

Lesson 1	Wearable technology		Lesson Breakdown <ul style="list-style-type: none"> - Wearable technology - Wearable technology clip - Visual images of 5 different devices wearable technology - new and emerging technologies - Do some research online, in newspapers and in magazines to find out more about new wearable tech that is changing our lives. Choose 3 devices you think are the most interesting. Draw and write about the problems they solve and why you think they are interesting. - Name the device and explain how it can improve peoples lives
Objectives	To discover more about the world of wearable tech and how it can solve problems and improve lives		
Outcomes	Research on different wearable technology and identity the user problem		
Time frame	1 hour	Assessment	
Prior learning	Sustainability , materials and user needs , identity and solve design problems		
Key vocabulary	Research, explore, devise , smart materials, user		
Character and cultural development	Sport and their role in society and community		
Skills Coverage	<p>Scientific knowledge and conceptual understanding when finding out about wearable tech. They will be introduced to ideas about materials, electricity, living things, forces and energy. Design and technology skills such as using creativity and imagination to design and make products that solve real and relevant problems in a variety of contexts, considering their own and others' needs, wants and values.</p> <p>Computing skills, such as using search technologies effectively to evaluate and apply information technology, including new or unfamiliar technologies.</p> <p>Essential skills such as speaking, listening, problem-solving, creativity.</p>		
Extension / challenge	Explain the reasons for and against the use of recyclable materials in sports wear.		Homework - produce a video script/ hand written script on wearable technology – interview a and analyses the data on what wearable devices they use and how it helps their lives or devices that they would like to use in their everyday lives. Client profile - filmed or hand written or visual images

Lesson 2	Functional clothing and sport performance - functional clothing and future fabrics – wearable technology		Lesson Breakdown <ul style="list-style-type: none"> - Definition of aerodynamics - Affect on aerodynamics and sport clothing - Current aerodynamic clothing - shape design - Does wearable technology influence sport performance - Affect of aerodynamic clothing on performance - Students mind map aerodynamic clothing and analyse the colour, shapes, designs <p>Why is clothing important in sport ? athletic clothing helps prevent injuries, improve breathability, protect you from the elements and fuel your fitness mentality.</p> <p>future fabrics - shoes that change colour to match each outfit, smart fabric reacts to an environmental stimulus, such as heat, light or humidity. Explore what new fabrics are being designed and for what purpose.</p> <p>How does fashion affect sport participation? Clothing plays a vital part in sport, leading to increased performance, improved comfort and better breathability. From football boots to tennis skirts, the sporting industry has continuously given audiences iconic fashion looks that have shaped the way we see sports stars</p> <p>Students to explore what functional clothing is and select appropriate images of functional clothing in sport</p> <p>New technologies in fabric</p> <p>Design and Technology/Chemistry KS3 & KS4: Inventing future fabrics - BBC Teach</p> <p>Homework - produce a video script/ hand written script on wearable technology – interview family member and analyses the data on what wearable devices they use and how it helps their lives or devices that they would like to use in their everyday lives. Client profile - filmed or hand written or visual images</p>
Objectives	To be able to understand the affect of aerodynamics design on athletes performance		
Outcomes	Mind map of aerodynamic designed clothing, understanding of what aerodynamic is and the affect on performance. Develop skills in fashion and the affect on sport participation		
Time frame	1 hour	Assessment	
Prior learning	Sustainability , materials and user needs , identity and solve design problems		
Key vocabulary	Research, explore, sport, smart materials, user		
Character and cultural development	Sport and their role in society and community		
Skills Coverage	<p>Scientific knowledge and conceptual understanding when finding out about wearable tech. They will be introduced to ideas about materials, electricity, living things, forces and energy. Design and technology skills such as using creativity and imagination to design and make products that solve real and relevant problems in a variety of contexts, considering their own and others' needs, wants and values.</p> <p>Computing skills, such as using search technologies effectively to evaluate and apply information technology, including new or unfamiliar technologies.</p> <p>Essential skills such as speaking, listening, problem-solving, creativity.</p>		
Extension / challenge	Sketch a functional pair of shorts that uses aerodynamics as an important factor in design. Label and justify your decisions.		

Lesson 3	Assessment - week 3 Wearable technology solving a real life problem			Lesson Breakdown Assessment . – students to complete - blueprint/exploded view diagram or labelled diagram on the below <i>Design/specification - Develop an amazing idea for a new piece of wearable technology that will improve our lives in the future or improve sport performance</i> <i>Assessment – give your device a name,. draw a diagram or complete on ICT how your device works. Write a paragraph explaining the problem your piece of wearable technology solves, the story behind your design and what inspires you, the advantages someone will have when wearing your technology, any skills you used when coming up with your idea .</i> <ul style="list-style-type: none"> - Students explore the role of fashion in the Olympic games and wearable technology and explore if it will affect performance of the athlete - Wearable technology refers to clothing and footwear that incorporate advanced electronic and computing technologies for the fashion industry. These types of garments are sometimes commonly called “smart/intelligent textiles and clothing”, “smart/intelligent fashion” or simply “wearables Fashion and Sportswear Technology at the Olympics - theFashionSpot
Objectives	Complete an assessment and understand what wearable technology is and the impact on athletes and everyday lives			
Outcomes	Specification to inform design			
Time frame	1 hours	Assessment	Jacket design	
Prior learning	Sustainability , materials and user needs , identity and solve design problems			
Key vocabulary	Research, explore, sport, smart materials, user			
Character and cultural development	Sport and their role in society and community			
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Extension / challenge	Explore the differences of materials used in competitors outfits the winter Olympics and the summer Olympics.			
	Homework - produce a video script/ hand written script on wearable technology – interview and analyses the data on what wearable devices they use and how it helps their lives or devices that they would like to use in their everyday lives. Client profile - filmed or hand written or visual images			

