practise the sine law and cosine law by selecting the appropriate law and solving for a missing measure in a triangle.

MCR3U
Ontario Educational Resources Bank (OERB) Activities

Trigonometric Functions (continued)	
Activity	**Description**
Sinusoidal Tides  **Resource ID: ELO1081390**	Build understanding of the characteristics of the sine function by investigating the data collected and the graphs created from a simulation of the periodic behaviour of tides.
Transformations Exploration  **Resource ID: ELO1084100**	Build understanding of the sine function by investigating and interpreting the key features of graphs and equations of the form *y=asin(x-d)+c.*