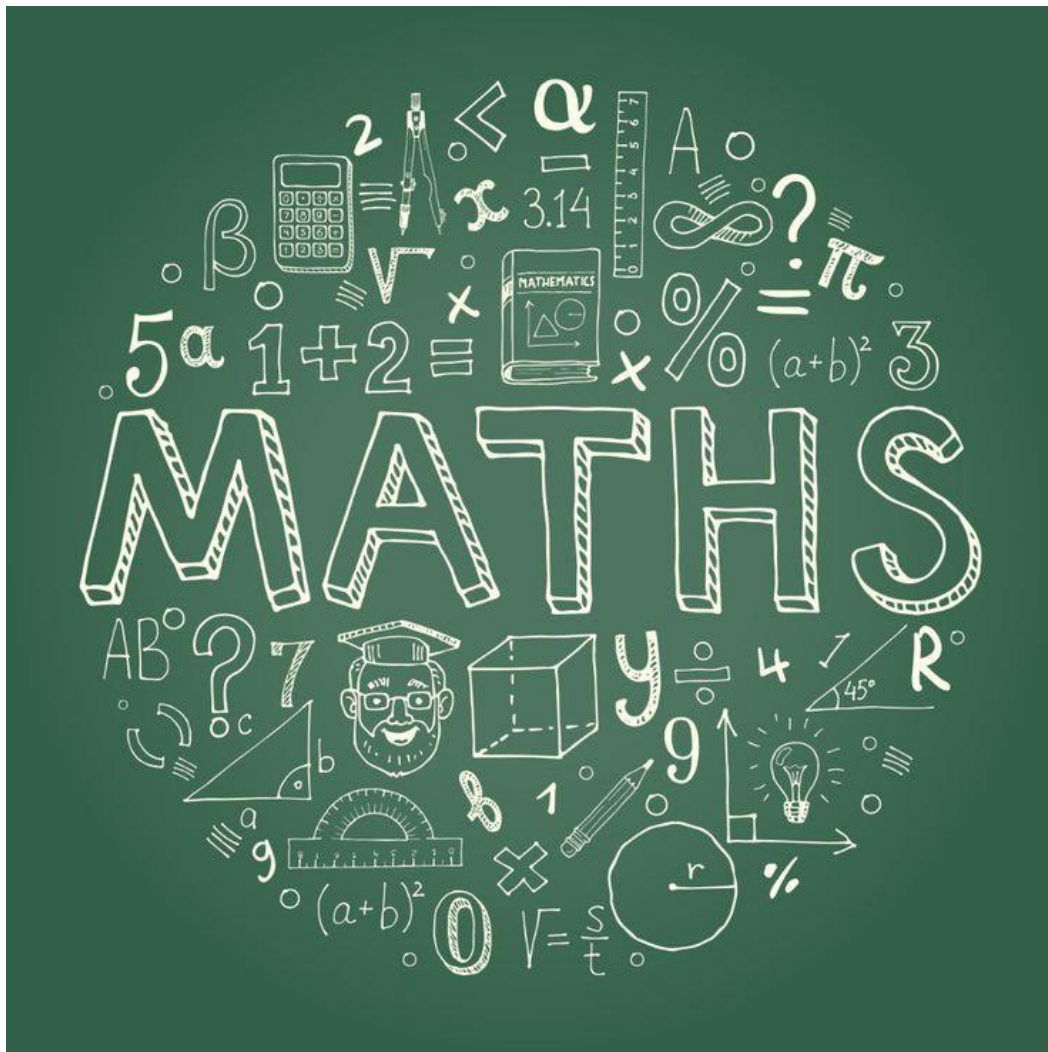


# A Level Maths

## Above the curriculum



Stretch yourself, aim high and expand your mathematical mind!

Curriculum Linked Resources			
Topic	Task Name	Challenge Level	Link
Indices and surds	Climbing Powers	★ ★	<a href="https://nrich.maths.org/324">https://nrich.maths.org/324</a>
	The Root of the Problem	★ ★	<a href="https://nrich.maths.org/901">https://nrich.maths.org/901</a>
	Power Stack	★	<a href="https://nrich.maths.org/7039">https://nrich.maths.org/7039</a>
	Quick Sum	★	<a href="https://nrich.maths.org/7040">https://nrich.maths.org/7040</a>
	Irrational Arithmagons	★ ★	<a href="https://nrich.maths.org/7448">https://nrich.maths.org/7448</a>
Polynomials	Direct Logic	★	<a href="https://nrich.maths.org/6333">https://nrich.maths.org/6333</a>
	Implicit	★ ★	<a href="https://nrich.maths.org/6406">https://nrich.maths.org/6406</a>
	Quad Solve	★ ★	<a href="https://nrich.maths.org/7041">https://nrich.maths.org/7041</a>
	Common Divisor	★	<a href="https://nrich.maths.org/7042">https://nrich.maths.org/7042</a>
	Unit Interval	★	<a href="https://nrich.maths.org/7051">https://nrich.maths.org/7051</a>
	Inner Equality	★	<a href="https://nrich.maths.org/7105">https://nrich.maths.org/7105</a>
Coordinate Geometry and Graphs	Parabolic Patterns	★	<a href="https://nrich.maths.org/parabolicpatterns">https://nrich.maths.org/parabolicpatterns</a>

