**TECHNOLOGY GRADE 7 – CAPS**

**Pace Setter**

# Teacher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| Month | No. Of weeks | Dates | Term | Content | Programme of Assessment | Date completed |
| January | 3 |  | Term 1 (10weeks) | Introduction: What is Technology? Definition and Technological process and design considerations | **Informal Tasks**  Minimum of 2 exercises per week  Informal Test  Date: ---------    **Formal Tasks**  PAT  Date: --------- |  |
|  | Introduction to graphic Communication: Purpose of graphics, Conventions, Sketching and working drawings |  |
| February | 4 |  | Graphic techniques: 3dimensional oblique. 3D artistic: Single vanishing point perspective. |  |
|  | Simple mechanisms: Levers, mechanical advantage, first class levers. |  |
|  | Second & third class levers |  |
|  | Investigation skills: levers and linkages |  |
| March | 3 |  | PAT: Impact of Technology. Mechanical systems & control: Pneumatics and Hydraulics |  |
|  | Design skills: Developing a working model. Writing a design brief. Draw 3D drawing & 2D working drawing |  |
|  | Making skills: Make a simple working model |  |
|  | Informal assessment test |  |
|  |  |
| April | 5 |  | Term 2 (11weeks) | Structures: Definition & purpose. Classification of structures Types of structures | **Informal Tasks**  Minimum of 2 exercises per week  **Informal Tasks**  PAT  Date: ----------    **Formal Tasks**  Exam  Date: ---------- |  |
|  | Investigate a cell phone tower, Case study on existing towers. Evaluate: Advantages & Disadvantages of telephone systems Action Research: Stiffening of materials/structures Tubing, folding and triangulation |  |
|  | Structures: Investigating design issues. Impact of Technology Design skills. Investigation skills |  |
| May | 4 |  | Structures. Design skills: Write a design brief Impact of Technology |  |
|  | Design & evaluation skills: Sketch initial ideas Making Skills: includes working drawing, choosing the material etc. |  |
|  | Evaluation Skills (Design & drawing) |  |
|  | Making skills: Build the model |  |
| June | 2 |  | Evaluation Skills: Teams develop a rubric |  |
|  | Communication skills: Team Presentation= 5 minutes per team |  |
|  | Examination |  |
|  | Examination |  |
| July | 4 |  | Term 3 (11 weeks) | Electrical systems and control: Investigation skills. What is magnetism? Different types of magnets and experiment on substances that stick on the magnet | **Informal Tasks**  Minimum of 2 exercises per week  **Formal Tasks**  PAT  Date: ----------   Informal Test  Date: ---------- |  |
|  | Investigation skills, impact and bias in Technology. Metals attracted by magnet. Recycling Scrap metals Recycling scheme for your school |  |
| August | 4 |  | Electrical systems & control, Making skills and communication skills. Simple electric circuit. Practical: making a simple circuit diagram & Demonstration Lesson |  |
|  | Mechanical systems and control: Introductory lesson: All complex Machinery cranks & pulleys, Wheel & axles and mechanical advantage |  |
|  | Investigation skills: Write a design brief. Design skills: Sketch possible solutions & draw a circuit diagram |  |
|  | Communication skills and making skills. Revise 3D oblique drawing techniques, line types, scale and dimensions. Drawing and flow chart. |  |
| September | 3 |  | Making skills: Working model |  |
|  | Working model |  |
|  | Communication skills: team presentations |  |
|  | Informal assessment test |  |
|  |  |
| October | 4 |  | Term 4 (9 weeks) | Investigation skills: Investigate emergency situations that can lead to refugees. Processing food, investigate types of food, Design brief | **Informal Tasks**  Minimum of 2 exercises per week  **Informal Task**  PAT  Date: ----------  **End of year Exam**  Date: --------- |  |
|  | Investigation skills & Design, Processing food, investigate types of food, Design brief |  |
|  | Making & evaluation skills: |  |
| November | 4 |  | Investigation skills: Investigation of worn clothing textiles |  |
|  | Impact of Technology |  |
|  | Final exam |  |
|  | Final exam |  |
| December | 1 |  | Final exam |  |
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**TECHNOLOGY GRADE 8 – CAPS**

