10 ENGINEERING

SUMMER TERM 2

MAGHULL HIGH SCHOOL – CURRICULUM MAP



| HALF TERM | WEEK 1 | WEEK 2 | WEEK 3 | WEEK 4 | WEEK 5 | WEEK 6 |
|---|--|---|---|---|---|---|
| TOPIC (S) | OBJECTIVE. COMPONENT 2 LEARNING AIM C. DEADLINE 8/7/2022 | COMPONENT 2 LEARNING AIM C. DEADLINE 8/7/2022 | COMPONENT 2 LEARNING AIM C. DEADLINE 8/7/2022 | COMPONENT 2 LEARNING AIM C. DEADLINE 8/7/2022 | COMPONENT 2 LEARNING AIM C. DEADLINE 8/7/2022 | COMPONENT 2 LEARNING AIM C. DEADLINE 8/7/2022 |
| Knowledge: Homewo | rk and 'Do Nows' using | ; Component 2 Learnin | ıg Aims. | | | |
| Knowledge & Skills development | A1 Materials • Engineering material categories: o ferrous, e.g. mild steel, wrought iron, stainless steel o non-ferrous, e.g. aluminium, titanium, copper, silver, zinc o thermosetting polymers, e.g. phenol-formaldehyde, polyimides, polyurethane o thermoforming polymers, e.g. polyethylene, polypropylene, acrylic. • Properties of engineering materials: o strength o hardness o toughness. • Characteristics of engineering materials, such as: o machinability o workability o durability. A2 Components • Types of components, such as: o proprietary, e.g. rivet, nut and bolt, screw, key, mechanical fixings, electronic components, such as resistors, capacitors, fuses, diodes o product specific, e.g. bush, flange, printed circuit board (PCB). • Characteristics of components, e.g. permanent/semi-permanent, sizes/dimensions, surface roughness, values, fixing methods. A3 Processes Types of engineering processes: • cutting, e.g. drilling, sawing, filing, shearing • shaping, e.g. turning, milling • forming, e.g. forging, casting, extruding, moulding, folding, bending • joining, e.g. fastening, bonding, soldering, brazing | | | | | |
| Assessment / Feedback Opportunities | Cold calling to check for understanding. Visual check on note taking. Verbal formative and summative feedback. | | | | | |
| Cultural Capital | Pupils develop understanding of Engineering sectors and roles involved. | | | | | |
| SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect) | Patience and tolerance of others whilst following social distancing rules. Career opportunities that are available to diligent pupuils. | | | | | |
| Reading opportunities | Reading research on Engineering sectors and organisations. Reading on Engineering. | | | | | |
| Key Vocabulary | Engineering, aerospace, automotive, communications, electrical/electronics, mechanical, environmental, transport, rail and marine | | | | | |

| Digital Literacy | Use internet to help research. |
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| Careers | Pupils develop knowledge of the following engineering sectors and the roles included; aerospace, automotive, communications, electrical/electronics, mechanical, environmental, transport, rail and marine. |