Differentiation  
and Integration

Parabella	★	<a href="https://nrich.maths.org/785">https://nrich.maths.org/785</a>
Intersections	★	<a href="https://nrich.maths.org/5438">https://nrich.maths.org/5438</a>
Tangles Trig Graphs	★	<a href="https://nrich.maths.org/6481">https://nrich.maths.org/6481</a>
Curve Match	★	<a href="https://nrich.maths.org/6493">https://nrich.maths.org/6493</a>
Erratic Quadratic	★ ★	<a href="https://nrich.maths.org/6842">https://nrich.maths.org/6842</a>
Whose Line Graph Is It Anyway?	★	<a href="https://nrich.maths.org/6500">https://nrich.maths.org/6500</a>
Mind Your Ps and Qs	★ ★	<a href="https://nrich.maths.org/mindyourpsandqs">https://nrich.maths.org/mindyourpsandqs</a>
Implicitly	★ ★	<a href="https://nrich.maths.org/6406">https://nrich.maths.org/6406</a>
Integration Matcher	★	<a href="https://nrich.maths.org/6412">https://nrich.maths.org/6412</a>
Brimful	★ ★	<a href="https://nrich.maths.org/6426">https://nrich.maths.org/6426</a>
Brimful 2	★	<a href="https://nrich.maths.org/6430">https://nrich.maths.org/6430</a>
The Right Volume	★	<a href="https://nrich.maths.org/6495">https://nrich.maths.org/6495</a>
Calculus Countdown	★	<a href="https://nrich.maths.org/6552">https://nrich.maths.org/6552</a>
Trig Trig Trig	★ ★	<a href="https://nrich.maths.org/7059">https://nrich.maths.org/7059</a>
Gradient Match	★	<a href="https://nrich.maths.org/7060">https://nrich.maths.org/7060</a>
Turning to Calculus	★	<a href="https://nrich.maths.org/7084">https://nrich.maths.org/7084</a>
Curve Hunter	★	<a href="https://nrich.maths.org/7085">https://nrich.maths.org/7085</a>

	Calculus Analogies	★	<a href="https://nrich.maths.org/7087">https://nrich.maths.org/7087</a>
	The Sign of the Times	★ ★	<a href="https://nrich.maths.org/7091">https://nrich.maths.org/7091</a>
	Patterns of Inflection	★	<a href="https://nrich.maths.org/7197">https://nrich.maths.org/7197</a>
Trigonometry	Loch Ness	★ ★	<a href="https://nrich.maths.org/2693">https://nrich.maths.org/2693</a>
	Impossible Square?	★ ★	<a href="https://nrich.maths.org/5869">https://nrich.maths.org/5869</a>
	Impossible Triangles?	★ ★	<a href="https://nrich.maths.org/5923">https://nrich.maths.org/5923</a>
	Curved Square	★	<a href="https://nrich.maths.org/curvedsquare">https://nrich.maths.org/curvedsquare</a>
	Tangles Trig Graphs	★	<a href="https://nrich.maths.org/6481">https://nrich.maths.org/6481</a>
	Trig Identity	★	<a href="https://nrich.maths.org/7050">https://nrich.maths.org/7050</a>
	Geometric Trig	★	<a href="https://nrich.maths.org/7052">https://nrich.maths.org/7052</a>
	Trigger	★ ★	<a href="https://nrich.maths.org/7063">https://nrich.maths.org/7063</a>
	Stand Up Arcs	★	<a href="https://nrich.maths.org/7475">https://nrich.maths.org/7475</a>
	Calculating with Cosines	★ ★	<a href="https://nrich.maths.org/7787">https://nrich.maths.org/7787</a>
Sequence and Series	Circles Ad Infinitum	★ ★	<a href="https://nrich.maths.org/262">https://nrich.maths.org/262</a>
	Direct Logic	★	<a href="https://nrich.maths.org/6333">https://nrich.maths.org/6333</a>
	Speedy Summations	★	<a href="https://nrich.maths.org/6610">https://nrich.maths.org/6610</a>
	Prime Aps	★	<a href="https://nrich.maths.org/7054">https://nrich.maths.org/7054</a>

