

Key Stage 3: Resistant materials	Dovedale
<p>Autumn Term 1: Induction</p> <p>Students will be developing a range of design skills based around sketching and drawing, CAD and production of these designs. Students will complete a range of design and build tasks to consolidate practical skills and develop theory knowledge.</p>	
<p>How you can support your child at home:</p> <p>Encourage them to look at products in the home and think about what they are made of and the reason for this and any design features which make the appropriate for the intended use. Watch programs based around design and use of products, such as the gadget show or robot wars, to get an understanding of the use of designs and how the end user will use the products.</p>	
<p>Autumn Term 2: Systems and controls</p> <p>Students will be working on theory knowledge in preparation of the written paper and coursework through the study of a range of mechanical, electrical and quality control systems during this half term.</p>	
<p>How you can support your child at home:</p> <p>Encourage them to look at electrical products and the range of components visible to the end user and think about what they might be connected to and why. Watch programs based around design and use of electrical products, such as the gadget show or robot wars, to get an understanding of the use of circuits and components and how they are put together.</p>	
<p>Spring Term 1: Materials and components.</p> <p>Students will be working on theory knowledge the properties and use of different materials through range of practical tasks in different material mediums during this half term. Work will be based upon a design and build task using a range of materials such as wood, plastic, metal and more modern materials.</p>	
<p>How you can support your child at home:</p> <p>Encourage them to look at products and think about what materials have been used in the production and why they have been used. Watch programs based around design and use materials, such as design and build or craft based programs, to get an idea of commonly used materials and understand the reasons for their use.</p>	

Spring Term 2: Designing

Students will be focusing on the design phase of the product making process during this half term. Students will work on a product identifying the end user developing specification points and a range of designs producing a final design for their product.

How you can support your child at home:

Encourage them to look at similar products to their school project and to come up with potential designs to practice their drawing and sketching techniques.
Watch programs based around design and the reason for different choices for the end user, such as home buying programs and dragons den, to get an idea of what people will look for in a product.

Summer Term 1: Processes and manufacture

Students will be focused on the making phase of the product making process during this half term. Students will design a product which will require a range of materials types and manufacture processes in its construction, and produce a construction plan to communicate this to someone else.

How you can support your child at home:

Encourage them to look at products and the way the parts have been manufactured and put together to produce their final product. Construction toys such as Lego or Kinex with build instructions are good to reinforce this.
Watch programs based around design and use of products, such as how it's made and manufacture and production documentaries.

Summer Term 2: Testing and evaluation

Students will be focused on the evaluation and testing phase of the product making process during this half term. Students will work on suitability of their products and if they meet the design specification points. Students will look at testing products and look at possible improvements to their products.

GCSE Resistant materials

Key Stage 4

Autumn Term 1:

Induction

Students will be developing a range of design skills based around sketching and drawing, CAD and production of these designs during this half term. They will complete a range of practical and theory tasks to consolidate practical skills and develop theory knowledge.

How you can support your child at home:

Encourage them to look at products in the home and think about what they are made of and the reason for this and any design features which make the appropriate for the intended use.
Watch programs based around design and use of products, such as the gadget show or robot wars, to get an understanding of the use of designs and how the end user will use the products.

Autumn Term 2

Systems and controls

Students will be working on theory knowledge in preparation of the written paper and coursework through the study of a range of mechanical, electrical and quality control systems during this half term. They will work on electrical circuits and use of components developing circuit building techniques.

How you can support your child at home:

Encourage them to look at electrical products and the range of components visible to the end user and think about what they might be connected to and why.

Watch programs based around design and use of electrical products, such as the gadget show or robot wars, to get an understanding of the use of circuits and components and how they are put together.

Spring Term 1

Materials and components

Students will be working on theory knowledge in preparation of the written paper and coursework through range of practical tasks in different material mediums during this half term. Work will be based upon design and build tasks in a range of materials such as wood, plastic, metal and more modern materials.

How you can support your child at home:

Encourage them to look at products and think about what materials have been used in the production and why they have been used.

Watch programs based around design and use materials, such as design and build or craft based programs, to get an idea of commonly used materials and understand the reasons for their use.

Spring Term 2

Processes and manufacture

Students will be focusing on the production of products working on health and safety, tools and equipment used in production, marking, joining, deforming, molding and CAM during this half term. Work will be based around the production of a design using a range of materials and processes to meet a specification points for the product.

How you can support your child at home:

Encourage them to look at products in the world around them and the manufacture process used to make them, such as factory manufacture techniques and highly skilled hand made products.

Watch programs based around design and use of products, such as how it's made and manufacture and production documentaries.

Summer Term 1

Designing coursework

Students will be putting the skills developed through the year to start the design of their coursework piece during this half term. Work will be based around a scenario provided by the exam board and the students coming up with ideas to solve the problem set through their designs and investigation of current products and what people require from these products.

How you can support your child at home:

Encourage them to look at similar products to their coursework scenario and to come up with potential designs to practice their drawing and sketching techniques.

Watch programs based around design and the reason for different choices for the end user, such as home buying programs and dragons den, to get an idea of what people will look for in a product

Summer Term 2

Modelling and manufacture of coursework

Students will be modelling their coursework designs and looking at potential manufacture techniques which could be used during this half term. Students will be working towards their coursework through a range of modelling techniques and work on improving adding to manufacture techniques used through the year.

How you can support your child at home:

Encourage them to look at products and the way the parts have been manufactured and put together to produce their final product. Construction toys such as Lego or Kinex with build instructions are good to reinforce this.

Watch programs based around design and use of products, such as how it's made and manufacture and production documentaries.