

Materials Technology



Devon Intermediate School
Te Kura Takawaenga o Ngāmotu

Materials Technology is a practical activity in which students experience the pleasure of designing and making things in a workshop

Materials Technology introduces students to the principles and practices of design, and to the traditions and practices of craftsmanship. It also develops their technical knowledge.

There is a strong emphasis on encouraging individual and creative work, adaptation and innovation. Students are involved in a range of discussions; choices and activities out of which they develop their own solutions to problems, and then construct them in the workshop. Students in Materials Technology are required to work with a range of different materials in solving design and construction problems. High standards of practical work, and a solid foundation of technical knowledge, are still important goals or objectives.

Materials Technology seeks to develop safe workshop habits and attitudes that reflect a pride in workmanship.

Programme Outline 2016 Year 7

Construction

Box's - 8 sessions *Project 2*

Tools & processes: Material selection & calculation, Measuring & cutting (Panel saw, saw horse, tape measure), Measuring & marking out (Try square, Steel rule), Sawing (Sawing hook, Tennon saw, Vice), Scroll saw, Gluing & nailing (Claw hammer, Warrington hammer, panel pins, PVA, sanding board, nail punch, planes, Sanding machine, hand sanding, fitting, Painting & varnishing (acrylic varnish, acrylic undercoat, rubbing down, spray painting, vinyl cutting & application).

Knowledge: Pine Forestry, MDF manufacture

Plastics

Name Tags – 0.5 *Project 1*

Tools & processes – Plastic bending, Stanley knife, glue sticks

Ball Bearing games – 2 sessions *Project 3*

Tools & processes: Glue stick, Stanley knife, side cutters, shears, and cloth tape. Punching, plastic cutting, peer assessment

Spinners – 1 session *Project 4*

Tools & processes – Acrylic, plastic edge finishing, drill press, thermoforming (hot plate)

Spirals – 0.5 Polypropylene, shears, nylon.

Balancing things – 1.5 sessions *Project 6* foam PVC, heat gun

Photo stands 1 session project *7* Tools & processes – polypropylene, Punching or clicking (lever press), plastic bending (strip heater), Digital camera, Photo editing, printing

Machine processes

Spinney things – 1.5 sessions *Project 5*

Tools & processes – Doweling, compass work, new drilling skills, Jigs, glue gun

Games – 1.5 sessions *Project 8* Tools & processes – marking out, drilling, hollow punches, scroll saw,

Programme Outline 2016 Year 8

Design – Clocks – 5-7 sessions

Tools & processes: Brief writing, Sketching (concept & final design), Template & pattern making, layout, advanced scroll saw work, Sanding machine, plane, rasps & files, sanding, drill press, undercoating (roller & brush), paint preparation, spray painting, Vinyl cutter, gluing up, leather, clamping, Stanley knife, hollow punch ,clock movement installation.

Construction – DVD / Gaming Racks 3-4 sessions

Tools & processes: Screws .electric drill, drill press, cordless drill & screwdriver, screwdrivers, spraying (vertical), self-adhesive foam

Plastics Wind Chimes - 3-4 sessions Foam PVC, Aluminum tube, nylon, crimping, drilling, v blocks

Desert Molds – 1-2 lessons

Tools & processes - Mold making, vacuum forming.

Understanding resources – renewable and non-renewable resources

Sign writing & glass etching – 1 session

Tools & processes; Vinyl cutting, sand blasting,

Compressed Air – 0.5 Air tools (Drill, chisel, Duster gun, Sander, Die grinder)