	Mad Robot	★	<a href="https://nrich.maths.org/7056">https://nrich.maths.org/7056</a>
	AP Train	★	<a href="https://nrich.maths.org/7097">https://nrich.maths.org/7097</a>
	Medicine Half Life	★	<a href="https://nrich.maths.org/7315">https://nrich.maths.org/7315</a>
Algebra and Functions	Power Match	★	<a href="https://nrich.maths.org/6159">https://nrich.maths.org/6159</a>
	Extreme Dissociation	★	<a href="https://nrich.maths.org/6169">https://nrich.maths.org/6169</a>
	Cubic Roots	★	<a href="https://nrich.maths.org/7066">https://nrich.maths.org/7066</a>
	Inverting Rational Functions	★★	<a href="https://nrich.maths.org/6959">https://nrich.maths.org/6959</a>
	Rational Request	★★★	<a href="https://nrich.maths.org/6960">https://nrich.maths.org/6960</a>
Numerical Methods	Root Hunter	★	<a href="https://nrich.maths.org/5876">https://nrich.maths.org/5876</a>
	Solve Me!	★	<a href="https://nrich.maths.org/7038">https://nrich.maths.org/7038</a>
	Archimedes Numerical Roots	★	<a href="https://nrich.maths.org/7291">https://nrich.maths.org/7291</a>
Differentiation	It's Only a Minus Sign	★★	<a href="https://nrich.maths.org/5874">https://nrich.maths.org/5874</a>
Vectors	Flexi Quads	★	<a href="https://nrich.maths.org/439">https://nrich.maths.org/439</a>
	Vector Walk	★	<a href="https://nrich.maths.org/6572">https://nrich.maths.org/6572</a>
	Polygon Walk	★	<a href="https://nrich.maths.org/6632">https://nrich.maths.org/6632</a>
Kinematics	Speed-time Problems at the Olympics	★	<a href="https://nrich.maths.org/7322">https://nrich.maths.org/7322</a>

	Take a Message Soldier	☆☆	<a href="https://nrich.maths.org/1971">https://nrich.maths.org/1971</a>
	Speedo	☆	<a href="https://nrich.maths.org/7109">https://nrich.maths.org/7109</a>
	Dangerous Driver?	☆	<a href="https://nrich.maths.org/6417">https://nrich.maths.org/6417</a>
	Max Throw	☆☆	<a href="https://nrich.maths.org/7058">https://nrich.maths.org/7058</a>
	Crazy Cannons	☆☆	<a href="https://nrich.maths.org/7057">https://nrich.maths.org/7057</a>
	Cannon Balls	☆	<a href="https://nrich.maths.org/5987">https://nrich.maths.org/5987</a>
Statistical Sampling	Statistical Shorts	☆	<a href="https://nrich.maths.org/7721">https://nrich.maths.org/7721</a>
	Stats Statements	☆	<a href="https://nrich.maths.org/6149">https://nrich.maths.org/6149</a>
	Counting Fish	☆	<a href="https://nrich.maths.org/6060">https://nrich.maths.org/6060</a>
Data Presentation and Interpretation	Top Marks	☆☆	<a href="https://nrich.maths.org/7032">https://nrich.maths.org/7032</a>
	Spread	☆☆☆	<a href="https://nrich.maths.org/2776">https://nrich.maths.org/2776</a>
Probability	Teams	☆	<a href="https://nrich.maths.org/471">https://nrich.maths.org/471</a>
	Rain or Shine	☆☆	<a href="https://nrich.maths.org/314">https://nrich.maths.org/314</a>
	Put Out	☆☆☆	<a href="https://nrich.maths.org/1970">https://nrich.maths.org/1970</a>
	The Derren Brown Coin Flipping Scam	☆☆☆	<a href="https://nrich.maths.org/6954">https://nrich.maths.org/6954</a>

Statistical  
Distributions

Discussing Risk and Reqard	★	<a href="https://nrich.maths.org/6955">https://nrich.maths.org/6955</a>
Data Matching	★	<a href="https://nrich.maths.org/5933">https://nrich.maths.org/5933</a>
Which List Is Which?	★ ★	<a href="https://nrich.maths.org/7731">https://nrich.maths.org/7731</a>
Into the Normal Distribution	★ ★	<a href="https://nrich.maths.org/6314">https://nrich.maths.org/6314</a>
Snooker	★	<a href="https://nrich.maths.org/353">https://nrich.maths.org/353</a>
Snooker Frames	★	<a href="https://nrich.maths.org/358">https://nrich.maths.org/358</a>
Over-booking	★ ★ ★	<a href="https://nrich.maths.org/4932">https://nrich.maths.org/4932</a>

Additional Resources - Websites	
Website	URL
MathsWatch	<a href="https://www.mathswatch.co.uk">https://www.mathswatch.co.uk</a>
Kerboodle Textbook	<a href="https://www.kerboodle.com/users/active_session">https://www.kerboodle.com/users/active_session</a>
TLMaths	<a href="https://sites.google.com/view/tlmaths/home">https://sites.google.com/view/tlmaths/home</a>
Integral	<a href="https://integralmaths.org">https://integralmaths.org</a>
Exam Solutions	<a href="https://www.examsolutions.net/a-level-maths/aqa/">https://www.examsolutions.net/a-level-maths/aqa/</a>
Maths Genie	<a href="https://www.mathsgenie.co.uk/newalevel.html">https://www.mathsgenie.co.uk/newalevel.html</a>
NRich Live Problems	<a href="https://nrich.maths.org/8410">https://nrich.maths.org/8410</a>

Additional Resources - Reading List	
Author	Book Title
Simon Singh	Fermat's Last Theorem
Simon Singh	The Code Book
Alex Bellos	Alex's Adventures in Numberland
Marcus Du Sautoy	The Music of the Primes
David Acheson	1089 and all that: A Journey into Mathematics