



Year 8 Technology

Curriculum Leader: Mr Steve Finch

Our vision is to raise the achievement of all pupils and give them the opportunity to be creative and ambitious while enjoying and learning new skills and knowledge.

Topics to be covered in Year 8

Students will rotate throughout the school year, completing modules on Electronics, Food Preparation and Nutrition, Design Technology and Textiles.

	Electronics	FP&N	DT	Textiles
Topics to be covered	<ul style="list-style-type: none"> Generating electricity Basics of electricity Ohms law Potential dividers Sensing transducers Transistors Output transducers Thyristors Astable and monostable circuits Programming microprocessors 	<ul style="list-style-type: none"> Safety in the kitchen Healthy Eating Raising agents and Bread Yeast Investigation Staple foods and Cereals Production of wheat to flour Practical Assessment 'Design and make a pizza' More complex cookery skills which include: <ul style="list-style-type: none"> Fresh bread rolls Pizza Samosa's Macaroni cheese 	<ul style="list-style-type: none"> Design and Make Client centred approach isometric drawing frame construction in wood product analysis 	<ul style="list-style-type: none"> Introduction to pop art and appreciation/analysis of artists work. Working to a design brief with client in mind. Forming a specification Tie Dye Designing and discussing ideas through annotation. Revisiting the sewing machine and H&S related points. Revisiting safe working practice. Materials and their properties. Making task: use of iron and safety points, applying Vilene, sketching templates, applique, machine embroidery, construction and finishing techniques. Evaluating outcomes.
Key vocabulary	<ul style="list-style-type: none"> Thermistor Geothermal Ohms Voltage Ampere (Amps) Watts Joules Transistor Thyristor Potential Series circuit Parallel circuit Electron Neutron Proton 	<ul style="list-style-type: none"> Eatwell Guide Balanced Diet Food Safety and Hygiene Food Contamination Cross Contamination Raising Agents Chemical, Biological and Mechanical Yeast Carbon Dioxide Fermentation Kneading Portion Control Presentation and food styling 	<ul style="list-style-type: none"> Design Brief Design Specification ACCESS FM – product evaluation Aesthetics Client/customer Environment/ Ergonomics Function Materials/manufacture Isometric Projection Oblique Projection 	<ul style="list-style-type: none"> Onomatopoeia Pointillism Pop art Applique Vilene/interfacing Machine embroidery Tie dye Resistance dyeing Sewing machine, bobbin, bobbin case, Needles, threads, quick unpick/seam ripper. Fabric shears,
Skills to be developed	<ul style="list-style-type: none"> Generation of the electricity in society Understanding of the units of electricity (Ampere, Ohms and Voltage) Relationship between the three units of electricity 	<ul style="list-style-type: none"> Knowledge and understanding of raising agents used in cookery. Knowledge of the conditions necessary for yeast to multiply. Be able to use make well shaped and risen bread rolls. 	<ul style="list-style-type: none"> Design and making skills understanding that designs are client centred and specifications inform design ideas; isometric drawing exercises communicating individual design ideas; 	<ul style="list-style-type: none"> Development of skills on the sewing machine Creating patterns Decorative techniques (tie-dye, appliqué, free hand machine embroidery)

	Electronics	FP&N	DT	Textiles
Skills to be developed (cont'd)	<ul style="list-style-type: none"> • Use of resistor codes to ID their value • Use of Ohm's law to mathematically relate the three areas of electricity. • Use of multimeters to measure voltage and resistance. • Potential dividers – how they split the voltages in a series circuit • Use of sensing resistors (thermistor and LDR) in a potential divider • Basic theoretical understanding and use of NPN transistors to amplify current and act as a transducer to drive LEDs and buzzers from a sensing potential divider. • Use of thyristors as a latch • Extension task = Astable and Monstable circuits • Programming PIC microprocessors to process inputs from switches and generate a predetermined output using LEDs, 7 seg. displays and buzzers. 	<ul style="list-style-type: none"> • Use the equipment and cooker safely and confidently. • Know the importance of staple foods in cookery • Explain how flour is made and the products made from it. 	<ul style="list-style-type: none"> • basic manufacture of the frame (wood) with additional elements/ processes used to individualise the ideas; • product analysis • Understanding of materials (woods and plastics) and their limitations during design and manufacture. 	<ul style="list-style-type: none"> • Assessment 'Design and Make a cushion cover' • Understanding of design brief and client lead specifications • Understanding of material (cotton, Vilene). • Basic construction skills, seam allowance and tolerance • Analysis of existing products
Opportunities for revisiting previous learning	1 st lesson – recap units of electricity – explain what they are.	1 st lesson – Recap Healthy Eating and Food Safety and Hygiene	Safe workshop practice Accuracy in the use of hand tools	Safe workshop practice Safety on the machines Accuracy of hand and machine sewing
When will formal assessment of progress take place?	1. Summative test at the end of the module.	1. Practical assessment of Pizza 2. Summative test at the end of the module.	1. Formal project assessment at the end of the module of work.	1. Assessment of designs mid project, WWW/EBI given and green pen response. 2. Summative test at end 3. Assessment of practical

Year 8 Useful Resources

Website Links

www.bitesize.co.uk

Marking, Assessment and Feedback

Over the course of an academic year students will complete a number of formal assessments, these will be used to assess where students are in their learning journey.

Information from these assessments could be used when making decisions regarding setting of students, reporting progress home and predicting outcome. Regular verbal feedback is used in lessons to inform students of their progress and areas they can improve. Teachers will continue to provide planned written feedback on selected pieces of work.

Homework

Homework will be set using the online platform Go 4 Schools.

Homework tasks are designed to prepare students for future learning or consolidate work completed in the classroom. It will be clear what should be handed in, when it should be handed in and how it should be handed in.

Contact Information:

If you would like to contact the Design and Technology Department please email: design@gilberd.com.

The Gilbert School

Brinkley Lane, Colchester, Essex CO4 9PU

Tel: 01206 842211

