



# KS4 curriculum: RMT/Electronics

10	Knowledge	Tier 2 vocabulary	Skills	Assessment
<b>Autumn 1</b>	<p>Properties of materials. Using and working with materials 3.2.5 Using and working with materials 3.2.5 New and emerging technologies 3.1.1</p> <p>Design Strategies 3.3.4</p> <p>Communication of design ideas 3.3.5</p>	<p>Digital Apply Define Examine Identify Outline</p>	<p>Able to give an explanation of key terms – working properties, physical properties. Discuss production methods in industry using Computer Aided Design (CAD) and Computer Aided Manufacture. Research, Investigation, Brief, Specification</p>	<p>Assessing prior knowledge of ways to change properties.</p> <p>Core assessment &amp; structured long answer questions on material properties</p>
<b>Autumn 2</b>	<p>The six Rs - Ecological issues in design and manufacture. Ecological and social footprint 3.2.3· Introduction to the idea of products having a carbon footprint, understanding what adds to this footprint.</p> <p>New and emerging technologies 3.1.1 Energy generation and storage 3.1.2 Design Strategies 3.3.4 Communication of ideas 3.3.5 Ecological and social footprint 3.2.3</p>	<p>Develop Create Sustainable Compare Describe Justify Impact Culture Society</p>	<p>Recall of the six Rs (Reduce, Refuse, Re-use, Repair, Recycle and Rethink) Social factors</p> <p>Ethical factors</p> <p>Designing: sketching, modelling, testing.</p> <p>Initial ideas</p> <p>Development</p>	<p>Self and peer evaluation. Design challenge</p>
<b>Spring 1</b>	<p>Systems approach to designing 3.1.4 Mechanical devices 3.1.5 Developments in new materials 3.1.3</p> <p>Sources and origins 3.2.4</p> <p>Stock forms types and sizes 3.2.6 Forces and stresses 3.2.2</p>	<p>Reinforcing Precision Movement Calculate Flexible Motions</p>	<p>Mechanisms Linear Oscillating Reciprocating Rotary Modelling Linkages</p>	<p>Modelling assessment on different mechanisms</p>
<b>Spring 2</b>	<p>Investigation, primary and secondary data 3.3.1 Communication of ideas 3.3.5</p> <p>Selection of materials or components 3.2.1</p> <p>The work of others 3.3.3</p> <p>Communication of design ideas 3.3.5</p>	<p>Investigate Analyse Describe Compare Improve Source</p>	<p>Functionality Aesthetics Environmental factors Availability Cost</p>	<p>Written specification assessment on target market and needs.</p>
<b>Summer 1</b>	<p>Selection of materials or components 3.2.1</p> <p>Communication of ideas 3.3.5</p> <p>Design Strategies 3.3.4</p>	<p>Apply Demonstrate Present Technical Method Accuracy Define Explain</p>	<p>Isometric and perspective designs Exploded diagrams Working drawings Computer-based tools Audio and visual recordings Modelling Generating imaginative and creative designs</p>	<p>Drawing assessment on Isometric and orthographic</p>
	<p>NEA Identification and analysis of context 3.3.1(1) Client profile 3.3.1(3) Investigation into the work of others</p>	<p>Analyse Research Impact Society</p>	<p>Investigate Consider own and users needs</p>	<p>Assessment questions on investigation and research.</p>



11	Knowledge	Tier 2 vocabulary	Skills	Assessment
Autumn 1	Source and properties of materials- 3.1.6 (1) & 3.1.6.2 (1)& 3.2.4(1)& 3.2.5(1) Collaboration within design- 3.3.4(1) Development of ideas- sketching & modelling- 3.3.4(2)& 3.3.5 Selection of materials/components- 3.2.1(1) Develop prototypes- 3.3.6 & 3.3.7 Modify, reflect critically, assess for purpose- 3.3.6 Tolerances- 3.3.8	Source Classify Advantages Disadvantages Explain Modify Adapt Present Develop Conclude Tolerance	Illustration Design Presentation Collaboration of ideas Identifying appropriate materials Understanding user needs and product, function.	Core assessment section with use of materials questions
Autumn 2	Source and properties of materials- 3.1.6 (1) & 3.1.6.2 (1)& 3.2.4(1)& 3.2.5(1) Collaboration within design- 3.3.4(1) Development of ideas- sketching & modelling- 3.3.4(2)& 3.3.5 Selection of materials/components- 3.2.1(1) Develop prototypes- 3.3.6 & 3.3.7 Modify, reflect critically, assess for purpose- 3.3.6 Tolerances- 3.3.8	Source Classify Advantages Disadvantages Explain Modify Adapt Present Develop Conclude Tolerance	Illustration Design Presentation Collaboration of ideas Identifying appropriate materials Understanding user needs and product, function.	Core assessment section with use of materials questions
Spring 1	Commercial processes, techniques and systems- 3.2.8.4& 3.1.1.8 Scales of production-3.2.7 Production aids- 3.2.8.1 & 3.1.1.8 New and emerging technologies- Industry 3.1.1.1 Develop prototypes- 3.3.6 & 3.3.7 Modify, reflect critically, assess for purpose- 3.3.6 Tolerances- 3.3.8 Material management- 3.3.9	Processes System Commercial Batch Mass Emerging Modify Manufacture Economically Measurements Prototype	Industrial knowledge Application of technical skills Accuracy Management and planning of material use Dimensional accuracy	Mock examination paper 2018