Lesson 4/5	Use a design brief to design a new tracksuit for a sport		Lesson Breakdown You have been asked by the GB Olympic committee to design a new tracksuit for the GB team. The tracksuit needs to have wearable technology in, improve performance and be made of a suitable smart fabric. The tracksuit also needs to have a newly designed GB logo. <ul style="list-style-type: none"> - Research into previous GB tracksuits - Logo for GB - Tracksuit comprised of – jacket, short sleeves, long sleeve, skirt, trousers, shorts – decision you need to make and justify - Research of other tracksuits - Colours representing the team - Wearable technology - Suitable fabric – lycra, - Smart fabric - Consideration of how the performance might be improved aerodynamic design Justification report - of your choices needs to be written up with clear evidence of research behind the sport, fabrics and how the new emerging technology would improve performance. Your report also needs to explain how aerodynamics may have changed the design of the product
Objectives	Using knowledge of wearable technology and fabrics design a tracksuit for the GB team		
Outcomes	Tracksuit design – logo, wearable technology		
Time frame	1 hour	Assessment	
Prior learning	Sustainability, materials and user needs, identity and solve design problems		
Key vocabulary	Research, explore, sport, smart materials, user		
Character and cultural development	Sport and their role in society and community		
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Extension / challenge	complete a prototype of the jacket		
			. Homework - produce a video script/ hand written script on wearable technology – interview and analyse the data on what wearable devices they use and how it helps their lives or devices that they would like to use in their everyday lives. Client profile - filmed or hand written or visual images

Lesson 4/5	Use a design brief to design a new tracksuit for a sport		Lesson Breakdown You have been asked my the GB Olympic commit to design a new tracksuit for the GB team. The tracksuit needs to have wearable technology in, improve performance and be made a suitable smart fabric. The track suit also needs to have a newly designed GB logo. - Logo for GB - Colours representing the team - Wearable technology - Suitable fabric - Smart fabric - Consideration of how the performance might be improved aerodynamic design Justification report - of your choices needs to be written up with clear evidence of research behind the sport, fabrics and how the new emerging technology would improve performance. Yu r report also needs to explain how aerodynamics may have changes the design of the product . Homework - produce a video script/ hand written script on wearable technology – interview and analyses the data on what wearable devices they use and how it helps their lives or devices that they would like to use in their everyday lives. Client profile - filmed or hand written or visual images
Objectives	Using knowledge of wearable technology and smart fabrics design a tracksuit for the GB team		
Outcomes	Tracksuit design – logo, wearable technology		
Time frame	1 hour	Assessment	
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Extension / challenge	complete a prototype of the jacket		

Lesson 6	Week 6 assessment - student voice and end of unit reflection			Lesson Breakdown <ul style="list-style-type: none"> - Assessment – Microsoft teams quiz and new designed sport t shirt with a aerodynamic/ sport link. - Justified decisions made - Does it match the design brief problem ? - Is it wearable technology ? - Solve a problem - Importance of new technologies and emerging new ways to wear clothes - How does it link to industry needs and aerodynamic needs for some sports <p>Reflect and student voice</p> <p>Reflect. After you complete the challenge, reflect on your experience:</p> <p>– What problems did you have in your design and how did you use your creativity to solve them?</p> <p>– What is else could you redesign to solve a problem ?</p> <p>Students to complete end of unit reflection and student voice</p>
Objectives	To review last 6 weeks and to complete a student voice			
Outcomes	Student voice and end of unit review			
Time frame	1 hour	Assessment	Assessment of final outcome.	
Prior learning	Sustainability , materials and user needs , identity and solve design problems			
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Extension / challenge				<p>Homework - produce a video script/ hand written script on wearable technology – interview and analyses the data on what wearable devices they use and how it helps their lives or devices that they would like to use in their everyday lives. Client profile - filmed or hand written or visual images</p> <p>.</p>



Year 9 Design Technology 2022

Rotation 2 - fashion textiles

KS3 Subject Intent: What we want the pupils to know by the end of Year 9 in product design

Students will develop knowledge regarding society and design whilst developing key industry IT skills designing for an audience and linking in with global issues. Students will undertake research and testing to help evaluate ideas to generate fully functional design proposals. Students will develop oral and written presentation skills and be able to justify their decisions once they have completed research on cultural influences

Design : research to identify user needs: identify and solve design problems and how to reformulate the problems given. Use a variety of approaches to generate creative ideas. Design ideas using modelling and present ideas oral or digitally. Responsibility of designers and the impact of consumer choice on fast fashion.

Evaluate: test, evaluate refine ideas, take into account others feedback, understanding of the environment and impact on individuals and society

Technical knowledge : properties of materials and performance of materials, smart fabrics and wearable technology , designing, sustainability and the responsibilities of designers.

KS3 Subject Ethos: How we reflect the Academy's core values within the Curriculum: Respect, Ambition, Resilience, Compassion The core ethos of the school is to aim to send each young person able and qualified to play their full part, and in year 9 our aim is to allow each young person to develop skills and knowledge; both in practical marking, from woodwork to food and nutrition. The students will be supported in DT with outcomes and lessons constantly adapting to suit the learners needs, in order for them to be proud with what outcomes they can achieve as they look towards the future. As a knowledge engaged curriculum, we believe that knowledge underpins and enables the application of skills; both are entwined. As a department we define the powerful knowledge our students need and help them recall it by developing their technical skills that focus on visualisation and realisation of ideas and information, with a focus on nutrition, drawing, , physical materials food - hard materials as well as knowledge and understanding of the current and emergent means of production, design and food nutrition.