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| **GCSE Design and Technology –** - *Product Design Topic Checklist* | **Name: Class:** |
| **Teacher:** |
| **Section A** | **Core Technical Principles** | **Page no**.Blue | **Page no**.White | Outline Emoticons Free Vector Pack | Outline Emoticons Free Vector Pack | Outline Emoticons Free Vector Pack |
| **New and emerging technologies**  | Technology in Manufacture, CAD/CAM, Product Sustainability, Products in society, Social issues | 1-10 | 4-12 |  |  |  |
| **Energy generation and storage**  | Powering Systems  | 12-13 | 13-14 |  |  |  |
| **Developments in new materials**  | Modern, smart and composite materials and technical textiles. | 32-33 | 30-31 |  |  |  |
| **Systems approach to designing**  | Electronic systems-circuits, inputs, processes and outputs.  | 24-27 | 24-26 |  |  |  |
| **Mechanical devices**  | Mechanisms, gears, cams & followers, pulleys& belts, levers & Linkages | 28-31 | 27-29 |  |  |  |
| **Materials and their working properties** | Material Properties, Papers & boards, Natural timbers, Manufactured boards, Metals & alloys, Polymers[plastics], Textiles.  | 14-23 | 15-23 |  |  |  |
| Sources of materials/Production of materials- papers & boards, woods, metals, plastics, textiles. | 44-47 | 42-45 |  |  |  |
| Production Aids-jigs, patterns and templates | 42-43 | 40-41 |  |  |  |
| **Section B** | **Specialist Technical Principles** | **Page no**.Blue | **Page no**.White | Outline Emoticons Free Vector Pack | Outline Emoticons Free Vector Pack | Outline Emoticons Free Vector Pack |
| **Selection of materials or components** | Functionality, availability, aesthetics and cost. Environmental, social, cultural and ethical factors | 34--35 | 32-33 |  |  |  |
| **Forces and stresses** | Tension, compression, shear, torsion, bending. Enhancing materials-Reinforcing, stiffening and making materials more flexible | 36-37 | 34-35 |  |  |  |
| **Ecological and social Footprint** | Product sustainability, The 6 R’s, social footprint | 6-9 | 7-10 |  |  |  |
| **Scales of Production** | One-off. Batch. Mass and continuous production | 38-39 | 36 |  |  |  |
| **Woods, Metals and Polymers** | Sources and properties of materials | 44-47, 58-59 | 55-56 |  |  |  |
| Stock forms | 60 | 57 |  |  |  |
| Standard components- screws, nuts & bolts, rivets, hinges, knock down fittings | 60-63 | 57-59 |  |  |  |
| Shaping and forming with different tools | 64-69 | 60-64 |  |  |  |
| Moulding and joining materials | 70-71 | 65-67 |  |  |  |
| Treatments and finishes | 72-73 | 68-69 |  |  |  |
| Quality control-printing marks and tolerances | 40-41 | 38-39 |  |  |  |
|   |
| **Section C** | **Designing and Making Principles** | **Page no**.Blue | **Page no**.White | Outline Emoticons Free Vector Pack | Outline Emoticons Free Vector Pack | Outline Emoticons Free Vector Pack |
| **Designing Principles** | ~~The work of others- designers and companies~~ | ~~94-95~~ | ~~89~~ |  |  |  |
| Design briefs, Investigation and research- including ergonomics | 96-103 | 90-97 |  |  |  |
| ~~Design strategies~~ | ~~104-105~~ | ~~98~~ |  |  |  |
| Exploring and developing design ideas- including drawing techniques [communicating ideas in isometric projection, one point and two-point perspective, orthographic projection, exploded views and systems/schematic diagrams] | 106-111 | 99-104 |  |  |  |
| **Making Principles** | Manufacturing Specifications | 112-113 | 105-106 |  |  |  |
| Developing prototypes and modelling -virtual modelling/modelling in card, foam, clay or other suitable materials] | 114-115 | 107-108 |  |  |  |
| Material management-Marking out and using materials efficiently | 116-117 | 109-110 |  |  |  |
| Health and safety-working safely | 118-119 | 111 |  |  |  |
| ***Use the space below to show which revision methods you have used to revise different topics*** |
| **Flash cards** |  |
| **Revision Roulette**  |  |
| **Blockbusters** |  |
| **Clock revision/revision wheel** |  |
| **Cops and Robbers** |  |
| **Battleships** |  |
| **Brain dump** |  |
| **Mind map** |  |
| **Self-test quiz** |  |
| **Past papers** |  |
| **Others…** |  |