

Maths

Maths and the car:

Use a calculator to estimate loan repayments needed to buy a car. Look at variables such as price, compound interest rate, term of loan and payment frequency. Work out the total interest to be paid by the borrower.

Differential calculus series:

Observe the non-linear distance-time graph of a rocket travelling at a changing velocity. The distance, s , travelled by the rocket after t seconds is determined by the formula $s(t) = t^4 + t^2$. This learning object is one in a series of ten objects. Some objects in the series are also packaged as combined learning objects.

Trig degrees series:

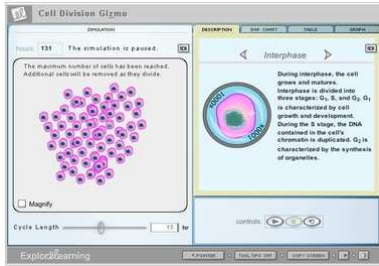
Use a unit circle tool to explore sine, cosine and tangent values in different quadrants. Determine the values for angles between 0° and 360° . Observe the symmetry and patterns of the functions to predict the behaviour of the graphs and the values for the functions in different quadrants. This learning object is a combination of three objects in the same series.

Graphing:

Plot some data points on a graph. Estimate the position for a line of best fit. Use a graphing tool to check your estimate. Add more points to see how they affect the position of the line of best fit.

Science

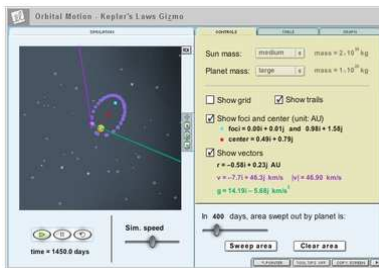
Life Science series:



Cell Division:

Students explore the process of cell division through an animated simulation of the cell type. Students can control the length of the cell cycle.

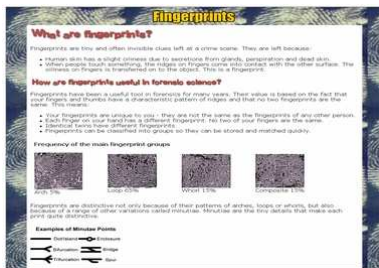
Physical Science series:



Orbital Motion: Kepler's Laws

Students apply Kepler's Law of planetary motion to orbiting bodies. They conduct controlled experiments and apply mathematical formulas to investigate the relationships between orbital period and radius.

Forensic Science series:



Fingerprints:

Students explore how various samples are collected, organised and analysed for scientific analysis. They compare a range of samples and observe differences.



The Secret of It's All Mine:

Students explore methods used in geology and pleaeontology. Students durrerentiate between igneous, metamorphic and sedimentary rocks by comparing the properties of rock samples.

English



The Paper series:

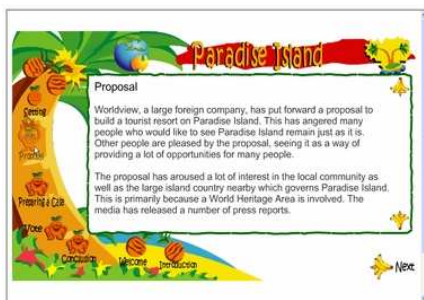
Explore careers in the newspaper industry. Examine interviews with people working at a Hobart daily newspaper such as an editor, journalist, cartoonist and photographer. Find out what they do and how they started in their careers. This learning object is one in a series of three objects.



Poetry Anthology:

Students select poems to create an anthology, and identify the conventions of each poetic form. They can also add their own poems to their collection.

Studies of Society and Environment



Paradise Island:

Explore arguments for and against building a tourist resort on a tropical island. Examine a development proposal and comments from locals and the media. Notice that the comments contain emotive language and are not always based on fact. Prepare a case representing the point of view of a group such as the indigenous population, local business owners or environmentalists.



Mining indigenous land:

Explore arguments for and against a proposal to mine Indigenous land. Examine interviews with a mining executive, conservationists and Indigenous people. Recommended an action and give reasons to justify your decision.