



Wanstead High School

Education with Character

Resistant Materials Curriculum Content 2024 - 25

Key Stage 3 - Year 7, 8 & 9



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Resistant Materials Year 7

Pupils receive 3 hours of lessons of Resistant Materials each fortnight for 10 weeks.

Resistant Materials teaches useful life skills.

Pupils learn about safe working procedures in a workshop. In addition, pupils learn how to select the appropriate hand tools, machine power tools and manufacturing techniques in order to realise a quality product outcome.

Resistant materials inspire pupils to develop Education with Character by enabling pupils to develop a wide range of transferable skills for further education, work and life. Pupils' confidence in their practical skills increases as they are encouraged to use a range of different hand tools, machines, power tools and processes, and to evaluate each outcome, in order to realise a quality prototype product outcome.

Resistant Materials encourages pupils to enjoy and develop the following practical skills:

Use of saws - coping saw, fret saw/scroll saw/use of a pillar drill

Use of sanders – Belt, Bobbin and Disc sanders. Apply a surface finish technique to resistant material

| What is taught | When is it taught (Terms or Half Terms) | Reading list and Literacy focus | Where the curriculum is ambitious |
|--|---|---|--|
| Different types of natural timbers and manufactured boards | 10-week block of lessons | Learning and using key subject vocabulary | Pupils complete a condensed non-examined assessment (NEA) style project. |
| How to safely use hand tools | | Evaluative writing | |
| How to safely operate machine powered tools | | | |
| How are pupils informally and formally assessed? | Independent Learning Assignment (ILA), end of rotation tests, class contribution and practical work. | | |
| Developing Independent and Home Learning Skills | ILA to be completed each term. | | |
| Useful e-Learning Resources (e.g., web links) | https://technologystudent.com/equip1/coping1.htm https://technologystudent.com/equip1/macdr1.htm https://technologystudent.com/equip1/fretsw1.htm | | |
| Equipment for lessons | Blue or black pen, HB pencil, green pen, ruler, rubber, sharpener and colouring pencils. | | |
| Enrichment activities | Extra-curricular clubs and competitions throughout the year | | |
| Careers curriculum | Careers talks | | |
| Head of Department and email contact | Mr A Yiacoumi a.yiacoumi@wansteadhigh.co.uk | | |

Resistant Materials Year 8

Pupils receive 3 hours of lessons of Graphics each fortnight for 10 weeks.

Resistant teaches useful life skills.

Pupils learn how to develop designs within an industrial context, which can be manufactured through the use of CAD/CAM. They use TechSoft 2D Design, a CAD software program, in order to model their ideas, which are manufactured on a laser cutter CAM machine.

This encourages pupils to develop their problem-solving skills in order to develop a successful product that relates to the client's needs

Resistant materials inspire pupils to develop Education with Character by enabling pupils to develop a wide range of transferable skills for further education, work and life. Pupils are encouraged to grow in confidence in the use of CAD software, and the ability to identify and solve their own design problems., in order to realise a quality prototype product outcome.

| What is taught | When is it taught (Terms or Half Terms) | Reading list and Literacy focus | Where the curriculum is ambitious |
|--|--|---|--|
| How to use TechSoft 2D tools to develop designs | 10-week block of lessons | Learning and using Key subject vocabulary | Pupils complete a condensed non-examined assessment (NEA) style project. |
| Advantages and Disadvantages of CAD | | | |
| The safe operation of the laser cutter machine | | | |
| How are pupils informally and formally assessed? | Independent Learning Assignment (ILA), end of rotation tests, class contribution and practical work. | | |
| Developing Independent and Home Learning Skills | ILA to be completed each term. | | |
| Useful e-Learning Resources (e.g., web links) | https://www.youtube.com/watch?v=LO9CPpsogHQ https://www.youtube.com/watch?v=OdFhdxT15lw&t=68s https://www.youtube.com/watch?v=C3fAALoh9jo&t=3s https://www.youtube.com/watch?v=H1SAdCHm1kk | | |
| Equipment for lessons | Blue or black pen, HB pencil, green pen, ruler, rubber, sharpener and colouring pencils. | | |
| Enrichment activities | Extracurricular clubs and competitions throughout the year | | |
| Careers curriculum | Careers talks | | |
| Head of Department and email contact | Mr A Yiacoumi a.yiacoumi@wansteadhigh.co.uk | | |

Resistant Materials Year 9

Pupils receive 3 hours of lessons of Graphics each fortnight for 10 weeks.

Resistant materials teach useful life skills.

Pupils learn how to develop their ideas with an understanding that the resources they choose to use for their designs have an impact on our planet. This allows the pupils freedom of expression and the ability to create original and imaginative outcomes.

Resistant materials inspire pupils to develop Education with Character by enabling pupils to develop a wide range of transferable skills for further education, work and life. Pupils' imagination flourishes and they are encouraged to understand that the environment can be protected by responsible design and manufacture.

Resistant materials encourage pupils to explore, enjoy and develop their creative thinking, designing, problem solving, planning and evaluative skills.

| What is taught | When is it taught (Terms or Half Terms) | Reading list and Literacy focus | Where the curriculum is ambitious |
|--|--|---|---|
| The difference between Recycling, Upcycling and Reuse | 10-week block of lessons | Learning and using Key subject vocabulary | Pupils complete a condensed NEA style project |
| Benefits of upcycling products | | Evaluation and planning writing | |
| Advantages and Disadvantages of CAM | | | |
| How are pupils informally and formally assessed? | ILA assignments, end of rotation tests, class contribution, practical work. | | |
| Developing Independent and Home Learning Skills | ILA to be completed each term. | | |
| Useful e-Learning Resources (e.g., web links) | https://technologystudent.com/prddes1/reused1.html https://technologystudent.com/pdf14/display6.pdf https://technologystudent.com/prddes1/revcard_upc1.html https://www.bbc.co.uk/bitesize/guides/z4bjjhv/revision/3 | | |
| Equipment for lessons | Blue or black pen, HB pencil, green pen, ruler, rubber, sharpener and colouring pencils | | |
| Enrichment activities | Extracurricular clubs and competition throughout the year | | |
| Careers curriculum | Careers talks | | |
| Head of Department and email contact | Mr A Yiacoumi a.yiacoumi@wansteadhigh.co.uk Head of Department Art, Design and Technology | | |