
















## Guide to topics and Key Stage relevance

The curriculum materials within the LGfL Search & Rescue resource are based on real-life challenges faced daily by HM Coastguard. Each problem has been assigned a coastguard rank according to its challenge level to enable easy differentiation.









-  Maritime Operations Officer
-  Senior Maritime Operations Officer
-  Commander
-  Chief Coastguard

Theme & quick link	Suggested Key Stage			Sub-topics
Bearings <a href="http://SaRbearings.lgfl.net">SaRbearings.lgfl.net</a>	2	3	4	<ul style="list-style-type: none"> <li> Co-ordinates</li> <li> Constructing circles</li> <li> Measuring &amp; scale conversion</li> <li> Speed, distance &amp; time</li> </ul>
Speed, distance and time <a href="http://SaRspeed.lgfl.net">SaRspeed.lgfl.net</a>	2	3	4	<ul style="list-style-type: none"> <li> Speed, distance &amp; time calculations</li> <li> Minimising time (functional)</li> <li> Planning journeys (timetabling)</li> <li> Complex calculations (problem-solving)</li> </ul>

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	2	3	4	5	
Algebra <a href="http://SaRalgebra.lgfl.net">SaRalgebra.lgfl.net</a>					 Substituting into formulae  Forming and solving one step equations  Forming and solving multi-step equations  Forming and solving simultaneous equations
Pythagoras & trigonometry <a href="http://SaRpythagorus.lgfl.net">SaRpythagorus.lgfl.net</a>					 Drawing lines minimising distance  Identifying right triangles, calculating hypotenuse  Trigonometry - finding angles - making bearings  Combining info with speed, distance and time
Vectors <a href="http://SaRvectors.lgfl.net">SaRvectors.lgfl.net</a>					 Bearings and length  Percentages and compass construction  Adding vectors  Angles and percentages
Probability <a href="http://SaRprobability.lgfl.net">SaRprobability.lgfl.net</a>					 Interpreting scale distance  Comparing probabilities (multiplying)  Maximising probability (multiplying)  Quadratic sequence finding

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<p>Mechanics</p> <p><a href="http://SaRmechanics.lgfl.net">SaRmechanics.lgfl.net</a></p>				5	<ul style="list-style-type: none"> <li> Converting kN to kg</li> <li> Using trigonometry to find tensions</li> <li> Coefficient of friction</li> <li> Complex calculations (problem-solving)</li> </ul>
<p>Statistics: normal distribution</p> <p><a href="http://SaRstats.lgfl.net">SaRstats.lgfl.net</a></p>				5	<ul style="list-style-type: none"> <li> Reading normal distribution table</li> <li> Finding probabilities greater than...</li> <li> Finding probabilities between two values</li> <li> Complex calculations (problem-solving)</li> </ul>

### Suggested lesson structure

It is recommended that each topic will take between 1-2 lessons. This will vary between classes. Students can either work through the tasks in a sequential order, or the teacher could direct certain students to tackle certain problems based on their ability and required challenge.

Blank templates have been provided to allow students the chance to create their own scenarios to share and challenge their peers using the mathematical knowledge required.