**Pace Setter**

# Teacher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| Month | No. Of weeks | Dates | Term | Content | Programme of Assessment | Date completed |
| January | 3 |  | Term 1 (10weeks) | • Definition of ***frame*** structures.  • Case study: Electrical pylons  • Structural members under tension/compression (worksheet). | **Informal Tasks**  Minimum of 2 exercises per week  Test  Date:-------------  **Formal Tasks**  PAT  Date:------------- |  |
|  | • Structures that span over space’s Toppling over – due to lack of stability (top heavy, narrow base) |  |
| February | 4 |  | **Develop** and communicate ideas. Conventions working |  |
|  | Drawing techniques for planning Artistic drawing |  |
|  | Revision: mechanical advantage. Gears: (wheels with wedges for teeth) Mechanisms that change the direction of movement |  |
|  | Graphic skills: learners draw an artist’s impression of one of each of the above mechanisms in their books using colour, shading and texture. |  |
| March | 3 |  | Structures , Evaluating skills |  |
|  | Design skills & Making skills |  |
|  | Communication skills |  |
|  | Communication skills |  |
|  | Test |  |
| April | 5 |  | Term 2 (11weeks) | The positive impact of technology Case study 1 - Report | **Informal Tasks**  Minimum of 2 exercises per week  PAT  Date:-------------  **Formal Tasks**  Mid-year Exam  Date: ------------ |  |
|  | Case study 2 & Development |  |
|  | Practical activity & Making |  |
| May | 4 |  | Case study 3 & Class discussion |  |
|  | Revision on Forces, adapting materials & Selecting metal sections |  |
|  | Design a product, Design a drawing & make isometric projection, Make a prototype |  |
|  | Make (cont.) prototype & evaluation |  |
| June | 2 |  | Communication |  |
|  | Revision |  |
|  | Examination |  |
|  | Examination |  |
| July | 4 |  | Term 3 (11 weeks) | Revise levers & gear systems | **Informal Tasks**  Minimum of 2 exercises per week  Test  Date:-------------  **Formal Tasks**  PAT  Date:------------- |  |
|  | Calculate mechanical advantage, lever ratios & gears |  |
| August | 4 |  | Graphical representation of gear systems, design brief & drawing |  |
|  | Sketch (2D) gear systems, system analysis- bicycle gear system, system diagrams |  |
|  | Investigate: Acid mine drainage/ dust pollution/ iron age Technology/ gender bias. |  |
|  | Investigate, sketch & design |  |
| September | 3 |  | Simulation & Drawing |  |
|  | Budgeting & making |  |
|  | Communication |  |
|  | Revision |  |
|  | Revision |  |
| TEST |  |
| October | 4 |  | Term 4 (9 weeks) | Revision of circuit, correct connections, Drawing electrical circuits & set up circuits | **Informal Tasks**  Minimum of 2 exercises per week  PAT  Date:-------------  **Formal Tasks**  End of year Exam  Date:------------- |  |
|  |  |  | Energy & energy connections |  |
|  |  |  | Electrochemical cells, practicals, series and parallel & photovoltaic cells |  |
| November | 4 |  | Generation of electricity |  |
|  | Practical & investigation |  |
|  | Investigation of logic gates & truth tables |  |
|  | Design brief, circuit diagram , making and communication |  |
| December | 1 |  | Revision |  |
|  | FINAL EXAMINATION |  |

**TECHNOLOGY GRADE 9 – CAPS**

**Pace Setter**

**Teacher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| Month | No. Of weeks | Dates | Term | Content | Programme of Assessment | Date completed |
| January | 3 |  | Term 1 (10weeks) | First angle orthographic projection: three-dimensional objects on flat paper. Drawing-top, front & side | **Informal Tasks**  Minimum of 2 exercises per week  Test  Date: ------------  **Formal Tasks**  PAT  Date: ------------ |  |
|  | Line types: dark, feint, dashed, wavy, chain. Scale and dimensions. |  |
| February | 4 |  | Orthographic projection of the flight of stairs |  |
|  | Static & dynamic forces. Even and un even load. Properties of materials |  |
|  | PAT investigation on structure & materials |  |
|  | Sketch initial ideas, Final idea, design brief & flow chart |  |
| March | 3 |  | Working drawings and budgeting (costing) |  |
|  | Model solution |  |
|  | Evaluation & team presentation |  |
|  | Inforrmal assessment test |  |
|  |  |
| April | 5 |  | Term 2 (11weeks) | **Syringe mechanics** using two equal sized syringes, **action research** on force transfer, **action research** on Pascal's principle. | **Informal Tasks**  Minimum of 2 exercises per week  PAT  Date:-------------  **Formal Task**  Mid-year Exam  Date:------------- |  |
|  | Hydraulic press, hydraulic jack, investigation on hydraulic jack mechanism. |  |
|  | Action research: Pulley systems, investigation: Ratchet and Paul system, disc brake systems, bicycle and cleat. |  |
| 4 |  | Interactions of gear systems  Evaluation of mechanisms in the modern kitchen/home/garage/workshop, artistic drawing(svp) |  |
| May |  | Investigation, design brief & sketches |  |
|  | Planning: working drawings |  |
|  | Making: Prototype/working model |  |
| 2 |  | Team presentations |  |
| June |  | Examination |  |
|  | Examination |  |
|  |  |
| July | 2 |  | Term 3 (11 weeks) | Components symbols, simple circuits, action research: Practical test of Ohm's law | **Informal Tasks**  Minimum of 2 exercises per week  Test  Date:-------------  **Formal Task**  PAT  Date:------------- |  |
|  | Resistor colour codes, calculation of values. |  |
| August | 4 |  | Switches, diodes & LED's. Transistors |  |
|  | Sensors: LDR, thermistor, touch/moisture detector & capacitors. |  |
|  | Simple electronic circuits |  |
|  | MINI-PAT investigation on electronic systems. Design brief & sketches |  |
| September | 5 |  | Plans: Working drawings, make: working model (prototype) |  |
|  | Team presentations |  |
|  | Compilation of learners' profiles |  |
|  | Preserving metals: Painting, galvanising and electroplating (practical) |  |
|  | Formal assessment test |  |
| October | 4 |  |  | Preserving food: Storing grain, prickling and drying/ salting (practical) | **Informal Tasks**  Minimum of 2 exercises per week  PAT  Date: ------------        **Formal Task**  Exam  Date:------------- |  |
|  | Term 4 (9 weeks) | Types of plastics and their uses. |  |
|  | Case study: Recycling of plastics, drawing of recycling project, moulding recycled plastic into products. |  |
|  | 4 |  | PAT: Reduce reuse recycle. |  |
| November |  | Case study: Plastics used on modern motor cars, around the home, problem identification: need or want. |  |
|  | Sketch, plan and skills development  Making: making own products. |  |
|  | Final exam |  |
|  |
| December | 1 |  | Final exam |  |
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